New Books Preview

STEM – Science, Technology, Engineering & Mathematics

December 2025

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• HSS – Humanities & Behavioral Science
• Life Sciences & Medicine
• STEM – Science, Technology, Engineering & Mathematics

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Titles are sorted by author's last name within each Subject Collection.

H. Combrink, University of the Free State, Bloemfontein, South Africa

Computational Infodemiology
Belief System Mapping
and Social Stress

- This book outlines quantitative and measurable belief system mapping
- It introduces quantitative social stress indicators for modelling social media belief systems within echo chambers
- Use cases that public and private institutions can start implementing to derive meaning from the infodemics they face

Contents
Preface.– Chapter 1 Introduction to Computational Infodemiology.– Chapter 2 Agent Based Modelling and Reinforcement Learning in Computational Infodemiology.– Chapter 3 A Framework for Modelling Belief Systems.– Chapter 4 Modelling Belief Systems.– Chapter 5 Social Stress Indicators.

Fields of interest
Computer Science; Artificial Intelligence; Machine Learning; Media Ethics;

Content level
Research

Product category
Brief

K. Dalip, M.M (Deemed to be University), Mullana, India; U. Bansal, National Institute of Technology Jalandhar, Jalandhar, India; A. Sharma, Shoolini University, Solan, India; S. Khan, University of Southampton, Delhi, India; M. Sharma, National Health Mission, Solan, India (Eds.)

Healthcare 5.0
AI Driven Workspace in Sustainable Telehealth

- Investigates the ideas of AI-driven workspaces in the context of sustainable telemedicine
- Explores AI aligned areas to provide tangible healthcare solutions
- Provides insight about upcoming advancements and moral dilemmas in sustainable telemedicine

Contents
The role of artificial intelligence in chronic disease management through telemedicine and future directions.– The integration of ai and telemedicine in chronic illness care current trends and future insights.– Transforming teletherapy using transfer learning and nlp for improved mental health care.– Childhood ptsd and trauma treatment using nlp v/k dissociation, and machine learning.– […]

Fields of interest
Artificial Intelligence; Sustainability; Medical and Health Technologies;

Content level
Research

Product category
Contributed volume

A. Gerber, Stellenbosch University, Bellville, South Africa; A. W. Pillay, University of KwaZulu-Natal, Durban, South Africa (Eds.)

Artificial Intelligence Research
6th Southern African Conference, SACAIR 2025, Cape Town, South Africa, December 1–5, 2025, Proceedings

Contents
.– Algorithmic and Data Driven AI.

.– Which contextual topic modelling algorithm is the best?.

.– Leveraging Language Models for Document Type Classification in Low-Resource Afrikaans Archives.

.– Hybrid Automatic Modulation Classification for Increased Robustness under White-Box Adversarial Attacks.

.– Counterfactual Explanation Model for Personalised Dietary Interventions in Anaemia […]

Fields of interest
Computer Science; Artificial Intelligence; Computer Engineering and Networks; Mathematics of Computing; Computers and Education; Computer Imaging, Vision, Pattern Recognition and Graphics;

Content level
Research

Product category
Proceedings

B. Ghojogh, University of Waterloo, Waterloo, ON, Canada; A. Ghodsi, University of Waterloo, Waterloo, ON, Canada

Elements of Deep Learning

- Demystifies deep learning with clear, step-by-step explanations grounded in theory and practice
- Packed with practical tips, design insights, and PyTorch code to build real-world deep learning systems
- Ideal for researchers, professionals, and advanced students seeking depth, clarity, and lasting value

Contents
Chapter 1: Introduction.- Part 1: Fundamentals of Deep Learning.- Chapter 2: Feed-forward Neural Network.- Chapter 3: Regularization.- Chapter 4: Convolutional Networks.- Chapter 5: Restricted Boltzmann Machine (RBM) and deep belief network.- Part 2: Sequence Modeling.- Chapter 6: RNN and LSTM.- Chapter 7: Attention Mechanism, Transformers, BERT, and GPT.- Chapter 8: Large Language Models.- [...]

Fields of interest
Artificial Intelligence; Machine Learning; Data Science; Natural Language Processing (NLP); Computational Intelligence;

Content level
Graduate

Product category
Graduate/Advanced undergraduate textbook

L. Hagedorn, IWM, Vienna, Austria; U. Schmid, University of Bamberg, Bamberg, Germany; S. Winter, University of Maryland, College Park, MD, USA; S. Woltran, Technische Universität Wien, Vienna, Austria (Eds.)

Digital Humanism
First Interdisciplinary Science and Research Conference, DIGHUM 2025, Vienna, Austria, November 20–21, 2025, Proceedings

- This book is open access, which means that you have free and unlimited access

Contents
.- Digital Humanism Reshaping Computer Science.- Heuristic Search and Constraint Verification for Value-Centric Electrification Planning..- A System Prototype for Food Sales Forecasting and Optimization to Reduce Food Waste for Short-Shelf-Life Products..- Schedules Need to be Fair Over Time..- A Bayesian View of the Result Model..- Towards Fair AI Systems: An Insurance Case Study to Identify [...]

Fields of interest
Computer Science; Artificial Intelligence;

Content level
Research

Product category
Proceedings

A. Kumar, BioAxis DNA Research Centre Private Ltd., Hyderabad, India; V. K. Gunjan, CMR Institute of Technology, Hyderabad, India; S. Senatore, University of Salerno, Fisciano, Italy; Y. Hu, Providence University, Taichung, Taiwan (Eds.)

Proceedings of the 5th International Conference on Data Science, Machine Learning and Applications; Volume 1
ICDSMLA 2023, 15–16 December, Hyderabad, India

- Includes peer reviewed articles from the 5th International Conference on Data Science and Machine Learning 2023
- Discusses the applications of new emerging technologies for professionals and researchers alike
- Highlights recent advances in artificial intelligence, machine learning, soft computing

Contents
.- Adversarial Training of Logistic Regression Classifiers for Weather Prediction Against Poison and Evasion Attacks.

.- Enhancing Hate Speech Detection: Evaluation of Classification Models and Techniques. [...]

Fields of interest
Control and Systems Theory; Electrical and Electronic Engineering; Artificial Intelligence; Computational Intelligence; IT in Business; Mathematical Models of Cognitive [...]

Content level
Professional/practitioner

Product category
Proceedings

H. Liu, Tsinghua University, Beijing, China; **D. Guo**, Beijing University of Posts and Telecommunications, Beijing, China (Eds.)

Proceedings of 2025 Chinese Intelligent Automation Conference
Volume II

- Contains the most new results in the field of intelligent automation
- Reflects the comprehensive status of the cross-disciples of intelligent control and robotics
- Discusses the outcomes of 2025 Chinese Intelligent Automation Conference, held in Hefei, China

Fields of interest
Control and Systems Theory; Electrical and Electronic Engineering; Control, Robotics, Automation; Computational Intelligence; Control and Systems Theory;

Content level
Research

Product category
Proceedings

H. Liu, Tsinghua University, Beijing, China; **D. Guo**, Beijing University of Posts and Telecommunications, Beijing, China (Eds.)

Proceedings of 2025 Chinese Intelligent Automation Conference
Volume III

- Contains the most new results in the field of intelligent automation
- Reflects the comprehensive status of the cross-disciples of intelligent control and robotics
- Discusses the outcomes of 2025 Chinese Intelligent Automation Conference, held in Hefei, China

Fields of interest
Control and Systems Theory; Electrical and Electronic Engineering; Control, Robotics, Automation; Computational Intelligence; Control and Systems Theory;

Content level
Research

Product category
Proceedings

S. Palaiahnakote, University of Salford, Salford, UK; **R. Palit**, North South University, Dhaka, Bangladesh; **M. Saraee**, University of Salford, Salford, UK; **P. K. Atrey**, University of Albany, Albany, NY, USA; **X. Bai**, Huazhong University of Science and Technology, Wuhan, China; **B. Raman**, Indian Institute of Technology Roorkee, Roorkee, India (Eds.)

Data Science, AI and Applications
First International Conference, ICDSAIA 2025, Dhaka, Bangladesh, July 18–19, 2025, Proceedings, Part I

Contents
Part-vol-I..– Deep Learning–Based Potato Leaf Disease Classification Using a Custom CNN..– Enhanced Rice Leaf Diseases Classification Using ResNet50 on a Bangladeshi Dataset..– AI–Driven Multilayered Cybersecurity Intelligence Framework for Critical Infrastructure Protection..– Enhancing Candidate Selection with NLP–Driven Resume Analysis for Industry 4.0 Recruitment Systems..– [...]

Fields of interest
Computer Science; Artificial Intelligence; Data Science; Machine Learning; Computer Vision;

Content level
Research

Product category
Proceedings

S. Palaiahnakote, University of Salford, Salford, UK; R. Palit, North South University, Dhaka, Bangladesh; M. Saraee, University of Salford, Salford, UK; P. K. Atrey, University of Albany, Albany, NY, USA; X. Bai, Huazhong University of Science and Technology, Wuhan, China; B. Raman, Indian Institute of Technology Roorkee, Roorkee, India (Eds.)

Data Science, AI and Applications

First International Conference, ICDSAIA 2025, Dhaka, Bangladesh, July 18–19, 2025, Proceedings, Part II

Contents

Part-vol-I.Part-vol-II..- Hybrid BiLSTM-BiGRU Model for Classification of Bangladeshi Dialects..- Efficient Chicken Audio Classification Using Swin Transformer Features and Harmony-Optimized
Random Forest..- Restoring Rhythm: Punctuation Restoration Using Transformer Models for Bangla, a
Low-Resource Language..- Explainable Hybrid Convolutional Networks for Accurate Malaria Diagnosis in Blood […]

Fields of interest

Computer Science; Artificial Intelligence; Data Science; Machine Learning; Computer Vision;

Content level

Research

Product category

Proceedings

S. Palaiahnakote, University of Salford, Salford, UK; R. Palit, North South University, Dhaka, Bangladesh; M. Saraee, University of Salford, Salford, UK; P. K. Atrey, University of Albany, Albany, NY, USA; X. Bai, Huazhong University of Science and Technology, Wuhan, China; B. Raman, Indian Institute of Technology Roorkee, Roorkee, India (Eds.)

Data Science, AI and Applications

First International Conference, ICDSAIA 2025, Dhaka, Bangladesh, July 18–19, 2025, Proceedings, Part III

Contents

Part-vol-I.Part-vol-II.Part-vol-III..- Network-Based Approaches and Gene Expression Profiling to Identify the Molecular Mechanism of Stomach Cancer..- Smart Urban Farming: Integrating AI and IoT with Renewable Energy in Vertical Farming..- Comparative Analysis of Classification and Regression Models for Schizophrenia Risk Prediction..- A Review for Bridging Clinical and Technical Gaps with […]

Fields of interest

Computer Science; Artificial Intelligence; Data Science; Machine Learning; Computer Vision;

Content level

Research

Product category

Proceedings

S. Papadopoulos, Centre for Research & Technology Hellas, Thermi, Greece; K. Bontcheva, University of Sheffield, Sheffield, UK; V. Mezaris, Centre for Research & Technology Hellas, Thermi, Greece; R. Rogers, University of Amsterdam, Amsterdam, The Netherlands (Eds.)

Countering Disinformation in the Era of Generative AI

- Surveys state-of-the-art AI tools for detecting and combating synthetic disinformation
- Offers actionable strategies and real case studies for media professionals and researchers
- Written by members of the global vera.ai research and development project to bridge technical depth and accessibility

Contents

Countering Disinformation in the Era of Generative AI.- Part I Introduction and Overview.- 1 Introduction.- Part II Landscape, Trends and Studies.- 2 False Alarm or Real Threat? Trends in GenAI-mediated Disinformation.- 3 From Fact-Checking to Content Moderation: Inside a Newsroom Faced with AI.- 4 Synthetic Seduction: Evolving Visual Persuasion in Coordinated Online Gambling Promotion with […]

Fields of interest

Artificial Intelligence; Information Ethics; Natural Language Processing (NLP); Media Ethics; Media Policy and Politics; Social Media;

Content level

Research

Product category

Contributed volume

E. Reiter, University of Aberdeen, Aberdeen, UK

Natural Language Generation

- Comprehensive NLG Overview: covers rule-based, neural approaches, user requirements, evaluation, testing and safety
- Longevity and Relevance: Focuses on high-level concepts and methodologies for enduring value beyond current technology
- Real-world Applications: Explores practical NLG uses in journalism, business intelligence, summarization, and medicine

Contents
1. Introduction to NLG.- 2. Rule-based NLG.- 3. Machine Learning and Neural NLG.- 4. Requirements.- 5. Evaluation.- 6. Safety, testing, and maintenance.- 7. Applications.- Index.

Fields of interest
Artificial Intelligence; Machine Learning; Computational Linguistics; Natural Language Processing (NLP);

Content level
Graduate

Product category
Graduate/Advanced undergraduate textbook

T. Schlippe, IU International University of Applied Sciences, Erfurt, Germany; E. C. K. Cheng, Yew Chung College of Early Children Education, Hong Kong S.A.R., China; T. Wang, Flinders University, Adelaide, SA, Australia (Eds.)

Artificial Intelligence in Education Technologies: New Development and Innovative Practices

Proceedings of 2025 6th International Conference on Artificial Intelligence in Education Technology

- Is a timely publication that is responsive to rapid development of AI technologies in the education field
- Presents research from diverse academic perspectives concerning AI in education
- Brings together scholars reflecting on new technological developments and innovative pedagogical practices

Contents
Emerging AI Technologies, Methods, Systems, and Infrastructure.- Innovative Practices of Teaching and Assessment Driven by AI and Education Technologies.- Curriculum, Teacher Professional Development and Policy for AI in Education.- Issues and Discussions on AI In Education and Future Development.

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Database Management System; IT in Business; Complex Systems; Computers and Education; Digital Education and Educational Technology; Natural Language Processing (NLP); [...]

Content level
Research

Product category
Proceedings

S. Wu, City University of Macau, Macau, China; W. Li, Auckland University of Technology, Auckland, New Zealand; X. Xu, CSIRO, Eveleigh, NSW, Australia; Y. Liu, Auckland University of Technology, Auckland, New Zealand (Eds.)

Knowledge Management and Acquisition for Intelligent Systems

21st Principle and Practice of Data and Knowledge Acquisition Workshop, PKAW 2025, Wellington, New Zealand, November 17–18, 2025, Proceedings

Fields of interest
Computer Science; Artificial Intelligence; Computing Milieux; Database Management; Computer Communication Networks; Information Storage and Retrieval;

Content level
Research

Product category
Proceedings

M. Abdul Rub, King Abdulaziz University, Jeddah, Saudi Arabia; N. Azum, King Abdulaziz University, Jeddah, Saudi Arabia; A. Khan, King Abdulaziz University, Jeddah, Saudi Arabia; K. A. Alzahrani, King Abdulaziz University, Jeddah, Saudi Arabia (Eds.)

Industrial Applications of Individual and Mixed Surfactant Systems – Volume 1

- Reviews the physical–chemical properties of individual and mixed surfactant systems and its applications
- Describes the formation of mixed micelles formed from more than one species of surfactant of different nature
- Presents green surfactants made up of bio-based amphiphiles molecules which are environmentally more friendly

Contents

Effect of different additives (organic/inorganic) on surfactants' behavior.- Surfactants application in pharmaceutical industry.- Singular and mixed surfactants system as an anti-corrosive agent.- Sustainable application of surfactants in petrochemical industry.- Physico-chemical behavior of different types of gemini surfactants and their applications.- Application of surfactants in personal [...]

Fields of interest

Materials Science; Materials Engineering; Sustainability; Polymers; Green Chemistry; Surface Chemistry; Surfaces, Interfaces and Thin Film;

Content level

Research

Product category

Contributed volume

H. Altenbach, Otto-von-Guericke-Uni. Magdeburg, Magdeburg, Germany; V. I. Erofeev, Mechanical Engineering Research Institute of the Russian Academy of Sciences, Nizhny Novgorod, Russia; I. S. Pavlov, Mechanical Engineering Research Institute of the Russian Academy of Sciences, Nizhny Novgorod, Russia (Eds.)

Mechanics and Acoustics of Metamaterials

- Explores the methods and technologies that are used to design and create metamaterials
- Examines how metamaterials affect acoustic wave propagation
- Investigates how metamaterials change mechanical properties such as strength and elasticity

Contents

On Anti-Plane Waves Localized Near Sharp Interface Between two Elastic Half Spaces: Lattice Dynamics Approach.- Plane Longitudinal Strain Waves in Auxetic Materials with Point Defects.- Emergence of Lamb Wave Pass and Gap Bands in Waveguides with Periodically Arranged Elastic Inclusions.- Guided Waves Propagation in Elastic Metamaterial Plates with Voids and Surface Irregularities.- Soundproof [...]

Fields of interest

Engineering Mechanics; Materials Science; Metamaterials; Acoustics; Solid Mechanics; Continuum Mechanics;

Content level

Research

Product category

Contributed volume

S. E. Azam, University of Minho, Braga, Portugal; L. Loureiro, University of Minho, Braga, Portugal; A. A. Vicente, University of Minho, Braga, Portugal; R. Vardanega, University of Minho, Braga, Portugal

Cannabinoids in Food Science
Chemistry, Applications, and Innovations

- Explores cannabinoids in food chemistry
- Discusses cannabinoids as ingredients in functional foods and beverages
- Outlines analytical techniques in cannabinoid chemistry

Contents

Introduction.- Chemical composition, classification, and metabolism of cannabinoids.- Extraction of cannabinoids.- Analytical techniques for identification and quantification of cannabinoids.- Practical aspects for the incorporation of cannabinoids in food products.

Fields of interest

Nanotechnology; Polymers; Organic Chemistry; Theoretical Chemistry; Biomedical Engineering and Bioengineering; Analytical Chemistry; Food Chemistry; Food Science; Nutrition; Food Microbiology; Sociology of Food and Nutrition; Analytical Chemistry; Food Chemistry; Food Science; Natural Products; Pharmacology; Plant Biochemistry;

Content level

Research

Product category

Brief

S. Chehreh Chelgani, **Lulea university of technology, Lulea, Sweden**; A. A. Neisiani, **Yazd University, Isfahan, Iran**; D. Wonyen, **University of Liberia, Monrovia, Liberia**; A. H. Mohammad Zadeh, **University of Toronto, Toronto, QC, Canada**; R. Saneie, **The University of British Columbia, Vancouver, BC, Canada**

Green Flotation Depressants

- Covers every facet of biodegradable depressants and their applications
- Provides pioneer insights and charts the future of flotation separation
- A main reference for courses related to froth flotation and recycling

Contents

Polysaccharides.– Starch.– Cellulose.– Xanthan Gum.– Guar Gum.– Locust Bean Gum.– Other Gums.– Phenols.– Lignin.– Tannin.– Quebracho.– Organic Acids.– Citric Acid.– Humic Acid.– Other Reagents.– Polyaspartate.– Tripolyphosphate.

Fields of interest
Materials Science; Biomineralization; Materials Chemistry; Surface Chemistry;

Content level
Research

Product category
Monograph

J. Chen, **National University of Kaohsiung, Kaohsiung, Taiwan (Ed.)**

Nano-Delivering for Plant Genetic Engineering

- Explores plant gene transfer by engineered nanoparticles and nanocarriers for delivering plant genetic engineering
- Reviews the benefits and limitations of nano-biotechnology on plant gene transfer with nanoparticles
- Serves as ideal reference for readers in the fields of plant genetics, plant physiology, and plant breeding

Contents

Introduction to Plant Nano-Biotechnology:
Advances and Prospects.– Nanoparticles in Plant Sciences: Types, Synthesis and Applications.– Biomolecule-Nanocarriers in Plant Biotechnology: Methods and Applications.– Nanoparticle Transportation in Plants: Mechanistic Insights and Applications.– Plant-Nanoparticle Interactions: Molecular Insights and Future Directions.– Nanoparticle-Mediated Nucleic [...]

Fields of interest
Nanobiotechnology; Plant Genetics; Plant Biotechnology;

Content level
Research

Product category
Contributed volume

A. N. Conejo, **University of Science and Technology Beijing, Beijing, China**

Electric Arc Furnace: Methods to Decrease Energy Consumption

- First book on the EAF process since 1985 that discusses in detail all methods to decrease energy consumption
- Most updated book on the state of the art on energy consumption in the EAF
- Includes a complete discussion on energy consumption on both the scientific basis and its applications

Contents

Introduction.– Energy balance.– Prediction models on energy consumption.– Oxygen injection.– Burners.– Post-combustion.– Slag foaming.– Scrap pre-heating.– Hot metal.– Hot DRI.– Stirring.– Scrap quality.– Hot heel.– Tapping control.– Water cooling.– Optimization of electric power parameters.– Energy recovery.– Energy consumption and the environment.– EAF Design.– Automation.

Fields of interest
Metals and Alloys; Industrial and Production Engineering; Thermal Process Engineering;

Content level
Research

Product category
Monograph

J. Fan, Southeast University, Nanjing, China; P. K. Chu, City University of Hong Kong, Hong Kong, China

Silicon Carbide Nanostructures
Fabrication, Structure, and Properties

- Brings together the best current knowledge about the structural, electronic, and optical properties of bulk silicon carbide crystals
- A unique reference book for researchers and graduate students in this growing and important field
- This new edition fully updated and expanded with the latest developments

Contents
Preface.- Introduction.- General Properties of Bulk SiC.- Nanoporous SiC.- SiC Nanoparticles and Quantum Dots.- SiC Nanowires.- SiC Nanotubes and Two-Dimensional Monolayers.- SiC Nanostructured Films.- Biological Applications.

Fields of interest
Characterization and Analytical Technique; Metals and Alloys; Optical Materials; Nanotechnology; Solid Mechanics; Optical Materials; Electronics and Microelectronics, Instrumentation; Biomedical Engineering and Bioengineering;

Content level
Research

Product category
Monograph

G. Graciani, Institut Polytechnique de Paris, Palaiseau, France

Effective Communication and Single-Molecule Research

- Outlines why science communication matters
- Covers single-molecule biophotonics, advanced techniques and real-world biological applications
- Award-winning content of the 2024 Nature Award Science in Shorts

Contents
Part 1: The need for Science Communication.- Chapter 1: Introduction.- Chapter 2: Why Science Needs a Voice.- Chapter 3: Why Scientist Must Communicate.- Chapter 4: Strategies for Communicating Complex Science.- Part 2: How Science is Actually Made in the Lab Today.- Chapter 5: Introduction.- Chapter 6: Probing Single-Molecules.- Chapter 7: Single-Molecules Biophotonics.- Chapter 8: Real-World [...]

Fields of interest
Nanotechnology; Polymers; Organic Chemistry; Theoretical Chemistry; Biomedical Engineering and Bioengineering; Analytical Chemistry; Biophysical Chemistry; Science Communication; Biophysical Methods; Biological Chemistry; Optics and Photonics;

Content level
Research

Product category
Brief

T. Hause, Brighton, MI, USA

Sandwich Structures
Theory and Responses, 2nd Edition

- Introduces linear theory related to thermal buckling and discusses on boundary conditions and their treatment
- Explains the theory for symmetric and asymmetric anisotropic laminated composites applied to sandwich plates and shells
- Examines the impact of fixed edges on the structural response and discusses boundary conditions and their treatment

Contents
Introduction.- Theory of sandwich plates and shells with a transversely incompressible core.- Buckling of sandwich plates and shells.- Post buckling.- Free vibration.- Dynamic response to time dependent external excitations.- Theory of sandwich plates and shells with a transversely compressible core.- Theory of sandwich plates and shells with a transversely compressible core theory two.- [...]

Fields of interest
Structural Materials; Composites; Solid Construction; Aerospace Technology and Astronautics; Automotive Engineering; Building Materials;

Content level
Upper undergraduate

Product category
Undergraduate textbook

V. Khanna, Chandigarh University, Mohali, India; C. Chinglenthoiba, Galgotias University, Greater Noida, India; T. N. S. T. Anuar, Universiti Malaysia Terengganu, Terengganu, Malaysia (Eds.)

Nanomaterials for Microplastic Removal

- Explores nanomaterials role in removing microplastic pollution in detail
- Integrates synthesis, characterization, and application aspects for practical insights
- Addresses regulatory challenges and future perspectives in microplastic removal

Contents

Overview of Microplastic Pollution Sources, Types and Distribution.– Environmental Impact of Microplastics on Ecosystems and Human Health.– Nanomaterials as Promising Solutions for Microplastic Remediation.– Synthesis Methods of Nanomaterials for Microplastic Adsorption and Degradation.– Characterization Techniques for Evaluating the Efficiency of Nanomaterials in Microplastic Removal.

Fields of interest

Environmental Engineering/Biotechnology; Nanotechnology; Catalytic Materials; Materials Characterization Technique; Surfaces, Interfaces and Thin Film; Environmental Chemistry;

Content level

Research

Product category

Contributed volume

A. V. Kildishev, Purdue University West Lafayette, West Lafayette, IN, USA

Magnetic Signatures
Advanced Analysis for Modern Systems

- Bridges theory and practice by demonstrating how to integrate advanced theory with commercial software
- Provides practical measurement techniques using sensor arrays
- Maintains a strong emphasis on addressing real engineering challenges

Contents

Introduction.– Theoretical Basis for Description of External Electromagnetic Fields.– the Electric Field.– the Spatial Harmonic Analysis in Electrostatics: Basic Concepts.– the Magnetic Field.– Fundamentals of the Electromagnetic Theory: Maxwell's Equations.– Analytical Simulation of VLF or Static Sources.– VLF Magnetic Multipoles.– Characterization of Sources by Evaluation of Magnetic [...]

Fields of interest

Nanotechnology; Magnetic Materials; Magnetism; Measurement Science and Instrumentation;

Content level

Professional/practitioner

Product category

Professional book

Progress in the Chemistry of Organic Natural Products

A. D. Kinghorn

Volume 130

A. D. Kinghorn, The Ohio State University, Columbus, OH, USA; H. Falk, Johannes Kepler University, Linz, Austria; S. Gibbons, Liverpool John Moores University, Liverpool, UK; Y. Asakawa, Tokushima Bunri University, Tokushima, Japan; J. Liu, South-Central University for Nationalitiy, Wuhan, China; V. Dirsch, University of Vienna, Vienna, Austria (Eds.)

The Diels–Alder Reaction as a Key Step in Natural Product Synthesis

- Provides a comprehensive and up-to-date review on the topic
- Written by a recognized authority in the field
- Is a part of a well-known series

Contents

Chapter 1 Introduction.– Chapter 2 From Discovery to Indispensable Tool (1927–1950s).–Chapter 3 Expansion into Complex Natural Products (1960s–1970s).– Chapter 4 Advancement in Strategies (1980s).– Chapter 5 Methodological Advances: The Era of the Intramolecular Diels–Alder Reaction (1990s).– Chapter 6 Complex [...]

Fields of interest

Organic Chemistry; Medical Biochemistry; Medicinal Chemistry; Pharmacy; Pharmacology; Catalysis; Organic Chemistry; Chemistry; Chemical Synthesis; Asymmetric Synthesis;

Content level

Research

Product category

Contributed volume

M. Kumar, University of Delhi, New Delhi, India; S. Dabas, Netaji Subhas University of Technology, New Delhi, India

Multiferroic and Magnetoelectric Materials
Applications and Emerging Green Technologies

- Focuses on the applicability of the newly emerging non-toxic magneto-electric and multiferroic materials
- Covers applications pertaining to energy harvesting, spintronic, pho-tovoltaic, and photo-catalysis
- Presents emerging concepts of quantum electromagnets, quantum criticality, and cosmic string lab stimulation

Contents
Introduction historical perspective and present development.– Synthesis techniques and measurements for various physical properties of multiferroic and magnetoelectric materials.– Sustainable Multiferroic and Magnetoelectric materials for energy harvesting applications.– Photovoltaic performance of sustainable multiferroic and magnetoelectric materials in green energy technology.– [...]

Fields of interest
Materials Science; Materials Engineering; Nanophysics; Ferroelectrics and Multiferroics; Magnetic Materials; Photocatalysis; Microsystems and MEMS;

Content level
Research

Product category
Monograph

N. Meksi, National Engineering School of Monastir, Monastir, Tunisia; S. Dridi-Dhaouadi, University of Monastir, Monastir, Tunisia; I. Moussa, University of Monastir, Monastir, Tunisia (Eds.)

Proceedings of the 4th International Congress of Applied Chemistry and Environment (ICACE−4)
Advances in Chemistry and Clean Processes on Materials

- Presents the selected papers presented at the third International Congress of Applied Chemistry and Environment
- Comprises the latest research on the clean processes at multi-scale
- Collates last techniques for critical topics related to applied chemistry and the environment

Contents
Chapter 1 − Investigation of a Solar Powered Ejector Absorption Cooling System Under Tunisian Climatic Conditions.– Chapter 2 − Trombe Wall Optimised for Mediterranean Climate: An Architectural Strategy for Energy Efficiency.– Chapter 3 − Valorization of Office Paper Recycling Processes.– Chapter 4 − Carbon and Water Footprint of Jeans − a Life Cycle Assessment Approach.– Chapter 5 − [...]

Fields of interest
Materials Science; Materials for Energy and Catalysis; Environmental Chemistry; Sustainability; Green Chemistry; Process Chemistry;

Content level
Research

Product category
Proceedings

K. Morsi, San Diego State University, San Diego, CA, USA

An Engaging Approach to the Science and Engineering of Materials
The SPHERE

- It incorporates a devoted chapter on nanomaterials, a current area of major technological importance
- It Introduces materials science and engineering in a novel immersive experience involving a journey of discovery
- It also provides historical and ethical insights into materials throughout its pages

Contents
Materials an integral force behind civilizations and technological advancements.– Atoms and atomic bonding.– characterization of materials.– Atomic arrangements.– Alloys and the perfection of crystal imperfections.– diffusion and phase diagrams.– Mechanical behavior of metals and alloys.– Ferrous alloys.– Strengthening and corrosion of metals and alloys.– Failure of metals and alloys.– [...]

Fields of interest
Materials Characterization Technique; Nanotechnology; Materials Science; Geometry; History of Chemistry; History of Mathematical Sciences;

Content level
Lower undergraduate

Product category
Undergraduate textbook

S. K. Panda, Udayanath Autonomous College Of Science & Technology Adaspur, Cuttack, India; V. P. M., Ege University, Bornova, Türkiye (Eds.)

Bionanocomposites from Marine Origin
Preparation and Applications

- Creates a significant connection between marine nanoscience, material science, bionanotechnology, and biomimetics
- Features the tiny revolutionary materials of our ocean ecosystem to expose the enormous prospective
- Offers inventive forward-thinking solutions for some common issues

Contents

Marine Nanoscience and Nanotechnology.– Application of Marine Gelatin and Chitosan edible nanocomposite film for Food coating and packaging.– Nanocellulose for sustainable water purification.– Marine Biominerals: Applications of nanomaterials from shelled plankton.– Ecotoxicology of engineered nanomaterials in the marine environment.– Applications of Nanocomposites from Marine waste.– Advanced [...]

Fields of interest

Engineering Mechanics; Materials Science; Nanochemistry; Nanobiotechnology; Freshwater and Marine Ecology;

Content level
Research

Product category
Contributed volume

S. K. Panda, Udayanath Autonomous College of Science & Technology, Cuttack, India; Visakh P.M., Ege University, Bornova, Türkiye (Eds.)

Nanocomposites for Defense, Aeronautical and Aerospace Applications

- Covers the latest advances of nanocomposites for defense, aeronautical, and aerospace applications
- Serves as a reference resource for students, researchers, and engineers in industry
- Provides a comprehensive overview on nanocomposites and polymers

Contents

Nanocomposites for Military, Aeronautical and Aerospace Applications: Challenges and Opportunities.– High performance polymer materials for aeronautical engineering applications.– Introduction
of fibre-reinforced polymers– polymers and composites for aeronautical and aerospace applications.– Importance of thermal and flame retardancy of nanocomposites in Aeronautical and Aerospace industry.– [...]

Fields of interest

Engineering Mechanics; Materials Science; Structural Materials; Composites; Polymers; Aerospace Technology and Astronautics;

Content level
Research

Product category
Contributed volume

C. L. Perrin, Univ Calif San Diego, La Jolla, CA, USA

Principles of Organic Chemistry

- Suitable for a one-semester course on organic chemistry
- Covers the need of organic chemistry biology students
- Provides many illustrative exercises

Contents

Chapter 1 Molecular Structure.– Chapter 2 Electron Delocalization.– Chapter 3 Stereochemistry.– Chapter 4 Chemical Reactivity.– Chapter 5 Chemical Kinetics.– Chapter 6 Haloalkanes.– Chapter 7 Alcohols.– Chapter 8 Aldehydes and Ketones.– Chapter 9 Carboxylates.– Chapter 10 Pericyclic Reactions.– Chapter 11 Spectroscopy.

Fields of interest

Chemistry; Organic Chemistry; Chemistry Education; Chemical Synthesis; Biological Chemistry;

Content level
Lower undergraduate

Product category
Graduate/Advanced undergraduate textbook

S. C. Rasmussen, **North Dakota State University, Fargo, ND, USA**

How Glass Changed the World
Revised and Expanded

- Combines history, chemistry, and material science to provide an exploration of glass's evolution
- Highlights the crucial role of glass in shaping scientific progress
- Expanded and Updated Content

Contents

Introduction.– Origins of Glass: Myth and Known History.– Early Development and Growth of Glass.– Glass During the Roman Period.– Reinventing an Old Material: Venice and the New Glass.– Glass in the West: The Introduction
of Potash–Lime Glass.– Applications to Chemical Apparatus.– From Windows to Lenses: Impact on Science and Society.– Conclusions.

Fields of interest
History of Chemistry; History of Science; Chemistry; Glass; Ceramics; History of Chemistry; History of Science;

Content level
Research

Product category
Monograph

Springer

Due January 2026
2026. X, 186 p. 55 illus., 37 illus. in color. (Perspectives on the History of Chemistry) Hardcover
€ 159,99 | £ 139,99 | $ 179.99
€ (D) 171,19 | € (A) 175,99 | CHF 189.00
ISBN 978-3-032-11857-8

G. Schleining, **Vienna, Austria**; **S. Mannino**, **MILANO, Italy**; **P. Suwannaporn**, **Bangkok, Thailand (Eds.)**

Statistics in Food and Biotechnology
From Theory to Practical Applications

- Provides detailed and practical examples of how to use statistics in food and biotechnology
- Major importance for food professionals, industry staff and researchers in food and biotechnology
- Very few publications have focused on the practical application of these methods

Contents

Basic Statistics for data collection and treatment.– Sampling.– statistic for food product and process development.– statistical process control.– Statistic for sensory science.– Statistic for analytical methods

Fields of interest
Food Science; Food Engineering; Food Science; Food Chemistry;

Content level
Professional/practitioner

Product category
Contributed volume

Springer

Now in Softcover
Available
2024. XII, 469 p. 168 illus., 62 illus. in color. (Integrating Food Science and Engineering Knowledge Into the Food Chain, Volume 16) Softcover
€ 119,99 | £ 109,99 | $ 129.99
€ (D) 128,39 | € (A) 131,99 | CHF 142.00
ISBN 978-3-031-51570-5

K. S. Singh, **Institute for Microbiology, Lower Saxony, Germany**; **N. Akhtar**, **CBS Bio Platforms, Calgary, AB, Canada**; **N. Ahemad**, **Monash University, Petaling Jaya, Malaysia**; **D. Aggarwal**, **University Of Delhi, New Delhi, India**; **S. Anand**, **Phulo Jhano Murmu College of Dairy Technology, Dumka, India (Eds.)**

Nanobiomaterials in Animal Husbandry

- Highlights the potential of nanotechnology in enhancing animal health, reproduction, and food quality
- Provides comprehensive insights into challenges and potential solutions in animal husbandry
- Addresses safety concerns, benefits, and future prospects for use of nanobiomaterials in animal husbandry

Contents

Nanobiomaterials in animal husbandry: An overview.– Nanotechnology in animal genetics, breeding and reproduction.– Nanoparticles for immunomodulation and cancer therapy
in Animal Husbandry.– Nanotechnology and animal reproductive disorders.– Nanotechnology in animal disease detection.– Nanomaterials for Gene Therapy in Animal Health.– Nanotechnology in Veterinary Medicine: Drug Delivery […]

Fields of interest
Nanobiotechnology; Agricultural Biotechnology; Animal Biotechnology;

Content level
Research

Product category
Contributed volume

Springer

Due January 2026
2026. IV, 527 p. 68 illus., 64 illus. in color. (Smart Nanomaterials Technology) Hardcover
€ 229,99 | £ 199,99 | $ 249.99
€ (D) 246,09 | € (A) 252,99 | CHF 271.50
ISBN 978-981-95-4541-4

Q. Wang, Shanghai Jiao Tong University, Shanghai, China; N. Zhang, Shanghai Technical Institute of Electronics and Information, Shanghai, China

Principle of Metal Crystallization

- Comprehensively reviews metal crystallization and solidification
- Introduces the knowledge of metal crystallization principles in detail from the perspective of both theory and practice
- Covers as much relevant knowledge of metal crystallization under various environments and conditions as possible

Contents

Chapter 1 Nucleation of crystals.– Chapter 2 Crystal growth.– Chapter 3 Morphology of crystal growth.– Chapter 4 Crystallization process of multiphase alloys.– Chapter 5 Directional Solidification and Single Crystal Preparation.– Chapter 6 Rapid Solidification and Non-equilibrium Crystallization.– Chapter 7 Crystal growth of metal solidification in electromagnetic field Chapter 8 [...]

Fields of interest

Metals and Alloys; Materials Engineering; Coarse-grained models; Crystallography and Scattering Methods; Characterization and Analytical Technique;

Content level

Research

Product category

Monograph

H. Yang, Zhejiang University, Hangzhou, China; K. H. Wong, University of Southampton Malaysia, Johor, Malaysia (Eds.)

Advanced Energy Materials and Their Application in Devices and Systems

Selected Papers of AEMDS 2024

- Showcases pioneering research on advanced materials energy technologies
- Explores novel device designs pushing the boundaries of energy efficiency and sustainability
- Provides comprehensive insights into integrated energy systems for a cleaner, greener future

Contents

Advanced Energy Storage Technologies.– Advanced Materials for Sustainable Energy Applications.– Renewable Energy Technologies for Sustainable Development.

Fields of interest

Materials Science; Materials for Energy and Catalysis; Energy Grids and Networks;

Content level

Research

Product category

Proceedings

X. Zhai, Anhui Agricultural University, Hefei, China (Ed.)

Tea Chemistry and Health Benefits

Flavour and Processing Dynamics

- Outlines tea chemistry, from colour and aroma to taste
- Covers the role of tea in disease prevention
- Explores the impact of tea processing techniques

Contents

Color compounds in six types of tea.– The
effect of processing on tea color.– Odor qualities and odor thresholds (OTs) in water of odorants in six types of tea.– The effect of processing on tea aroma quality.– Taste qualities and dose-over-thresholds (DoTs) of tea tastants in six types of tea.– The effect of processing
on tea taste quality.– Antioxidant effect of tea.– Anti-inflammatory effect [...]

Fields of interest

Food Chemistry; Plant Biochemistry; Food Analysis; Nutrition; Food Science;

Content level

Research

Product category

Contributed volume

Z. Zubair, **National Textile University, Faisalabad, Pakistan; K. Shaker**, **National Textile University, Faisalabad, Pakistan; A. Hafeez**, **National Textile University, Faisalabad, Pakistan**

Functional Polyurethane Coatings

Formulations, Properties, and Applications

- Covers polyurethane coatings' properties, formulations, applications, and environmental impact
- Offers guidelines on application techniques, curing processes, and surface preparation
- Includes current research and emerging trends in polyurethane coatings technology

Contents

1.Basics of polyurethane coating.– 2. Formulation and Application Techniques.– 3.Curing and Drying Processes.– 4.Performance and Properties.– 5.Applications for Polyurethane Coatings.– 6.Environmental Impact and Sustainability of PU Coatings.

Fields of interest
Biomaterials; Nanophysics; Nanotechnology; Biomedical Engineering and Bioengineering; Optical Materials; Microsystems and MEMS; Coatings; Polymers; Polymer Synthesis; Industrial and Production Engineering; Surface and Interface and Thin Film; Environmental Sciences;

Content level
Research

Product category
Brief

S. K. Aikins, University of South Florida, Tampa, FL, USA; T. Dimitrijevska-Markoski, University of South Florida, Tampa, FL, USA (Eds.)

Artificial Intelligence and Government

Examining the Roles and Uses of AI in Enhancing Government Operations

- Bridges AI frameworks and global AI policy insights with real-life public sector case applications
- Features the first in-depth academic analysis of ORBIS, an AI-powered civic deliberation tool
- Explores AI's role in reimagining democratic participation, not just administrative efficiency

Contents

Chapter 1: Introduction: Artificial Intelligence and Government.- Part I: Foundations of AI in Government.- Chapter 2: Transforming Government Through AI: Navigating Adoption, Barriers, and Solutions.- Chapter 3: From Theory to Practice: Constructing AI Principles for Effective Public Service.- Chapter 4: Rule-Based AI Systems for Public Governance: A Framework for Smarter, Transparent and […]

Fields of interest
Artificial Intelligence; Governance and Government;

Content level
Professional/practitioner

Product category
Contributed volume

A. Akavia, University of Haifa, Haifa, Israel; S. Dolev, Ben-Gurion University of the Negev, Be'er-Sheva, Israel; A. Lysyanskaya, Brown University, Providence, RI, USA; R. Puzis, Ben-Gurion University of the Negev, Be'er-Sheva, Israel (Eds.)

Cyber Security, Cryptology, and Machine Learning

9th International Symposium, CSCML 2025, Be'er Sheva, Israel, December 4–5, 2025, Proceedings

Fields of interest
Computer Science; Data and Information Security; Computer and Information Systems Applications; Computer Communication Networks; Machine Learning; Cryptology;

Content level
Research

Product category
Proceedings

B. Applebaum, Tel-Aviv University, Tel-Aviv, Israel; H. (. Lin, University of Washington, Seattle, WA, USA (Eds.)

Theory of Cryptography

23rd International Conference, TCC 2025, Aarhus, Denmark, December 1–5, 2025, Proceedings, Part I

Fields of interest
Computer Science; Cryptology; Security Services; Mobile and Network Security; Computer Communication Networks; Computer System Implementation; Data Structures and Information Theory;

Content level
Research

Product category
Proceedings

B. Applebaum, Tel–Aviv University, Tel–Aviv, Israel; **H. (. Lin**, University of Washington, Seattle, WA, USA (Eds.)

Theory of Cryptography

23rd International Conference, TCC 2025, Aarhus, Denmark, December 1–5, 2025, Proceedings, Part II

Fields of interest
Computer Science; Cryptology; Security Services; Mobile and Network Security; Computer Communication Networks; Computer System Implementation; Data Structures and Information Theory;

Content level
Research

Product category
Proceedings

B. Applebaum, Tel–Aviv University, Tel–Aviv, Israel; **H. (. Lin**, University of Washington, Seattle, WA, USA (Eds.)

Theory of Cryptography

23rd International Conference, TCC 2025, Aarhus, Denmark, December 1–5, 2025, Proceedings, Part IV

Fields of interest
Computer Science; Cryptology; Security Services; Mobile and Network Security; Computer Communication Networks; Computer System Implementation; Data Structures and Information Theory;

Content level
Research

Product category
Proceedings

J. Bai, Jinan University, Guangzhou, China; **Y. Huang**, Southern Medical University, Guangzhou, China; **I. Khobo**, University of Cape Town, Cape Town, South Africa; **M. Yaqub**, Mohamed bin Zayed University of Artificial Intelligence, Abu Dhabi, United Arab Emirates; **K. Lekadir**, Universitat de Barcelona, Barcelona, Spain; **D. Ni**, Shenzhen University, Shenzhen, China; **S. Li**, Case Western Reserve University, Cleveland, OH, USA (Eds.)

Intrapartum Ultrasound

MICCAI 2025 Grand Challenge, IUGC 2025, Held in Conjunction with MICCAI 2025, Daejeon, South Korea, September 23, 2025, Proceedings

Contents
.– Noisy Student–Based Self–Training Enhances Landmark Detection in Intrapartum Ultrasound.

.– Unlabeled Data–Driven Fetal Landmark Detection in Intrapartum Ultrasound.

.– SSL–FetalBioNet: Self–Supervised Learning for Automated Angle of Progression Measurement in Intrapartum Ultrasound.

.– DSNT–DeepUNet: A Coordinate Prediction Method for Intrapartum Ultrasound.

.– Adversarially Fine–tuned […]

Fields of interest
Computer Science; Artificial Intelligence; Computer Imaging, Vision, Pattern Recognition and Graphics;

Content level
Research

Product category
Proceedings

S. Bakkes, **Utrecht University, Utrecht, The Netherlands;** F. Bellotti, **University of Genova, Genoa, Italy;** P. Dondio, **Maynooth University, Kildare, Ireland;** M. Ninaus, **University of Graz, Graz, Austria;** V. Wannick, **University of Southampton, Southampton, UK;** A. Bucchiarone, **University of L'Aquila, L'Aquila, Italy (Eds.)**

Games and Learning Alliance

14th International Conference, GALA 2025, Utrecht, The Netherlands, November 19–21, 2025, Proceedings

Fields of interest
Computer Science; Artificial Intelligence;

Content level
Research

Product category
Proceedings

L. Bechtel, **Esslingen University of Applied Sciences, Esslingen, Germany;** T. Heer, **University of Applied Sciences, Esslingen, Germany (Eds.)**

Computation and Communication for Smart Systems Symposium

Proceedings of the C2S3, April 9-11, 2025, Esslingen, Germany

Contents

1. Predicting Blood Glucose Levels with Advanced Time Series Models.- 2. Security Analysis of Hardware Electric Vehicle Charging Infrastructure.- 3. Data-Driven Approaches to Micromobility Demand Modeling.- 4. How to Tame GeNESIS.- 5. I Still Know Who You Scanned Last Summer: An Update on the Landscape of Internet Scanners.

Fields of interest
Industrial and Production Engineering; Applied and Technical Physics; Innovation and Technology Management; Biotechnology; Computer and Information Systems Applications;

Content level
Research

Product category
Proceedings

A. Bellogin, **Universidad Autónoma de Madrid, Madrid, Spain;** L. Boratto, **University of Cagliari, Cagliari, Italy;** F. Cena, **University of Turin, Turin, Italy;** A. Geninatti Cossatin, **University of Turin, Turin, Italy;** T. Huibers, **University of Twente, Enschede, The Netherlands;** S. Kleanthous, **Open University of Cyprus, Nicosia, Cyprus;** M. Landoni, **Università della Svizzera Italiana, Lugano, Switzerland;** E. Lex, **Graz University of Technology, Graz, Austria;** F. M. Malloci, **University of Cagliari, Cagliari, Italy;** M. Marras, **University of Cagliari, Cagliari, Italy;** N. Mauro, **University of Turin, Turin, Italy;** E. Murgia, **University of Genoa, Genoa, Italy;** M. S. Pera, **TU Delft, Delft, The Netherlands (Eds.)**

Advances in Bias, Fairness, and Understudied Users in Information Retrieval

6th International Workshop, BIAS 2025, and 2nd International Workshop, IR4U2 2025, Padua, Italy, July 17, 2025, Revised Selected Papers

Contents

.- Bias and Fairness (Bias 2025)..- Adaptive Repetition for Mitigating Position Bias in LLM-Based Ranking..- FAIR-MASK: Mitigating Bias in Dense Embedding Retrieval through Dimension Reduction..- Mitigating Algorithmic Bias through Sampling: The Role of Group Size and Sample Selection..- Understudied Users. [...]

Fields of interest
Computer Science; Computer Communication Networks; Artificial Intelligence; e-Commerce and e-Business;

Content level
Research

Product category
Proceedings

V. Bhatia, **Indian Institute of Techno-logy Indore, Indore, India**; **Z. Ding**, **Khalifa University, Abu Dhabi, United Arab Emirates**; **K. Singh**, **National SunYet San University Kaohsiung, Kaohsiung City, Taiwan**; **A. Baghel**, **Indian Institute of Technology Indore, Indore, India**; **A. Singh Parihar**, **Indian Institute of Information Technology Bhopal, Bhopal, India**; **D. Kumar**, **Khalifa University, Abu Dhabi, United Arab Emirates**

Advanced NOMA Techniques for Heterogeneous Cellular Networks

- Offers comprehensive coverage of advanced Non-Orthogonal Multiple Access NOMA techniques
- Addresses practical issues such as non-linearities from high-power amplifiers and imperfect Channel State Information
- Integrates cutting-edge research, including SWIPT-enabled coopera-tive NOMA, and RIS-assisted NOMA

Contents

Chapter 1 Introduction.- 1.1 Overview.- 1.1.1 History: From 1G to 6G.- 1.1.2 Requirements and application of 6G.- 1.2 An Overview of Heterogeneous Networks.- 1.2.1 Architecture of Heterogeneous Networks.- 1.3 An overview of NOMA.- 1.3.1 NOMA Archi-tecture.- 1.3.2 Superposition coding.- 1.3.3 Successive interference […]

Fields of interest

Computer Engineering and Networks; Computer Communication Networks; Wireless and Mobile Communication; Communications Engineering, Net-works;

Content level

Research

Product category

Monograph

C. Boura, **Université Paris Cité, Paris, France**; **A. Mashatan**, **Toronto Metro-politan University, Toronto, ON, Canada**; **A. Miri**, **Toronto Metropolitan University, Toronto, ON, Canada (Eds.)**

Selected Areas in Cryptography – SAC 2025

32nd International Conference, Toronto, ON, Canada, August 13–15, 2025, Revised Selected Papers

Contents

Cryptanalysis of Lightweight Ciphers.- More Balanced Polynomials: Cube Attacks on 810- and 825-Round Tri-vium with Practical Complexities.- A Closer Look at the S-box: Deeper Ana-lysis of Round-Reduced ASCON-HASH.- Improving the Rec-tangle Attack on GIFT-64.- Side-Channel Attacks and Countermeasures.- Mask Compression: High-Order Masking on Memory-Constrained Devices.- Not so Difficult in the […]

Fields of interest

Computer Science; Data and Informa-tion Security; Computer Communication Networks; Computer Engineering and Networks; Security Services; Cryptology;

Content level

Research

Product category

Proceedings

M. Bramer, **University of Portsmouth, Portsmouth, UK**; **F. Stahl**, **DFKI, Olden-burg, Germany (Eds.)**

Artificial Intelligence XLII

45th SGAI International Conference on Artificial Intelligence, AI 2025, Cambridge, UK, December 16–18, 2025, Proceedings, Part I

Contents

.- Technical Papers..- DESS: Dimensio-nal-PDFs for Embedding Space Sampling (Best Technical Paper..- Deep Learning..- A Hybrid Reasoning System for Visual Arithmetic Learning.- NERULA: A Dual-Pathway Self-Supervised Learning Framework for Electrocardiogram Signal Analy-sis..- This Looks Like That and That and That: Multi-objective Optimization for Diverse Prototype Learning..- Large Language […]

Fields of interest

Computer Science; Computer Science; Artificial Intelligence; Artificial Intelli-gence; Computer Engineering and Networks; Computing Milieux; Compu-ter and Information Systems Applications;

Content level

Research

Product category

Proceedings

M. Bramer, University of Portsmouth, Portsmouth, UK; F. Stahl, DFKI, Oldenburg, Germany (Eds.)

Artificial Intelligence XLII

45th SGAI International Conference on Artificial Intelligence, AI 2025, Cambridge, UK, December 16–18, 2025, Proceedings, Part II

Contents

.– Application Papers..– Detect, Decide, Explain: An Intelligent Framework for Zero-Day Network Attack Detection (Best Application Paper)..– Evolutionary Algorithms..– Evolutionary Optimization of Autonomous Agents for Decreasing Resource Intensity on Geographically Located Interdependent Task Sets..– Explaining Recommender Systems' Performance via User Behaviour Patterns..– Machine […]

Fields of interest

Computer Science; Computer Science; Artificial Intelligence; Artificial Intelligence; Computer Engineering and Networks; Computing Milieux; Computer and Information Systems Applications;

Content level

Research

Product category

Proceedings

W. Cai, Nanyang Technological University, Singapore, Singapore; M. Low, Singapore Institute of Technology, Singapore; G. Tan, National University of Singapore, Singapore, Singapore; G. D'Angelo, University of Bologna, Bologna, Italy; D. Ta, Singapore Management University, Singapore, Singapore (Eds.)

Methods and Applications for Modeling and Simulation of Complex Systems

24th Asia Simulation Conference, AsiaSim 2025, Singapore, Singapore, November 17–19, 2025, Proceedings

Contents

.– Best Paper Nominees.

.– A Quantitative Learning Method for Simulation Model Evaluation using L-SHADE Optimized Structured Regression.

.– Robust Lunar-Image Matching Under Disturbance: High-Precision Comparison of RANSAC, RL-RANSAC, and MLESAC.

.– Aeroassisted Orbital Transfer Optimization Using Sequential Convex Programming.

.– Towards Intelligent MBSE: Constructing an MBSE Model Dataset […]

Fields of interest

Computer Science; Computer Modelling; Mathematics of Computing; Computer Imaging, Vision, Pattern Recognition and Graphics; Artificial Intelligence; Computer Communication Networks;

Content level

Research

Product category

Proceedings

G. Carmona, The University of Texas at San Antonio, San Antonio, TX, USA; C. Lima, The University of Texas at San Antonio, San Antonio, TX, USA; M. J. Santos, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; H. Benítez, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; L. Montero-Moguel, The University of Texas at San Antonio, San Antonio, TX, USA; B. Galarza-Tohen, Purdue University, West Lafayette, IN, USA (Eds.)

Advances in Quantitative Ethnography

7th International Conference, ICQE 2025, Mexico City, Mexico, October 11–16, 2025, Proceedings

Contents

.– Theory, Methods, Coding, and Fairness..– Models All the Way Down Discourse and Other Models in Quantitative Ethnography..– Educators' AI Journey: Developing AI Competencies in a Professional Development Program..– Research Leadership in the Context of Quantitative Ethnographic Work..– Critical Quantitative Ethnography (CritQE): A Pathway Toward Convergence Research and Equity..– On […]

Fields of interest

Computer Science; Computer Communication Networks; Computer and Information Systems Applications; Computers and Education;

Content level

Research

Product category

Proceedings

M. Chetty, Federation University Australia, Churchill, VIC, Australia; J. Hallinan, BioThink Pty Ltd, Redcliffe, QLD, Australia (Eds.)

From Algorithms to Ailments
AI in Innovative and Translational Healthcare

- Contains multi-disciplinary topics for those working in diverse fields
- Covers not only the theory of computer and biological science, but also several applications via real case studies
- Serves either as a text book, reference book, or handbook for students, academics, and professionals

Contents

Chapter 1. From Data Science to Artificial Intelligence.– Chapter 2. Molecular Biology Lite.– Chapter 3. Application of Deep Learning to Healthcare.– Chapter 4. Computational modeling paradigms in systems biology.– Chapter 5. Image Analysis and Cancer Detection.– Chapter 6. Genomics and Synthetic Biology.– Chapter 7. Drug Discovery and Drug Repurposing.– Epilogue (about 7–10 pages long).

Fields of interest

Health Informatics; Artificial Intelligence;

Content level

Research

Product category

Contributed volume

Springer

Due January 2026

2026. VIII, 258 p. 34 illus., 24 illus. in color. Hardcover
€ 179,99 | £ 159,99 | $ 199.99
€ (D) 192,59 | € (A) 197,99 | CHF 212.50
ISBN 978-3-032-11022-0

S. K. S. Cheung, Hong Kong Metropolitan University, Kowloon, China; X. Liu, Shenzhen City Polytechnic, Shenzhen, China; G. Xu, Harbin Institute of Technology, Shenzhen, China; L. Kwok, HKCT Institute of Higher Education, Sha Tin, China (Eds.)

Technology in Education. Smart and Innovative Learning
International Conference on Technology in Education, ICTE 2025, Shenzhen, China, December 10–12, 2025, Proceedings

Contents

Keynotes

.– Framing AI in Education 5.0: A Strategic Framework for Human-Centered Learning Ecosystems.

.– Empowering Non-Technical Teachers as Designers of Virtual Experiential Learning: Insights from the EduVenture-VR Journey.

.– Enhancing Learning through a Web-based OER: Application of Metamorphic Testing to John the Ripper.

.– Embodied Intelligence in Education: Current Status and […]

Fields of interest

Computer Science; Computers and Education; Computer Application in Social and Behavioral Sciences; Artificial Intelligence; Computer and Information Systems Applications;

Content level

Research

Product category

Proceedings

Springer

Due December 2025

2026. XVI, 421 p. 75 illus.
(Communications in Computer and Information Science, Volume 2752)
Softcover
€ 84,99 | £ 74,99 | $ 99.99
€ (D) 90,94 | € (A) 93,49 | CHF 100.50
ISBN 978-981-95-4498-1

C. Cid, Okinawa Institute of Science and Technology, Onna, Japan; N. Yanai, Panasonic, Kadoma, Japan (Eds.)

Advances in Information and Computer Security
20th International Workshop on Security, IWSEC 2025, Fukuoka, Japan, November 25–27, 2025, Proceedings

Contents

.– Public-Key Encryption.

.– Dynamic Collusion Function–Private Functional Encryption.

.– Public Key Encryption with Equality Test from Tag-Based Encryption.

.– Approximate CRT-Based Gadget Decomposition for FullyHomomorphic Encryption.

.– Signature Schemes.

.– Ordered Multi-Signatures with Public-Key Aggregation from SXDHAssumption.

.– Multi-Designated Verifier Ring Signature: Generic […]

Fields of interest

Computer Science; Data and Information Security; Computer and Information Systems Applications; Computing Milieux; Computer Communication Networks;

Content level

Research

Product category

Proceedings

Springer

Due December 2025

2026. XX, 499 p. (Lecture Notes in Computer Science, Volume 16208)
Softcover
approx.€ 65,99 | £ 59,99 | $ 74.99
approx.€ (D) 70,61 | € (A) 72,59 | CHF 78.00
ISBN 978-981-95-4673-2

P. Cong Vinh, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam; **H. Mahfooz Ul Haque**, University of Central Punjab, Johar Town, Pakistan; **N. Van Han**, Thuy Loi University, Hanoi, Vietnam (Eds.)

Nature of Computation and Communication

10th EAI International Conference, ICTCC 2024, Dalat City, Vietnam, October 15–16, 2024, Proceedings

Contents
.– Improving Vegetable Disease Diagnosis with EfficientNet Versions

.– Rice Varieties Classification Combining Scalers and Fine-tuned Classical Machine Learning

.– Managing and controlling IP packet traffic based on AI at router on Internet: A survey.

.– Steps Towards Modeling Collective Intelligence Using Linguistic Fuzzy Cognitive Maps.

.– Toward Modeling Adaptive Neuro-Fuzzy Inference […]

Fields of interest
Computer Science; Communications Engineering, Networks; Computer Communication Networks; Computer Hardware; Special Purpose and Application-Based Systems; Input/Output and Data Communications;

Content level
Research

Product category
Proceedings

T. K. Dang, Van Lang University, Ho Chi Minh City, Vietnam; **J. Küng**, Johannes Kepler University of Linz, Linz, Austria; **T. M. Chung**, Sungkyunkwan University, Seoul, Korea (Republic of) (Eds.)

Future Data and Security Engineering

12th International Conference, FDSE 2025, Ho Chi Minh City, Vietnam, November 27–29, 2025, Proceedings, Part I

Contents
.– Invited Keynote.

.– Health Care Data for Medical Research.

.– Advances in Machine Learning for Big Data Analytics.

.– Building a Machine Learning Algorithm for Identifying the Same Entity Using Data Strings in .JP Domain Name Registry.

.– A Gloss Annotation Scheme for Enhanced Sign Language Translation.

.– EnhanceGuard: Lightweight and Robust Digital Watermarking with High Fidelity and […]

Fields of interest
Computer Science; Computational Intelligence; Computer and Information Systems Applications; Artificial Intelligence; Data and Information Security; Computers and Education;

Content level
Research

Product category
Proceedings

T. K. Dang, Van Lang University, Ho Chi Minh City, Vietnam; **J. Küng**, Johannes Kepler University of Linz, Linz, Austria; **T. M. Chung**, Sungkyunkwan University, Seoul, Korea (Republic of) (Eds.)

Future Data and Security Engineering

12th International Conference, FDSE 2025, Ho Chi Minh City, Vietnam, November 27–29, 2025, Proceedings, Part II

Contents
.– Invited Keynote .

.– Integrating Information Systems Engineering and Life Science to Decipher the Language of Life.

.– Advances in Machine Learning for Big Data Analytics.

.– LLM-Based Evaluation for Dynamic Routing Among Large Language Models.

.– Explainable AI for Lung Disease Classification: Looking Inside the Black Box.

.– Evaluating the SISA Framework for Efficient Machine Unlearning […]

Fields of interest
Computer Science; Computational Intelligence; Computer and Information Systems Applications; Artificial Intelligence; Data and Information Security; Computers and Education;

Content level
Research

Product category
Proceedings

P. Delir Haghighi, **Monash University, Clayton, VIC, Australia**; **G. Kotsis**, **Johannes Kepler University Linz, Linz, Austria**; **T. Amagasa**, **University of Tsukuba, Tsukuba, Japan**; **A. Nadamoto**, **Konan University, Kobe, Japan**; **I. Khalil**, **Johannes Kepler University Linz, Linz, Austria (Eds.)**

Advances in Mobile Computing and Multimedia Intelligence

23rd International Conference, MoMM 2025, Matsue, Japan, December 8–10, 2025, Proceedings

Contents
.– Mobile and Wearable Systems.

.– Diffusion-TS: A Hybrid Model for Human Skeleton Prediction.

.– LightVideoRAG: Low-Resource Long Video Question-Answering via Adaptive Sampling and Context-Aware Retrieval.

.– Exploring the Design of Context-Aware Widget Recommender System in Mixed Reality.

.– System to Support Acquiring Midfoot Strike Running through Intermittent Feedback of Foot Pressure […]

Fields of interest
Computer Science; Computer and Information Systems Applications; Computing Milieux; Computer Engineering and Networks; Artificial Intelligence;

Content level
Research

Product category
Proceedings

C. Dominik, **University of Bremen, Bremen, Germany**

Embedding Sequential Circuits for their Polynomial Formal Verification

Contents
Introduction.– Polynomial Formal Verification.– Preliminaries.– Verification of Full Counter Circuits.– Verification of Modulo Counter Circuits.– Experimental Results.– Conclusion.

Fields of interest
Mechanical Engineering; Society; Physics and Astronomy; Mathematics; Health Sciences; Biological Sciences; Computer and Information Systems Applications; Mathematics of Computing;

Content level
Research

Product category
Ph.D. Thesis

Q. Dou, **The Chinese University of Hong Kong, Hong Kong, China**; **Y. Ban**, **Shanghai Jiao Tong University, Shanghai, China**; **Y. Jin**, **National University of Singapore, Singapore, Singapore**; **S. Bano**, **University College London, London, UK**; **M. Unberath**, **Johns Hopkins University, Baltimore, MD, USA (Eds.)**

Collaborative Intelligence and Autonomy in Image-Guided Surgery

First International Workshop, COLAS 2025, Held in Conjunction with MICCAI 2025, Daejeon, South Korea, September 23, 2025, Proceedings

Contents
.–Towards MR-Based Trochleoplasty Planning.–Surgical Key Step Recognition with Global-Local Modeling Mamba in Laparoscopic Pulmonary Lobectomy.–Towards Robust Surgical Automation via Digital Twin Representations
from Foundation Models.– Semantic Scene Editing for Cholecystectomy Surgery.–A Training-Free Approach for 3D Reconstruction from Monocular Sinus Endoscopy.–TrackOR: Towards […]

Fields of interest
Computer Science; Computer Imaging, Vision, Pattern Recognition and Graphics; Machine Learning; Biological Imaging;

Content level
Research

Product category
Proceedings

K. Erciyes, Yaşar University, Izmir, Türkiye

Guide to Graph Algorithms
Sequential, Parallel and Distributed

- Provides a comparative analysis of the three methods of sequential, parallel and distributed graph algorithms
- Includes new material reviewing graph machine-intelligence methods
- Surveys advanced graph structures used in artificial intelligence with code examples

Contents

1. Introduction to Graphs.– 2. Graph Algorithms.– 3. Parallel Graph Algorithms.– 4. Distributed Graph Algorithms.– 5. Trees and Graph Traversals.– 6. Weighted Graphs.– 7. Connectivity.– 8. Matching.– 9. Independence, Domination and Vertex Cover.– 10. Coloring.

Fields of interest
Computer Science; Algorithms; Discrete Mathematics in Computer Science; Graph Theory;

Content level
Graduate

Product category
Graduate/Advanced undergraduate textbook

H. Fang, Nanyang Technological University, Singapore, Singapore; M. Wang, National University of Singapore, Singapore, Singapore; H. Li, Shenzhen University of Advanced Technology, Shenzhen, China; H. Chen, Hong Kong University of Science and Technology, Kowloon, Hong Kong; H. Bogunović, Medical University of Vienna, Vienna, Austria; C. S. Lee, University of Washington, Seattle, WA, USA (Eds.)

Ophthalmic Medical Image Analysis
12th International Workshop, OMIA 2025, Held in Conjunction with MICCAI 2025, Daejeon, South Korea, September 27, 2025, Proceedings

Contents
.– DVIA-Net: Dual-path Video Information Aggregation Network for Anterior Chamber Angle Analysis..– BEAM: Boosting Fundus Image Enhancement via Adapted Text-to-Image Models..– Multimodal Fusion Framework Using Contrastive Learning for Exposure Keratopathy..– GARD: Gamma-based Anatomical Restoration and Denoising for Retinal OCT..– Anomaly Detection in Anterior Eye Segment Using Self-Supervised [...]

Fields of interest
Computer Science; Computer Vision; Artificial Intelligence; Automated Pattern Recognition; Computer Communication Networks;

Content level
Research

Product category
Proceedings

L. Fang, Tsinghua University, Beijing, China

Plenoptic Imaging and Processing

- Offers an overview of plenoptic imaging, encompassing fundamental principles and historical development
- Explores cutting-edge methodologies for capturing large-scale dynamic scenes with exceptional resolution
- Showcases the potential applications of plenoptic imaging in computer vision and artificial intelligence

Contents
Introduction to Plenoptic Imaging.– Plenoptic Sensing Systems.– High-Resolution Plenoptic Sensing.– Plenoptic Reconstruction.– Toward Large-Scale Plenoptic Reconstruction.– GigaVision: When Computer Vision Meets Gigapixel Videography.

Fields of interest
Computer Imaging, Vision, Pattern Recognition and Graphics; Computer Vision; Image Processing; Imaging Techniques;

Content level
Research

Product category
Monograph

H. Fernau, Universität Trier, Trier, Germany; P. Kindermann, Universität Trier, Trier, Germany (Eds.)

Graph-Theoretic Concepts in Computer Science

51st International Workshop, WG 2025, Otzenhausen, Germany, June 11–13, 2025, Revised Selected Papers

Fields of interest
Computer Science; Discrete Mathematics; Discrete Mathematics in Computer Science; Design and Analysis of Algorithms; Computer Graphics; Numerical Analysis; Symbolic and Algebraic Manipulation;

Content level
Research

Product category
Proceedings

H. Fill, University of Fribourg, Fribourg, Switzerland; Y. Wautelet, KU Leuven, Brussels, Belgium; J. Ralyté, University of Geneva, Carouge, Switzerland; J. Zdravkovic, Stockholm University, Kista, Sweden (Eds.)

The Practice of Enterprise Modeling

18th IFIP Working Conference, PoEM 2025, Geneva, Switzerland, December 3–5, 2025, Proceedings

Contents
Enterprise Modeling for Sustainable Reindustrialization.- AI and Model-Driven Approaches for the Next-Generation Enterprise.- Human and Cognitive Dimensions of Enterprise Modeling.- Contextual and Process-Oriented Modeling.- and Intelligent and Secure Digital Transformation.

Fields of interest
Business Information Systems; Computer Application in Administrative Data Processing; IT in Business; Software Engineering; Artificial Intelligence;

Content level
Research

Product category
Proceedings

A. Hameurlain, Toulouse University, Toulouse, France; A. M. Tjoa, Vienna University of Technology, Vienna, Austria; M. Halfeld Ferrari, LIFO, University of Orleans, Orleans, France; D. Colazzo, LAMSADE, University Paris Dauphine – PSL, Paris, France (Eds.)

Transactions on Large-Scale Data- and Knowledge-Centered Systems LIX

Special Issue on Data Management - Principles, Technologies, and Applications

- Explains approaches to effective data management
- Contributors among leading experts in their research area
- Covers a wide range of timely data management research topics

Contents
Maximizing Diverse Information Exposure in Content-Based Social Networks.- SISIS: Sequence Indexing for SImilarity Search.- A categorical representation of multi-model data to prevent data migration mismatch.-

Consistently mapping Differential Privacy paradigms between relational databases and RDF.

Fields of interest
Computer Science; Computer Science; Data Mining and Knowledge Discovery; Computer and Information Systems Applications; Artificial Intelligence;

Content level
Research

Product category
Contributed volume

J. W. Herrmann, The Catholic University of America, Washington, DC, USA

Metareasoning for Robots
Adapting in Dynamic and Uncertain Environments

- Features design guidelines that researchers and engineers can use to make their robots smarter
- Illustrates the concepts using examples from state-of-the-art research
- Reviews implementation issues and provides suggestions for how they can be resolved

Contents
Introduction to Metareasoning.– Metareasoning
Design Options.– Implementing Metareasoning.– Synthesizing
Metareasoning Policies.– Testing
Metareasoning Policies.

Fields of interest
Computer Science; Mathematics and Computing; Automation; Robotic Engineering; Artificial Intelligence; Automotive Engineering; Robotics; Machine Learning;

Content level
Professional/practitioner

Product category
Professional book

S. Hoffmann, FernUniversität in Hagen, Hagen, Germany

Knowledge Sharing on the Shopfloor
Exploring the Use of Augmented Reality in Industrial Set-up Practices

Contents
Introduction.– Related Work.– Research Approach.– Of Embodied Action and Sensors: Knowledge and Expertise Sharing in Industrial Set-up.– Cyber-Physical Systems for Knowledge and Expertise Sharing in Manufacturing Contexts: Towards a Model Enabling Design.– Designing Cyber-physical Production Systems for Industrial Set-up: A Practice-centred Approach.– Producing and Consuming Instructional […]

Fields of interest
Virtual and Augmented Reality; Cyber-Physical Systems; Operations Management; Industrial Organization;

Content level
Research

Product category
Ph.D. Thesis

Y. Hsu, University of Amsterdam, Amsterdam, The Netherlands; K. Systä, Tampere University, Tampere, Finland; I. Ko, Korea Advanced Institute of Science and Technology, Daejeon, Korea (Republic of); F. Gramegna, Polytechnic University of Bari, Bari, Italy (Eds.)

The Inclusive Web: Realizing Safe, Accessible, Inclusive, and Sustainable Web Engineering
25th ICWE 2025 International Workshops, BECS, SWEET, Delft, The Netherlands, June 30–July 3, 2025, Revised Selected Papers

Contents
.– 5th International Workshop on Big data driven Edge Cloud Services (BECS 2025)

.– Adaptive ML-Enabled Edge-Cloud System Framework for Safe and Efficient Autonomous Systems..– E-VaaS: Edge-Enabled Vehicle-as-a-Service for Smart Transportation Systems..– Underwater Object Identification with Edge Computing Paradigms..– LLM-Driven Multi-Agent Recommendation for QoS-Aware Edge Server Selection […]

Fields of interest
Computer Science; Computer and Information Systems Applications; Computer Engineering and Networks; Artificial Intelligence; Data and Information Security; Software Engineering;

Content level
Research

Product category
Proceedings

S. C. Izah, Bayelsa Medical University, Yenogoa, Nigeria; M. C. Ogwu, Appalachian State University, Boone, NC, USA (Eds.)

Sustainable Health Practices for Emerging Tropical Diseases

- Integrates One Health and Eco Health frameworks for tropical disease prevention and control
- Provides community-based, sustainable approaches to disease management beyond conventional biomedical solutions
- Explores innovations in diagnostics, treatment, vaccination, and vector control within a sustainability context

Contents

.- Introductory Chapter: The Role of Sustainable Practices in Combatting Emerging Tropical Diseases.

.- Zika Virus: Sustainable Strategies for Diagnosis, Treatment, and Monitoring.

.- Dengue Fever: Integrated Approaches for Sustainable Disease Management.

.- Chikungunya Virus: Building Resilient Systems for Diagnosis and Care.

.- Nipah Virus: Preparedness and Sustainable Monitoring [...]

Fields of interest
Health Informatics; Health Informatics; Tropical Medicine; Public Health;

Content level
Research

Product category
Contributed volume

B. Jähne, Heidelberg University, Heidelberg, Germany

Digital Image Processing and Image Acquisition

- Uses examples and images to illustrate basic concepts
- Standard Textbook of Digital Image Processing
- A systematic approach to digital image processing and image formation

Contents

Introduction.- IMAGE FORMATION: Radiation and Quantitative Image Formation.- 2-D Image Acquisition.- Radiation Detection and Image Sensors.- Sampling and Interpolation.- Discrete
Image Representation.- Radiometric and Geometric Image Correction.- 3-D Image Acquisition and Light Fields.- 3-D Imaging with Active Illumination.- IMAGE PROCESSING: Neighborhood Operators and Local Structure.- [...]

Fields of interest
Image Processing; Signal, Speech and Image Processing; Computer Imaging, Vision, Pattern Recognition and Graphics;

Content level
Research

Product category
Professional book

S. T. Kakileti, Niramai Health Analytix Pvt. Ltd, Bengaluru, India; G. Manjunath, Niramai Health Analytix Pvt. Ltd, Bengaluru, India; R. G. Schwartz, Piedmont Physical Medicine and Rehabilitation, Greenville, SC, USA; E. Y.K. Ng, Nanyang Technological University, Singapore, Singapore (Eds.)

Artificial Intelligence over Infrared Images for Medical Applications
4th International Conference, AIIIMA 2025, Virtual Event, November 15, 2025, Proceedings

Contents
.- Video Transformers for Dynamic Breast Infrared Imaging Classification.

.- Multi-View Thermal Breast Imaging for Malignancy Detection: Performance Benchmarking of CNN, Transformer, and Involution Architectures.

.- A Shapley Value-based Gated Feature Fusion of Multi-branch Deep Learning Framework for Breast Cancer Screening of Thermal Images.

.- An End-to-End GAN-CNN Framework for Early [...]

Fields of interest
Computer Science; Computer Imaging, Vision, Pattern Recognition and Graphics; Machine Learning; Computers and Education; Computer and Information Systems Applications;

Content level
Research

Product category
Proceedings

Y. Kim, Korea Advanced Institute of Science and Technology, Daejeon, Korea (Republic of); A. Miyaji, The University of Osaka, Osaka, Japan; M. Tibouchi, NTT Social Informatics Laboratories, Tokyo, Japan (Eds.)

Cryptology and Network Security

24th International Conference, CANS 2025, Osaka, Japan, November 17–20, 2025, Proceedings

Contents

.– Post–Quantum Cryptography.

.– Compressed verification for post-quantum signatures with long-term public keys.

.– Generalizing Key Recovery Attacks Against NTRU with Multiple Keys and ItsApplication in NTRUReEncrypt.

.– Strong Designated Verifier Signatures from Isogeny Assumptions.

.– To extend or not to extend: Agile Masking Instructions for PQC.

.– Symmetric–Key Cryptography.

.– Comparing [...]

Fields of interest
Computer Science; Cryptology; Computer Communication Networks; Mobile and Network Security; Data and Information Security; Computer and Information Systems Applications;

Content level
Research

Product category
Proceedings

M. Li, Shandong Normal University, Jinan, China; M. Xia, Institute of Software Chinese Academy of Sciences, Beijing, China; P. Zhang, Shandong University, Jinan, China (Eds.)

Theory and Applications of Models of Computation

19th Annual Conference, TAMC 2025, Jinan, China, September 19–21, 2025, Proceedings

Contents
.– Computational Complexity and Algorithms.

.– Complexity and Approximation Algorithms for Fixed Charge Transportation Problems.

.– Closure Properties and Characterizations of TotP.

.– Fair k-Center Clustering with Minimum Representation Guarantees.

.– Models of Computation.

.– Approximate EFX and Effcient Allocations of Chores for Bounded Preferences.

.– Strategies for Non–Myopic Users in [...]

Fields of interest
Computer Science; Algorithms; Discrete Mathematics in Computer Science; Theory of Computation;

Content level
Research

Product category
Proceedings

M. Liu, Australian National University, Canberra, ACT, Australia; X. Yu, University of Queensland, St Lucia, QLD, Australia; C. Xu, University of Sydney, Sydney, NSW, Australia; Y. Song, Adelaide University, Adelaide, SA, Australia (Eds.)

AI 2025: Advances in Artificial Intelligence

38th Australasian Joint Conference on Artificial Intelligence, AI 2025, Canberra, ACT, Australia, December 1–5, 2025, Proceedings, Part I

Contents
.– Language and Foundation Models..– Analysis of Large Language Model Prompting and Generation using Toulmin's Model..– MultiRAG: An Agentic Multi–modal and Multi–source Retrieval Augmented Generation Framework for Scientific Research..– Enhancing RAG System Performance Through Semantic Layout Chunking..– Automating Perdurant Meta–Property Assignment using GPT–4..– Evaluating Large Language [...]

Fields of interest
Computer Science; Computer Science; Artificial Intelligence; Artificial Intelligence; Computer Communication Networks; Data Mining and Knowledge Discovery; Computer and Information Systems Applications; Computer Vision;

Content level
Research

Product category
Proceedings

M. Liu, Australian National University, Canberra, ACT, Australia; X. Yu, University of Queensland, St Lucia, QLD, Australia; C. Xu, University of Sydney, Sydney, NSW, Australia; Y. Song, Adelaide University, Adelaide, SA, Australia (Eds.)

AI 2025: Advances in Artificial Intelligence

38th Australasian Joint Conference on Artificial Intelligence, AI 2025, Canberra, ACT, Australia, December 1–5, 2025, Proceedings, Part II

Contents
.– Learning Algorithms..– Price Equilibrium Routing: A Lightweight Framework for Expert Selection in Mixture-of-Experts..– Minimum Message Length t-test..– Towards Scalable Backpropagation-Free Gradient Estimation..– Coordinate-free k-means clustering..– The Ensemble Kalman Update is an Empirical Matheron Update..– Using Individual Problem Instances for Exploratory Black Box Optimisation [...]

Fields of interest
Computer Science; Computer Science; Artificial Intelligence; Artificial Intelligence; Computer Communication Networks; Data Mining and Knowledge Discovery; Computer and Information Systems Applications; Computer Vision;

Content level
Research

Product category
Proceedings

Z. Liu, Southwest University, Chongqing, China; A. Saoud, University Mohammed VI Polytechnic, Ben Guerir, Morocco; H. Wehrheim, Carl von Ossietzky Universität Oldenburg, Oldenburg, Germany (Eds.)

Theoretical Aspects of Computing – ICTAC 2025

22nd International Colloquium, Marrakech, Morocco, November 24–28, 2025, Proceedings

Contents
.– Invited Papers

.– Fuzz Testing with Temporal Constraints..– Facing Uncertainty in AI: From Verification To Synthesis..– Timed Monitoring and Monitorability.– Set Invariance for Assume-Guarantee Contracts in Cyber-Physical Systems Design.

.– Tutorial

.– Domain Analysis & Description.

.– Verification and Synthesis

.– Multi-perspective correctness of programs..– A rely-guarantee-based [...]

Fields of interest
Computer Science; Computer Science Logic and Foundations of Programming;

Content level
Research

Product category
Proceedings

A. López Fernández, Universidad Pablo de Olavide, Seville, Spain; A. Rodríguez-González, Universidad Politecnica de Madrid, Madrid, Spain; R. Leirós-Rodríguez, University of León, Ponferrada, Spain; C. Mata Miquel, Universitat Politècnica de Catalunya, Barcelona, Spain; V. M. González Suárez, University of Oviedo, Gijón, Spain (Eds.)

Artificial Intelligence in Biomedicine

First Conference of the Spanish Society of Artificial Intelligence in Biomedicine, CIABiomed 2025, Seville, Spain, October 23–24, 2025, Proceedings

Fields of interest
Computer Science; Computer Science; Bioinformatics; Data Analysis and Big Data; Bioinformatics; Artificial Intelligence;

Content level
Research

Product category
Proceedings

S. Manakhari, Gannon University, Erie, PA, USA; S. Singh, USIDRI, Washington, DC, USA (Eds.)

Leadership, Business and Management in STEM

- AI-powered cybersecurity solutions with practical implementation frameworks for modern threat landscapes
- Comprehensive coverage from IoT security to critical infrastructure protection using AI/ML approaches
- Research-backed methodologies for detecting advanced persistent threats and emerging attack vectors

Contents

.- You're Doing Maslow's Hierarchy All Wrong: What Should Leadership Really Look Like in the Workplace?..- Logistic Regression-Driven Framework for Securing IoT Networks Against Protocol-Based Threats..- A Hybrid IDS for APT Detection using BI- LSTM Ensemble Learning..- Real-Time Detection of Time-based Blind SQL Injection Using Machine Learning for Critical Infrastructure..- Analytical Study [...]

Fields of interest

Cyber-Physical Systems; Security Science and Technology; Artificial Intelligence; Data and Information Security; Emerging Technologies;

Content level

Research

Product category

Contributed volume

A. Marcus, Aaron Marcus and Associates, Berkeley, CA, USA

Bridging Art, Design and Technology: My Lifetime Work

- Provides historical narrative of HCI/graphic design, computer art, and visible-language
- Aaron Marcus presents fundamental concepts of HCI and best practices from his life work and experience
- Includes examples and historical photos to give readers an in-depth appreciation of design history

Contents

Preface.- Origins in Omaha.- Beginnings in Art and Design.- Studying Physics at Princeton, Reaching Escape Velocity to Yale.- Another World: My Three Years in Graduate School.- Wandering
in Academia for 13 Years.- Princeton and Beyond.- Turning Design Theory into Practice at AM+A.- Surviving the Recessions.- Learning to Run a Virtual Office.- Developing Mobile Prototypes Using Persuasion [...]

Fields of interest

User Interfaces and Human Computer Interaction; Computer Graphics; Interaction Design;

Content level

Research

Product category

Professional book

G. Mazzola, University of Minnesota, Minneapolis, MN, USA; R. Dornfeld, University of Minnesota, Minneapolis, MN, USA; R. Xi, University of Minnesota, Minneapolis, MN, USA; R. Xu, University of Minnesota, Minneapolis, MN, USA; J. Gong, University of Minnesota, Minneapolis, MN, USA; Y. Sun, University of Minnesota, Minneapolis, MN, USA; Q. Qiu, University of Minnesota, Minneapolis, MN, USA; M. Winter, University of Minnesota, Minneapolis, MN, USA; J. Bryan-Moreira, University of Minnesota, Minneapolis, MN, USA

Basic Gestures for Music Theory, Performance, and Pedagogy

- Provides an early music education with science
- Includes natural gestures as an educational argument
- A book written with students of music

Contents

Part I. What Are Gestures.- Chapter 1. Life Gestures.- Chapter 2. Musical Gestures.- Chapter 3. Gestures And Content.- Part II. Teaching Music Theory.- Chapter 4. Fundamental Realities.- Chapter 5. Elementary Concepts.- Chapter 6. Melodies, Harmonies, Modulation, Counterpoint.- Chapter 7. Gestures In Theory And Scores.- Part III. Performance.- Chapter 8. Definition of Performance.- Chapter 9. [...]

Fields of interest

Theory of Computation; Theory of Music; Theory of Music; Mathematics in Music;

Content level

Popular/general

Product category

Graduate/Advanced undergraduate textbook

S. Nishida, Kyoto University, Kyoto, Japan; **K. Nishino**, Kyoto University, Kyoto, Japan (Eds.)

Shitsukan—Understanding and Manipulating Material and Quality Perception

- Explores how we recognize and manipulate Shitsukan – materials, qualities, and values of the world
- Spans a broad range of topics, from vision to audition, touch, and olfaction, and from basic to applied research
- Integrates many approaches, from cognitive neuroscience and medical research to machine vision and virtual reality

Contents

What is Shitsukan?.– Human Visual Perception of Shitsukan.– Computational
Visual Modeling of Shitsukan.– Shitsukan at the Intersection of Vision and Language.– Shitsukan of Sound.– Decoding Shitsukan in The Brain.– The Neural Processing of Shitsukan Perception.– Shitsukan Perception When Impaired.– The Neural Value Transformation from Shitsukan.– The Haptics of Shitsukan.– Augmenting Reality [...]

Fields of interest

Computer Vision; Neuroscience; Cognitive Psychology; Virtual and Augmented Reality;

Content level

Research

Product category

Contributed volume

S. Pal, Deakin University, Melbourne, VIC, Australia; **S. Malhotra**, Chitkara University, Rajpura, India; **I. Gupta**, Chitkara University, Rajpura, India; **A. Kumar**, Chitkara University, Rajpura, India (Eds.)

Emerging Technology and Sustainable Solutions

Second International Conference, ICETSS 2024, Punjab, India, October 8–9, 2024, Proceedings, Part II

Contents

.– Adaptive Traffic Signal Control Using Integrated Security and Computer Vision for Congestion Management..– Real–time Defect Detection and Classification in Fasteners..– Design of Indian Sign Laguage Interpretation System using Transfer Learning VGG16 model..– Performance Assessment of Loop–cutting 10T Static Random Access memory cell For High Performance Computation..– The Smart Pour: An [...]

Fields of interest

Computer Science; Computer and Information Systems Applications;

Content level

Research

Product category

Proceedings

E. Pardede, La Trobe University, Melbourne, VIC, Australia; **Q. Ma**, Kyoto Institute of Technology, Kyoto, Japan; **G. Kotsis**, Johannes Kepler University Linz, Linz, Austria; **T. Amagasa**, University of Tsukuba, Tsukuba, Japan; **A. Nadamoto**, Konan University, Kobe, Japan; **I. Khalil**, Johannes Kepler University Linz, Linz, Austria (Eds.)

Information Integration and Web Intelligence

27th International Conference, iiWAS 2025, Matsue, Japan, December 8–10, 2025, Proceedings

Contents

.– Keynote.

.– Survival Informatics: Reliable Social Media Analysis for Societal Well-being.

.– Foundations of AI and Data Intelligence.

.– Supplementing Product Reviews: Retrieving Opinions from Products with Similar Attributes.

.– Generating Comparative Table by LLM–based Product Review Summarization.

.– Expanding Aspect Queries into Review Sentence Fragments for Product Comparison via [...]

Fields of interest

Computer Science; Computer and Information Systems Applications; Computer Communication Networks; Artificial Intelligence;

Content level

Research

Product category

Proceedings

T. D. Pham, Queen Mary University of London, London, UK; S. Holmes, Queen Mary University of London, London, UK; D. Chatzopoulou, Queen Mary University of London, London, UK; P. Coulthard, Queen Mary University of London, London, UK

Artificial Intelligence in Facial Trauma, Oral Diseases, and Systemic Health

- The first book uniting AI with oral health, facial trauma, and systemic disease insights
- Transforms surgical care through AI-powered diagnosis, prediction, and personalization
- Showcases cutting-edge multimodal AI tackling real clinical challenges and shaping the future

Contents
Chapter 1: Introduction.– Part I: Foundations of AI in Healthcare.– Chapter 2: AI and Machine Learning in Health.– Chapter 3: Techniques for Medical Imaging.– Chapter 4: Techniques for Sequential Data in Healthcare.– Part II: Facial Trauma and AI Applications.– Chapter 5: AI in Diagnosing Cranio-Maxillofacial Trauma.– Chapter 6: AI in Surgical Planning and Simulation in Cranio-Maxillofacial […]

Fields of interest
Health Informatics; Health Sciences; Artificial Intelligence;

Content level
Research

Product category
Monograph

T. T. Quan, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam; C. Sombattheera, Mahasarakham University, Maha Sarakham, Thailand; H. Pham, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam; N. T. Tran, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam (Eds.)

Multi-disciplinary Trends in Artificial Intelligence

18th International Conference, MIWAI 2025, Ho Chi Minh City, Vietnam, December 3–5, 2025, Proceedings, Part I

Fields of interest
Computer Science; Computer Science; Artificial Intelligence; Artificial Intelligence;

Content level
Research

Product category
Proceedings

T. T. Quan, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam; C. Sombattheera, Mahasarakham University, Maha Sarakham, Thailand; H. Pham, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam; N. T. Tran, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam (Eds.)

Multi-disciplinary Trends in Artificial Intelligence

18th International Conference, MIWAI 2025, Ho Chi Minh City, Vietnam, December 3–5, 2025, Proceedings, Part II

Fields of interest
Computer Science; Computer Science; Artificial Intelligence; Artificial Intelligence;

Content level
Research

Product category
Proceedings

T. T. Quan, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam; C. Sombattheera, Mahasarakham University, Maha Sarakham, Thailand; H. Pham, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam; N. T. Tran, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam (Eds.)

Multi-disciplinary Trends in Artificial Intelligence

18th International Conference, MIWAI 2025, Ho Chi Minh City, Vietnam, December 3–5, 2025, Proceedings, Part III

Fields of interest
Computer Science; Computer Science; Artificial Intelligence; Artificial Intelligence;

Content level
Research

Product category
Proceedings

M. P. Robillard, McGill University, Montreal, QC, Canada

Introduction to Software Design with Java

- Helps readers learn software design through a hands-on approach with a focus on object-orientation and using Java
- Covers all relevant design topics, including encapsulation, composition, patterns, functional-style design, and more
- Complemented by sample applications and a companion website with exercises and solutions

Contents

Chapter 1. Introduction.– Chapter 2. Encapsulation.– Chapter 3. Types and Interfaces.– Chapter 4. Object State.– Chapter 5. Unit Testing.– Chapter 6. Composition.– Chapter 7. Inheritance.– Chapter
8. Inversion of Control.– Chapter 9. Functional Design.

Fields of interest
Software Engineering; Java; Compilers and Interpreters;

Content level
Lower undergraduate

Product category
Undergraduate textbook

S. Bonomi, University of Rome La Sapienza, Rome, Italy; P. S. Mandal, Indian Institute of Technology Guwahati, Guwahati, India; P. Robinson, Augusta University, Augusta, GA, USA; G. Sharma, Kent State University, Kent, OH, USA; S. Tixeuil, Sorbonne University, Paris, France (Eds.)

Stabilization, Safety, and Security of Distributed Systems

27th International Symposium, SSS 2025, Kathmandu, Nepal, October 9–11, 2025, Proceedings

Fields of interest
Computer Science; Robotics; Software Engineering; Operating Systems; Control Structures and Microprogramming; Data Structures and Information Theory; Computer Communication Networks;

Content level
Research

Product category
Proceedings

E. Rodolà, Sapienza University of Rome, Rome, Italy; **F. Galasso**, Sapienza University of Rome, Rome, Italy; **I. Masi**, Sapienza University of Rome, Rome, Italy (Eds.)

Image Analysis and Processing – ICIAP 2025

23rd International Conference, Rome, Italy, September 15–19, 2025, Proceedings, Part I

Contents

Incremental Object-Based Novelty Detection with Feedback Loop.- Zero-Shot Neural Architecture Search for Efficient Deep Stereo Matching.- Deep-CS-TRD, a Deep Learning-based Cross-Section Tree Ring Detector.- KairosAD: A SAM-Based Model for Industrial Anomaly Detection on Embedded Devices.- SegDT: A Diffusion Transformer-Based Segmentation Model for Medical Imaging.- FS-SAM2: Adapting Segment […]

Fields of interest

Computer Science; Computer Communication Networks; Machine Learning; Computers and Education; Automated Pattern Recognition;

Content level

Research

Product category

Proceedings

E. Rodolà, Sapienza University of Rome, Rome, Italy; **F. Galasso**, Sapienza University of Rome, Rome, Italy; **I. Masi**, Sapienza University of Rome, Rome, Italy (Eds.)

Image Analysis and Processing – ICIAP 2025

23rd International Conference, Rome, Italy, September 15–19, 2025, Proceedings, Part II

Contents

Efficient Calisthenics Skills Classification through Foreground Instance Selection and Depth Estimation.- Hierarchical Vision-Language Retrieval of Educational Metaverse Content in Agriculture.- Enhancing Testicular Ultrasound Image Classification Through Synthetic Data and Pretraining Strategies.- Classification of Spatial Patterns of Lymphocyte Infiltration in Gliomas from Whole Slide […]

Fields of interest

Computer Science; Computer Communication Networks; Machine Learning; Computers and Education; Automated Pattern Recognition;

Content level

Research

Product category

Proceedings

S. Sayago, Universitat de Lleida - Campus Igualada, Igualada, Spain; **M. Sendín**, Universitat de Lleida, Lleida, Spain; **M. Teixidó**, Universitat de Lleida, Lleida, Spain (Eds.)

Future Perspectives on Human-Computer Interaction Research

Towards the Year 2030

- Offers a comprehensive overview of Human-Computer Interaction research, innovative methodologies and emerging topics
- Examines critical questions and challenges in the design of increasingly sophisticated technologies
- Addresses the intersection of people and technology in ethical, inclusive and effective ways

Contents

Introduction.- Past, present and future of user-centred design methodologies that empathise with the user and generate better accessible experiences. From theory to practice.- An analysis of videogames to compose an adapted heuristic evaluation.- Towards trustworthy and human-centred AI explanations.- Interactive human-in-the-loop topic modelling.- Mobile augmented reality gamification […]

Fields of interest

User Interfaces and Human Computer Interaction;

Content level

Research

Product category

Contributed volume

G. Scanniello, University of Salerno, Fisciano, Italy; V. Lenarduzzi, University of Oulu, Oulu, Finland; S. Romano, University of Salerno, Fisciano, Italy; S. Vegas, Universidad Politécnica de Madrid, Madrid, Spain; R. Francese, University of Salerno, Fisciano, Italy (Eds.)

Product-Focused Software Process Improvement

26th International Conference, PROFES 2025, Salerno, Italy, December 1–3, 2025, Proceedings

Contents

Full Research Papers.– Coverage Isn't Enough: SBFL-Driven Insights into Manually Created vs. Automatically Generated Tests.– AI Alignment for Ethical Compliance and Risk Mitigation in Industrial Applications.– In-House Experimentation Platforms – Motivations, Implementation Characteristics and Challenges.– Writing Aids for Agile Requirements Engineering – A Comparative Study Between Natural […]

Fields of interest

Computer Science; Software Engineering; Computer and Information Systems Applications; Computer Communication Networks; Artificial Intelligence; Computers and Education;

Content level

Research

Product category

Proceedings

G. Scanniello, University of Salerno, Fisciano, Italy; V. Lenarduzzi, University of Oulu, Oulu, Finland; S. Romano, University of Salerno, Fisciano, Italy; S. Vegas, Universidad Politécnica de Madrid, Madrid, Spain; R. Francese, University of Salerno, Fisciano, Italy (Eds.)

Product-Focused Software Process Improvement. Industry, Doctoral-Symposium, Tutorial, and Workshop Papers

26th International Conference, PROFES 2025, Salerno, Italy, December 1–3, 2025, Proceedings

Contents

Industry Papers.– Obtaining Test Data in the Estonian e-Government System: Challenges and Improvement Potential.– From C to Rust — How Feasible is it?.– Cross-Domain Evaluation of Transformer-Based Vulnerability Detection on Open & Industry Data.– Software Testing Education and Industry Needs – Report from ENACTEST EU Project.– Enhancing Regulation-Adherent Requirement Engineering with […]

Fields of interest

Computer Science; Software Engineering; Computer and Information Systems Applications; Computer Communication Networks; Artificial Intelligence; Computers and Education;

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Product category

Proceedings

A. Soylu, Kristiania University of Applied Sciences, Oslo, Norway; F. Liu, Southeast University, Nanjing, China; K. Mitra, Luleå University of Technology, Luleå, Sweden; Y. Zhang, University of Oslo, Oslo, Norway; T. Grønli, Kristiania University of Applied Sciences, Oslo, Norway (Eds.)

Mobile and Ubiquitous Systems: Computing, Networking and Services

21st EAI International Conference, MobiQuitous 2024, Oslo, Norway, November 12–14, 2024, Proceedings

Contents

.– Health, Biomedical Applications, and Human-Centric Computing.

.– A Preliminary Study on Core Temperature Estimation Using a Neonatal Thermal Model via Backpropagation Algorithm.

.– A Two-Step Deep Neural Network Approach for Real-Time Context-Aware Health Monitoring of Hajj Pilgrims.

.– Environment Independent Fall Detection with WiFi Streams.

.– Real-time mobile health analytics & […]

Fields of interest

Computer Science; Communications Engineering, Networks; Computer Communication Networks;

Content level

Research

Product category

Proceedings

X. Tang, University of Chinese Academy of Sciences, Beijing, China; H. Xia, Dalian University of Technology, Dalian, China; V. N. Huynh, Japan Advanced Institute of Science and Technology, Ishikawa, Japan; X. Li, Dalian University of Technology, Dalian, China (Eds.)

Knowledge and Systems Sciences

24th International Symposium, KSS 2025, Kitakyushu, Japan, November 28 – December 1, 2025, Proceedings

Contents

Knowledge Management..– Semantic Description Framework of Institutional Authority File based on Knowledge Organization System..– Computing XAI User'S Revealed Preferences: An argumentation–based Approach..– Epidemic Scenario Construction for Major Epidemics in Communities: Driven by Hazard–Affected Body Dynamics. .– Resource Expectation, Collaborative Behavioral Patterns and Human–Bot […]

Fields of interest

Computer Science; Data Mining and Knowledge Discovery; Artificial Intelligence; Database Management; Computer Communication Networks; Data Structures and Information Theory;

Content level

Research

Product category

Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; C. S. A. Leung, City University of Hong Kong, Kowloon, Hong Kong; T. Kozuno, OMRON SINIC X Corporation, Tokyo, Japan; J. Yoshimoto, Fujita Health University, Toyoake, Japan; M. Mahmud, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; M. Doborjeh, Auckland University of Technology, Auckland, New Zealand; K. Doya, Okinawa Institute of Science and Technology, Gushikawa, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20–24, 2025, Proceedings, Part I

Fields of interest

Computer Science; Automated Pattern Recognition; Data Mining and Knowledge Discovery; Machine Learning; Computer Application in Social and Behavioral Sciences;

Content level

Research

Product category

Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; C. S. A. Leung, City University of Hong Kong, Kowloon, Hong Kong; T. Kozuno, OMRON SINIC X Corporation, Tokyo, Japan; J. Yoshimoto, Fujita Health University, Toyoake, Japan; M. Mahmud, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; M. Doborjeh, Auckland University of Technology, Auckland, New Zealand; K. Doya, Okinawa Institute of Science and Technology, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20–24, 2025, Proceedings, Part I

Fields of interest

Computer Science; Data Mining and Knowledge Discovery; Machine Learning; Automated Pattern Recognition;

Content level

Research

Product category

Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; **C. S. A. Leung**, City University of Hong Kong, Kowloon, Hong Kong; **T. Kozuno**, OMRON SINIC X Corporation, Tokyo, Japan; **J. Yoshimoto**, Fujita Health University, Toyoake, Japan; **M. Mahmud**, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; **M. Doborjeh**, Auckland University of Technology, Auckland, New Zealand; **K. Doya**, Okinawa Institute of Science and Technology, Gushikawa, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20–24, 2025, Proceedings, Part II

Fields of interest
Computer Science; Automated Pattern Recognition; Data Mining and Knowledge Discovery; Machine Learning; Computer Application in Social and Behavioral Sciences;

Content level
Research

Product category
Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; **C. S. A. Leung**, City University of Hong Kong, Kowloon, Hong Kong; **T. Kozuno**, OMRON SINIC X Corporation, Tokyo, Japan; **J. Yoshimoto**, Fujita Health University, Toyoake, Japan; **M. Mahmud**, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; **M. Doborjeh**, Auckland University of Technology, Auckland, New Zealand; **K. Doya**, Okinawa Institute of Science and Technology, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20–24, 2025, Proceedings, Part II

Fields of interest
Computer Science; Data Mining and Knowledge Discovery; Machine Learning; Automated Pattern Recognition;

Content level
Research

Product category
Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; **C. S. A. Leung**, City University of Hong Kong, Kowloon, Hong Kong; **T. Kozuno**, OMRON SINIC X Corporation, Tokyo, Japan; **J. Yoshimoto**, Fujita Health University, Toyoake, Japan; **M. Mahmud**, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; **M. Doborjeh**, Auckland University of Technology, Auckland, New Zealand; **K. Doya**, Okinawa Institute of Science and Technology, Gushikawa, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20–24, 2025, Proceedings, Part III

Fields of interest
Computer Science; Automated Pattern Recognition; Data Mining and Knowledge Discovery; Machine Learning; Computer Application in Social and Behavioral Sciences;

Content level
Research

Product category
Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; C. S. A. Leung, City University of Hong Kong, Kowloon, Hong Kong; T. Kozuno, OMRON SINIC X Corporation, Tokyo, Japan; J. Yoshimoto, Fujita Health University, Toyoake, Japan; M. Mahmud, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; M. Doborjeh, Auckland University of Technology, Auckland, New Zealand; K. Doya, Okinawa Institute of Science and Technology, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20−24, 2025, Proceedings, Part III

Fields of interest
Computer Science; Data Mining and Knowledge Discovery; Machine Learning; Automated Pattern Recognition;

Content level
Research

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Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; C. S. A. Leung, City University of Hong Kong, Kowloon, Hong Kong; T. Kozuno, OMRON SINIC X Corporation, Tokyo, Japan; J. Yoshimoto, Fujita Health University, Toyoake, Japan; M. Mahmud, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; M. Doborjeh, Auckland University of Technology, Auckland, New Zealand; K. Doya, Okinawa Institute of Science and Technology, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20−24, 2025, Proceedings, Part IV

Fields of interest
Computer Science; Data Mining and Knowledge Discovery; Machine Learning; Automated Pattern Recognition;

Content level
Research

Product category
Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; C. S. A. Leung, City University of Hong Kong, Kowloon, Hong Kong; T. Kozuno, OMRON SINIC X Corporation, Tokyo, Japan; J. Yoshimoto, Fujita Health University, Toyoake, Japan; M. Mahmud, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; M. Doborjeh, Auckland University of Technology, Auckland, New Zealand; K. Doya, Okinawa Institute of Science and Technology, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20−24, 2025, Proceedings, Part V

Fields of interest
Computer Science; Automated Pattern Recognition; Data Mining and Knowledge Discovery; Machine Learning; Computer Application in Social and Behavioral Sciences;

Content level
Research

Product category
Proceedings

T. Taniguchi, Kyoto University, Kyoto, Japan; **C. S. A. Leung**, City University of Hong Kong, Kowloon, Hong Kong; **T. Kozuno**, OMRON SINIC X Corporation, Tokyo, Japan; **J. Yoshimoto**, Fujita Health University, Toyoake, Japan; **M. Mahmud**, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; **M. Doborjeh**, Auckland University of Technology, Auckland, New Zealand; **K. Doya**, Okinawa Institute of Science and Technology, Okinawa, Japan (Eds.)

Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20−24, 2025, Proceedings, Part V

Fields of interest
Computer Science; Data Mining and Knowledge Discovery; Machine Learning; Automated Pattern Recognition;

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Neural Information Processing

32nd International Conference, ICONIP 2025, Okinawa, Japan, November 20−24, 2025, Proceedings, Part VI

Fields of interest
Computer Science; Data Mining and Knowledge Discovery; Machine Learning; Automated Pattern Recognition;

Content level
Research

Product category
Proceedings

M. H. ter Beek, CNR-ISTI, Pisa, Italy; **L. Teixeira**, Federal University of Pernambuco, Recife, Brazil (Eds.)

Formal Methods: Foundations and Applications

28th Brazilian Symposium, SBMF 2025, Recife, Brazil, December 3−5, 2025, Proceedings

Contents
.− Formal Reasoning for Assuring Product Lines of Complex Systems..− Safe Evolution of Smart Contracts Supported by LLMs and Bounded Model Checking..− Exploring Modelling Language Engineering..− Process Algebras and Time.− State-based Security and Time-Inserting Supervisors..− A Modular Orthogonal Integration of Operational and Prescriptive Timing Requirements using TASTD..− Formal [...]

Fields of interest
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M. H. ter Beek, CNR-ISTI, Pisa, Italy; **S. Collart-Dutilleul**, Université Gustave Eiffel, Villeneuve d'Ascq, France; **T. Lecomte**, CLEARSY, Aix-en-Provence, France (Eds.)

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6th International Conference, RSSRail 2025, Pisa, Italy, November 26–28, 2025, Proceedings

Contents
.– Invited Presentations..– Moving Block in ERJU..– Empirical Formal Methods in Railways: Experiences and Roadmap..– Wireless Communications Challenges for Safety Applications in Railways..– AI & Planning..– From Relay-based Railway Interlocking Circuits to Formal Specification: An AI-driven Approach..– SMT-based Verification of Railway Plannings..– Using N-Version Architectures for Railway [...]

Fields of interest
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Technologies and Innovation

11th International Conference, CITI 2025, Guayaquil, Ecuador, December 8-11, 2025, Proceedings

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.– Artificial Intelligence in Agriculture.

.– Comparative Analysis of Vision Transformer (ViT) and Traditional Machine Learning Models for the Automatic Classification of Grape Varieties.

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.– Systematic review of artificial intelligence tools applied to the classification, quality control, and shelf [...]

Fields of interest
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C. Wallraven, Korea University, Seoul, Korea (Republic of); **R. He**, Chinese Academy of Sciences, Beijing, China; **B. Lovell**, The University of Queensland, Australia, Brisbane, QLD, Australia; **P. Chakraborty**, Southern Cross University, Sydney, NSW, Australia (Eds.)

Pattern Recognition and Computer Vision

8th Asian Conference on Pattern Recognition, ACPR 2025, Gold Coast, QLD, Australia, November 10–13, 2025, Proceedings, Part I

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.– Few-Shot Connectivity-Aware Text Line Segmentation in Historical Documents..– VeriChain: Reinforced Document Image Forgery Verification via Self-Revealing Reasoning Chain..– A Transformer Based Handwriting Recognition System Jointly Using Online and Offline Features..– Handwritten Text Image Editing with Diffusion Models and Attention-based Matching..– FLUX-Font: Stylized Font Generation [...]

Fields of interest
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F. Zhu, Singapore Management University, Singapore, Singapore; P. S. Yu, University of Illinois, Chicago, IL, USA; A. Nadamoto, Konan University, Kobe, Japan; E. Lim, Singapore Management University, Singapore, Singapore; K. Shim, Seoul National University, Seoul, Korea (Republic of); W. Ding, University of Massachusetts Amherst, Amherst, MA, USA; B. Zhang, University of Shanghai for Science and Technology, Shanghai, China (Eds.)

Database Systems for Advanced Applications

30th International Conference, DASFAA 2025, Singapore, Singapore, May 26–29, 2025, Proceedings, Part III

Contents
.– Graph..– Scalable GNN Training via Parameter Freeze and Layer Detachment..– Dual-prompting based Event Anomaly Detection in Dynamic Graphs..– STM: A Spatio-Temporal Model for Dynamic Graph Fraud Detection..– ICFF-Net: Interlaced cross-attention feature fusion network for music genre classification..– Structure-aware Self-supervised Graph Representation Learning..– NodeNAS: Node-Specific [...]

Fields of interest
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Database Systems for Advanced Applications

30th International Conference, DASFAA 2025, Singapore, Singapore, May 26–29, 2025, Proceedings, Part V

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.– Recommendation..– Hypergraph Enhanced Knowledge Tree Prompt Learning for Next-Basket Recommendation..– MHGCP:Multi-View Heterogeneous Graph with Cross-View Projection for Recommendation..– Towards Scenario-adaptive User Behavior Modeling for Multi-scenario Recommendation..– Leave No One Behind: Enhancing Diversity While Maintaining Accuracy in Social Recommendation..– Counterfactual Path [...]

Fields of interest
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F. Zhu, Singapore Management University, Singapore, Singapore; P. S. Yu, University of Illinois, Chicago, IL, USA; A. Nadamoto, Konan University, Kobe, Japan; E. Lim, Singapore Management University, Singapore, Singapore; K. Shim, Seoul National University, Seoul, Korea (Republic of); W. Ding, University of Massachusetts Amherst, Amherst, MA, USA; B. Zhang, University of Shanghai for Science and Technology, Shanghai, China (Eds.)

Database Systems for Advanced Applications

30th International Conference, DASFAA 2025, Singapore, Singapore, May 26–29, 2025, Proceedings, Part VI

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Fields of interest
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P. Aguilar-Zarate, Instituto Tecnológico de Ciudad Valles, Ciudad Valles, Mexico; C. Carranza-Álvarez, Universidad Autónoma de San Luis Potosí, Ciudad Valles, Mexico; M. R. Michel, Instituto Tecnológico de Ciudad Valles, Ciudad Valles, Mexico; A. K. Haghi, Coimbra University, Coimbra, Portugal (Eds.)

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Fields of interest
Waste Management/Waste Technology; Food Security; Soil Science; Pollution; Sustainability;

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H. M. Alzoubi, Skyline University College, Sharjah, United Arab Emirates; J. A. Al-Gasawneh, University of Petra, Amman, Jordan; A. Piazza, School of Business, Operations and Strategy (BOS), London, UK (Eds.)

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Fields of interest
Environmental Social Sciences; Energy Policy, Economics and Management; Environmental Sciences; Water; Geographical Information System; Geography; Supply Chain Management; Artificial Intelligence; Auditing;

Content level
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Product category
Proceedings

A. Bajaj, University of Delhi, New Delhi, India; R. K. Abhay, University of Delhi, New Delhi, India; K. Kumar, Indira Gandhi National Open University, New Delhi, India (Eds.)

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Fields of interest
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S. Banerjee, Indian Institute of Technology Bhilai, Durg, India; M. K. Jindal, Indian Institute of Technology Jodhpur, Jodhpur, India (Eds.)

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Addressing Water Challenges for a Sustainable Future

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Chapter 1: Early Observations and Empirical Knowledge.– Chapter 2: Fundamentals of Polymer–Water Interactions..– Chapter 3: The Critical Role of Polymers in Water Science and Technology..– Chapter 4: Polymers for Water Purification and Treatment..– Chapter 5: Polymers for Water Desalination..– Chapter 6: Nano–Enabled Polymers: A New Era in Water Purification.– Chapter 7: Polymers for […]

Fields of interest
Water; Pollution; Polymers;

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E. Bellos, Pretoria, South Africa

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Chapter 1: Prologue and Other Firsts.– Chapter 2: Complexity As Context.– Chapter 3: Shifting Knowledge Boundaries.–Chapter 4: Sustainability and Other Global Existential Risks.– Chapter 5: Dynamic Epistemic Equilibria.– Chapter 6: Democracy As Collective Attention.– Chapter 7: Citizen Roles.– Chapter 8: Expert Roles.– Chapter 9: Planning Scenarios As Collective Perspectives.– Chapter 10: Who […]

Fields of interest
Sustainability; Epistemology;

Content level
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Monograph

R. Cardenas, Universidad Central 'Marta Abreu" de Las Villas, Santa Clara, Cuba; L. Rodríguez, Universidad San Sebastián, Concepción, Chile; V. Mochalov, Petrozavodsk State University, Petrozavodsk, Russia; O. Martin, Universidad Central 'Marta Abreu" de Las Villas, Santa Clara, Cuba (Eds.)

From Earth's Ecosystems to Exoplanets
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Fields of interest
Earth Sciences; Environmental Sciences; Earth Sciences; Climate Change Ecology; Biogeosciences; Mathematical Applications in Environmental Science; Environmental Engineering/Biotechnology;

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Proceedings

T. Chaplina, Zagromonte SL, Carretera, Alicante, Spain (Ed.)

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Contents
Study and general characterisation of the North Pacific seashores.– Morphology and dynamics of the shores of the contact zone of temperate and subarctic seas.– Patterns of coastal destruction at the present stage.– Beach formation and distribution of its wave–absorbing properties along the shore.

Fields of interest
Sedimentology; Ocean Sciences; Geology; Climate Sciences; Environmental Management; Geotechnical Engineering and Applied Earth Sciences;

Content level
Research

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Contributed volume

P. Churski, Adam Mickiewicz University, Poznań, Poland; **C. Adamiak**, Nicolaus Copernicus University in Toruń, Toruń, Poland; **A. Dubownik**, Nicolaus Copernicus University in Toruń, Toruń, Poland; **M. Pietrzykowski**, Poznan University of Economics and Business, Poznań, Poland; **B. Szyda**, Nicolaus Copernicus University in Toruń, Toruń, Poland

Inner Peripheries in the New Conditions of Cohesion Post–SARS–CoV–2

Recommendations for European Cohesion Policy

- Discusses the concept of inner peripheries and their application in the analysis of spatial development
- Examines the economic, social and spatial repercussions of the SARS–CoV–2 pandemic in the context of inner peripheries
- Describes novel methodology for defining functional urban areas (FUA)

Contents
Introduction.– Inner peripheries in contemporary spatial development differences.– Navigating Shocks.– A theoretical conceptual model and its application in researching inner peripheries.– Inner peripheries in Poland.– Development processes of the inner periphery in the period of [...]

Fields of interest
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J. Das, Rampurhat College, Rampurhat, India; **T. Mandal**, Malda Town High School (HS), Malda, India; **G. Nitin Mawale**, AISSMS's, Pune, India; **M. Kamruzzaman**, University of Rajshahi, Rajshahi, Bangladesh; **G. M. M. Alam**, Gazipur Agricultural University, Gazipur, Bangladesh (Eds.)

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Exploring Emerging Tools and Techniques

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Part I:Introduction.– Geography and Sustainability in the Era of Emerging Technologies.– Part II:Emerging Tools and Techniques for Sustainable Agricultural Systems.– Physical and Chemical Properties of Soil: An Analysis for Agricultural Productivity of the Bhairab River Basin in Murshidabad, India.– Rice Yield Prediction of [...]

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O. J. Gbadeyan, Durban University of Technology, Durban, South Africa; N. Deenadayalu, Durban University of Technology, Durban, South Africa (Eds.)

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- Discusses the global challenge of sustainably reducing and converting waste into bioplastic products
- Characterizes different plastic and film applications produced from biomass conversion

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Fields of interest

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Product category

Contributed volume

S. Ghosh, TCS Ion, Kolkata, India; A. P. Das, Rama Devi Women's University, Bhubaneswar, India; C. Mohan, K R Mangalam University, Gurugram, India; E. v. Hullebusch, Institut de Physique du Globe de Paris, Paris, France (Eds.)

Advances in Organic Waste Conversion Through Industrial Biotechnology

- Provides in-depth coverage of the process of converting organic waste into platform chemicals using microbial processes
- Emphasizes practical applications and real-world examples
- Integrates insights from microbiology, chemical engineering, environmental science, and industrial policy

Contents

Chapter 1: Bio-Revolution: Turning Waste Into Wealth With Cutting-Edge Biotechnologies For Sustainable Waste Management.- Chapter 2: Biotechnology For Waste Disposal And Alternative Bioenergy Generation.- Chapter 3: Biodegradable Polymers: A Green Solution To Environmental Plastic Pollution.- Chapter 4: Nanobiotechnology: An Approach To Climate Resilience And Sustainability.- Chapter 5: [...]

Fields of interest

Waste Management/Waste Technology; Environmental Policy; Sustainability; Waste Management/Waste Technology; Environmental Sciences; Biotechnology; Sustainability;

Content level

Research

Product category

Contributed volume

S. Ghosh, Central University of Karnataka, Kadaganchi, Aland Road, Kalaburagi,, India; B. Mahalingam, Central University of Karnataka, Kalaburagi, India; V. B.C., Central University of Karnataka, Kalaburagi, India (Eds.)

Geospatial Solutions for Ecological Challenges and Sustainability

- Discusses new trends in geospatial technology
- Includes a wide range of ways in which GIS can be used to address ecological challenges
- Offers means to use GIS to prepare for future risks

Contents

1. Introduction to Geospatial Technologies in Global Ecological Challenges.- 2. Temperature Extremities Under Current and Future SSP Scenarios for Indian States.- 3. Deciphering Extreme Heavy Rainfall Events in September 2023 over India Using Synoptic Systems, Satellite Observations, and Reanalysis Data.- 4. Evaluation of rainfall-runoff dynamics under landuse and land cover changed conditions [...]

Fields of interest

Geographical Information System; Earth Sciences; Information Systems Applications (incl.Internet); Geography; Environmental Management; Geographical Information System; Sustainability; Ecosystems;

Content level

Research

Product category

Contributed volume

K. Glenk, Scotland's Rural College (SRUC), Edinburgh, UK; I. Yuniarti, National Research and Innovation Agency (BRIN), Bogor, Indonesia; R. Utami, Indonesian Research and Innovation Agency (BRIN), Bogor, Indonesia; A. Fitriyah, Indonesian Research and Innovation Agency (BRIN), Bogor, Indonesia; G. P. Yoga, Indonesian Research and Innovation Agency (BRIN), Bogor, Indonesia (Eds.)

Decision Support Systems for Multisectoral Tropical Lake Management in Indonesia
Nature and Anthropocene in Lake Singkarak

- Provides general knowledge of lake management in the Global South and Indonesia
- Covers the decision support system (DSS) project in Lake Singkarak
- Elucidates the efforts to ensure data equity and incorporation of uncertainties in lake management studies

Contents

1. Introduction: Context and knowledge gaps.- 2. Lake Singkarak: People and nature.- 3. System analysis: A basic framework for the DSS.- 4. An overview of the DSS.- Decision support tool (1): Land-based activities models.- 5. Decision support tool (2): Fisheries, habitat-environment models and conservation.- 6. Decision support tool (3): Tourism models.- 7. Integrating socio-economic models: [...]

Fields of interest
Water; Ecological Modelling; Environmental Management;

Content level
Research

Product category
Contributed volume

H. Gökçekuş, Near East University, Nicosia, Cyprus; Y. Kassem, Near East University, Nicosia, Cyprus (Eds.)

Climate Change and Water Resources in Mediterranean Countries
Climate Change and Water Crisis

- Collects contributions on water management in the Mediterranean
- Includes all possible approaches and suggestions aimed at finding solutions to overcome water scarcity
- Provides information on on water treatment techniques

Contents

1. The Fuzzy Logic and Fuzzy- Analytic Hierarchy Process (F-AHP) for Flood Exposure Risk Assessment in the Dead Sea Arid Region .- 2. Validation of PML-V2 Evapotranspiration Model over Multi-climatic Regions of Iran .- 3. Innovative Solutions on Water Management for Islands Under Climate Change.- 4. Assessing University Students' Water Resource Awareness and Behaviors.- 5. Simulation of Karun [...]

Fields of interest
Earth Sciences; Pollution; Water; Geoengineering; Earth System Sciences; Geography; Environmental Management; Water; Waste Management/Waste Technology;

Content level
Research

Product category
Proceedings

M. M. Hoque, Aliah University, Kolkata, India; A. Islam, Aliah University, Kolkata, India

Dams, Development and Environmental Flow in the Damodar River Basin
An Integrated Approach

- Provides a systematic analysis of the environmental flow of the Damodar River in the context of the dams and development
- Offers lucid treatment of the subject using quantitative, statistical and GIS methods in an integrated manner
- Fosters an integration between field-based Indigenous knowledge and modern technology for environmental flow restoration

Contents

Chapter 1: Introduction.- Chapter 2: Geographical Personality and Hydrological Hazards In The Damodar River Basin.- Chapter 3: Damodar Valley Corporation and Quantitative Environmental Flow Alteration.- Chapter 4: Damodar Valley Corporation and Qualitative Environmental Flow Alteration.- Chapter 5: Dams and Development.- Chapter 6: Dams and Environmental Sustainability.- Chapter 7: [...]

Fields of interest
Environmental Management; Natural Hazards; Water;

Content level
Research

Product category
Monograph

C. M. Hussain, New Jersey Institute of Technology, Newark, NJ, USA; N. Srivastava, Department of Chemical Engineering &Technology, Varanasi, India; G. Hussain, Department of Education Lahore, Lahore, Pakistan (Eds.)

Fungi in Waste Water Treatment
Volume 1

- Provides sustainable and environmentally friendly solutions for wastewater treatment
- Fungi-based approaches present an innovative and cost-effective alternative to traditional wastewater treatment methods
- Offers a comprehensive exploration of the diverse applications of fungi in wastewater remediation

Contents

Nutrient Cycling and Mechanisms of Fungal Remediation for Fungi in Waste Water Treatment.- Economical Taxonomy and Adaptive Mechanisms of Fungi in Wastewater Treatment System.- Removal of Heavy Metal and Degradation of Organic Compounds in Fungi Waste Water.- Biodegradation and Transformation of Per- and Polyfluoroalkyl Substances in Wastewater.- Advances in Mycoremediation: Effective [...]

Fields of interest

Environmental Management; Water; Earth System Sciences; Environmental Sciences; Water; Pollution; Sustainability; Environmental Sciences; Biological Sciences;

Content level
Research

Product category
Contributed volume

M. Ishiwatari, Meiji University, Chiyoda City, Tokyo, Japan; O. Siriratpiriya, Chulalongkorn University, Bangkok, Thailand (Eds.)

Proceedings of 7th International Conference on Resources and Environment Sciences (ICRES), Bangkok, Thailand, June 06–08, 2025

- Offers case studies in resource management to help researchers apply theoretical concepts to practical scenarios
- Contains contributions from leading experts to show the newest trends in resource and environmental sciences
- Fosters collaboration by presenting diverse perspectives from various fields within environmental science

Contents

Environmental Quality Monitoring and Pollution Control.- The Corn Hill Hazard: a Polical Ecology of Land-Use Change and Vulnerability in South Sulawesi, Indonesia.- Effluent Effects on Soil Carbon Storage of Mangrove Forest at The King's Royally Initiated Lame Phak Bia Environmental Research and Developmental Project, Thailand.- Sustainable Utilization of Chicken Eggshell Waste for Adsorptive [...]

Fields of interest

Earth Sciences; Environmental Sciences; Environmental Sciences; Soil and Water Protection; Environmental Management; Resource and Environmental Economics; Earth and Environmental Sciences;

Content level
Research

Product category
Proceedings

A. Ismail, Universiti Sultan Zainal Abidin, Gong Badak Campus, Kuala Nerus, Malaysia; H. Juahir, Universiti Sultan Zainal Abidin, Besut, Malaysia

Advanced Chemometrics
Unlocking Patterns in Oil Spills

- Provides insights into the use of chemometric techniques for the analysis and interpretation of data from oil spills
- Shows how to identify, categorize, and track the causes of oil spills to improve response plans and lessen their impacts
- Contains case studies that show how chemometric approaches can be successfully applied in actual oil spill situations

Contents

1 Recognition Using Numerical Methods Approach.- 2 Classification of Similar Chemical Properties in Oil Spills.- 3 Dimensionality Reduction of Oil Spill Variables.- 4 Contaminant of Polyaromatic Hydrocarbon in Oil Spills.- 5 Solving Pattern Recognition Challenges Using Artificial Neural Networks (ANNs).- 6 Bridging Machine Learning and Oil Spill Data.

Fields of interest
Pollution; Environmental Monitoring; Environmental Health;

Content level
Research

Product category
Brief

H. Jain, Amity University, Noida, India; A. Mathur, University of Petroleum and Energy Studies, Vikasnagar, India (Eds.)

Circular Nanotechnology
Redefining Waste into Resources for a Sustainable Future

- Connects nanotechnology solutions with the Sustainable Development Goals (SDGs)
- Comprehensive coverage of cutting-edge nanotechnology applications offers a holistic view of the field
- Bridges sectors of biomedical waste management, sustainable packaging, agriculture, and textiles

Contents

Efficient Resource Recovery via Bio-Inspired Nanotechnology.– Environmental Waste Conversion Using Nano-Enabled Photocatalysis.– Sustainable Circular Manufacturing Using Smart Nanomaterials.– Nano-based Carbon Capture and Utilization for Closed-Loop Systems with Process Optimization and Catalytic Conversion into Valuable Chemicals and Fuels.– Nanotechnology Innovations Revolutionizing Plastics [...]

Fields of interest
Renewable Energy; Waste Management/Waste Technology; Sustainability; Environmental Engineering/Biotechnology; Waste Management/Waste Technology; Nanotechnology; Pollution; Nanobiotechnology; Sustainability;

Content level
Research

Product category
Contributed volume

R. K. P. Kikuchi, Universidade Federal da Bahia Instituto de Geociências, Salvador, Brazil; Z. M. A. N. Leão, Universidade Federal da Bahia Instituto de Geociências, Salvador, Brazil; M. E. de Araújo, Universidade de Pernambuco, Pernambuco, Brazil; T. M. C. Lotufo, Universidade de São Paulo, São Paulo, Brazil (Eds.)

Brazilian Coral Reefs
A Multidisciplinary Approach

- A unique combination of information regarding the diversity of organisms from coral reefs in Brazil
- A comprehensive review of the marine diversity in Brazilian coral reefs
- Challenges and opportunities for reef biodiversity and ecosystems benefit conservation

Contents

Chapter1 Morphology and distribution of reefs and carbonate buildups in the Southwestern South Atlantic.– Chapter2 History of Research About the Tropical Brazilian Coral Reef Systems.– Chapter3 Origins, biogeography and macroecology of the Southwestern Atlantic reef biodiversity.– Chapter4 BIOLOGY OF BRAZILIAN BENTHIC REEF BUILDERS AND DWELLERS.– Chapter5 Herbivory and competition for space.– [...]

Fields of interest
Biodiversity; Freshwater and Marine Ecology; Water; Freshwater and Marine Ecology; Earth System Sciences; Ocean Sciences;

Content level
Research

Product category
Contributed volume

A. Kopáčik, Slovak University of Technology in Bratislava, Bratislava, Slovakia; P. Kyrinovič, Slovak University of Technology in Bratislava, Bratislava, Slovakia; J. Erdélyi, Slovak University of Technology in Bratislava, Bratislava, Slovakia; J. Bureš, Brno University of Technology, Brno, Czech Republic (Eds.)

Contributions to International Conferences on Engineering Surveying
9th INGEO International Conference on Engineering Surveying

- Covers topics on deformation measurement
- Contains contributions to most discussed topics in engineering surveying
- Is organized in cooperation of the FIG Com 6 Engineering Surveys

Contents

1.Development and evaluation of an algorithm for line segmentation of point clouds for fibre composite systems.– 2.Assessment of an approach for the uncertainty evaluation of poses derived from automatic point cloud registration.– 3.Jiangyuan Song, Lazaro Bayer and Corinna Harmening: Quality-Controlled 3D Tunnel Mapping Using Terrestrial and Mobile Laser Scanning with Total Station [...]

Fields of interest
Earth Sciences; Environmental Sciences; Geophysics; Geographical Information System; Geotechnical Engineering and Applied Earth Sciences;

Content level
Research

Product category
Proceedings

B. Kozhikkodan Veettil, Van Lang University, Ho Chi Minh City, Vietnam; B. Das, Lakhmi Chand institute of Technology, Bilaspur, India (Eds.)

Remote Sensing of Urban Heat Islands

Case Studies from Emerging Cities

- Combines detailed discussions on both urban heat islands and remote sensing technologies
- Emphasizes real-world applications of remote sensing data in urban planning and policymaking
- Features case studies of the application of cutting-edge technology from cities around the world

Contents

Understanding Urban Heat Islands: Definition, Causes and Effects.– Historical perspective: Urban Heat Islands (UHIs) research and its significance.– Technologies and Instruments: Satellites and sensors for urban heat island research.– Thermal Remote Sensing: A Case Study on Detecting and Analysing Surface Temperature Variations in Response to Land Use and Land Cover Changes.– Land Use Land [...]

Fields of interest

Urban Geography and Urbanism; Urban Ecology; Environmental Monitoring; Environmental Sciences; Integrated Geography; Urban Policy; Geographical Information System;

Content level

Research

Product category

Contributed volume

S. Küfeoğlu, University of Vaasa, Vaasa, Finland

Financing the Green Transition

Principles and Instruments

- Offers a comprehensive guide to the foundational principles, tools, and practical applications of sustainable finance
- Combines both a foundational understanding and practical application within a single volume
- Empowers readers to support and drive meaningful change toward environmental sustainability and social impact

Contents

Principles of Sustainable Finance.– Impact Assessment and Sustainable Investing.– Measuring Sustainability Metrics and Standardisation.– Sustainable Finance Instruments and Mechanisms.

Fields of interest

Environmental Social Sciences; Earth System Sciences; Water; Regional and Spatial Economics; International Relations; Sustainability; Economics; Environmental and Sustainability Education;

Content level

Research

Product category

Monograph

S. Küfeoğlu, Ofgem, London, UK

Net Zero: Decarbonizing the Global Economies

- Summarizes and critically evaluates NetZero
- Covers NetZero carbon emissions across sectors
- Draws on reviews of the business models of 400 companies worldwide

Contents

Chapter 1: Net Zero: Science and Policy.– Chapter 2: Environmental, Social and Governance.– Chapter 3: Carbon Pricing and Taxing.– Chapter 4: Agriculture, Forestry, and Other Land Use Sector Emissions.– Chapter 5: Business Sector Emissions.– Chapter 6: Energy Supply Sector Emissions.– Chapter 7: Industrial Processes Emissions.– Chapter 8: Public Sector Emissions.– Chapter 9: Residential Sector [...]

Fields of interest

Environmental Social Sciences; Earth System Sciences; Water; Regional and Spatial Economics; International Relations; Sustainability; Business and Management; Environmental Policy; Regulation and Industrial Policy;

Content level

Research

Product category

Monograph

F. Liu, Gloryview Technology Co., Ltd., Guangzhou, China

Smart and Digital Cities
Innovative Design Practices and Future Exploration of New-Type Smart Cities

- Explores GPT, AGI, and AIoT applications in real-world smart city engineering and future urban innovation
- Introduces a cloud-edge-device synergy framework to support scalable and intelligent city infrastructure
- Features cross-sector case studies and multi-scale solutions spanning public services, industry, and urban governance

Contents

Foreword.- Preface.- Part I Fundamentals of Smart Cities.- Chapter 1 The Evolution of Smart City Development.- Chapter 2 Core Technologies for Next-Generation Smart Cities.- Chapter 3 Cloud-Edge-Device Collaboration and Application Innovation in Smart Digital Cities.- Part II Applications of Smart Cities.- Chapter 4 Applications of Digital Infrastructure.- Chapter 5 Sector-Specific [...]

Fields of interest

Sustainable Architecture/Green Buildings; Computational Intelligence; Transportation Technology and Traffic Engineering; Urban Policy;

Content level

Professional/practitioner

Product category

Monograph

S. Mahmood, Government College University Lahore, Lahore, Pakistan (Ed.)

Flood Risk Reduction
Cutting-Edge Strategies and Innovative Technologies

- Showcases the latest research and innovations on the subject of flood risk reduction
- Covers flood risk assessment, flood forecasting, and early warning as well as floodplain management
- Discusses flood protection infrastructure and flood emergency responses

Contents

Introduction.- Flood Risk Assessment.- Flood Forecasting and Early Warning.- Floodplain Management.- Flood Protection Infrastructure.- Flood Emergency Response.- Conclusion.

Fields of interest

Natural Hazards; Physical Geography; Human Geography; Integrated Geography; Regional Geography;

Content level

Research

Product category

Contributed volume

A. Mateus, ISMAT – Instituto Superior Manuel Teixeira Gomes – Ensino Lusófona, Portimão, Portimão, Portugal; G. Patrocinio, ISMAT – Instituto Superior Manuel Teixeira Gomes – Ensino Lusófona, Portimão, Portimão, Portugal; S. Leonor, ISMAT – Instituto Superior Manuel Teixeira Gomes – Ensino Lusófona, Portimão, Portimão, Portugal (Eds.)

What's Around Design?
Strategic and Speculative Biodesign for a Sustainable Future: Volume One

- Is Vol 1 of the proceedings of the „What's Around Design?" meeting held on October 2024 in Algarve Portugal
- Covers innovative topics in biodesign
- Presents chapters which are double-blind peer reviewed

Contents

Chapter 1 living therapeutic skin design opportunities and challenges of on skin living artefacts.–Chapter 2 biodesign in textile innovation emerging applications of bacterial cellulose to fashion.–Chapter 3 lucid life | marama ora.–Chapter4 designing customizable malleability and padding in fungal textiles.– Chapter5 building by growing with textile logic speculative morphologies of biohybrid [...]

Fields of interest

Sustainability; Design; Environmental Sciences;

Content level

Research

Product category

Proceedings

G. McGregor, Durham University, Durham, UK

Heatwaves
Causes, Consequences and Responses

- Provides an end-to-end interdisciplinary understanding of heatwaves
- Offers a unique attempt to bring together burgeoning literature on heatwaves
- Bridges the science policy gap and is of significant scientific and policy relevance

Contents

Part I. Heatwaves as Weather and Climate Phenomenon.– Chapter 1. Heatwaves.– Chapter 2. Defining Heatwaves.– Chapter 3. Heatwaves as Extreme Events.– Chapter 4. The Physical Nature of Heat and its Measurement.– Part II. Physical Causes of Heatwaves.– Chapter 5. Modes of Climate Variability.– Chapter 6. Synoptic Scales Atmospheric Processes and Heatwaves.– Chapter 7. Surface Atmosphere […]

Fields of interest

Environmental Sciences; Geography; Conservation Biology; Natural Hazards; Earth System Sciences; Earth System Sciences; Epidemiology; Environmental Health;

Content level

Research

Product category

Monograph

M. A. Medina-Morales, Universidad Autónoma de Coahuila, Saltillo, Mexico; L. J. Ríos-González, Universidad Autónoma de Coahuila, Saltillo, Mexico; M. Cruz-Requena, Universidad Autónoma de Coahuila, Saltillo, Mexico; R. Arredondo-Valdés, Universidad Autónoma de Coahuila, Saltillo, Mexico; J. A. Cabello, Universidad Autónoma de Coahuila, Saltillo, Mexico; A. K. Haghi, University of Coimbra, Coimbra, Portugal (Eds.)

The Potential of Biotechnology and Bioproducts in the Implementation of the Sustainable Development Goals

- Multifaceted approach
- Global relevance with local insights
- Research-driven practical solutions & case studies

Contents

1. Applied biotechnology in agriculture: from single microbe-inoculants to microbial consortia and their challenges in production and efficient use for Zero Hunger UN sustainability goal.– 2. Harnessing biomaterials for enhanced secondary metabolite production from agro-industrial wastes: The role of omics sciences in biofactory innovation.– 3. Nanotechnology and Biotechnology: A Pair of […]

Fields of interest

Environmental Management; Environmental Social Sciences; Higher Education; Civil Engineering; Environmental Sciences; Industrial and Production Engineering; Sustainability; Biotechnology; Environmental Engineering/Biotechnology;

Content level

Research

Product category

Contributed volume

S. Mishra, DEGOLYER AND MACNAUGHTON, New Delhi, India; S. Banerjee, Indian Institute of Technology Bombay, Mumbai, India (Eds.)

Petroleum Systems Analysis of Indian Sedimentary Basins
Understanding Hydrocarbon Prospectivity

- This book is unique, describing the details of the petroleum systems of the Indian basins, which guide exploration
- This book also aims to serve as a textbook for graduate and postgraduate students
- This book guides on exploration and development for strategic planning and to understand the risks, and also mitigation

Contents

1, Global Energy Resources and the Role of Hydrocarbons.– 2, Present Understanding of Petroleum Systems in Sedimentary Basins of India.– 3, A Basin Modelling Approach to unravel Hydrocarbon Potential in the Cauvery Basin.– 4, Geochemical Methods and their Application in hydrocarbon Prospectivity analysis: Examples from Assam-Arakan Basin.– 5, Exploring the Deep water Frontier of the Kerala […]

Fields of interest

Earth Sciences; Geochemistry; Earth Sciences; Natural Resource and Energy Economics; Regional Geography; Geology; Organic Chemistry;

Content level

Graduate

Product category

Contributed volume

R. Misra, G&G and Hydrocarbon Efficiency & New Energy, New Delhi, India; A. Boruah, UPES–University of Petroleum and Energy Studies, Dehradun, India; G. Joshi, Keshava Deva Malaviya Institute of Petroleum Exploration, Dehradun, India (Eds.)

Exploring New Dimensions of Energy Dynamics

Proceedings of 6th South Asian Geosciences Conference and Exhibition GEOIndia, 15 –17 November 2024, New Delhi, India organised by Association of Petroleum Geologist (APG) India

- Showcases cutting–edge research shaping future energy exploration and geoscience innovations
- Highlights sustainable practices and emerging technologies in the evolving energy landscape
- Connects global experts through in–depth case studies and advanced geological modeling

Contents

1. Tectonics, Subsidence, Sedimentation, and Sea Level Changes from Late Jurassic to Pliocene Revealed Through Paleogeographic Mapping of the Northern Part of Cauvery Basin.– 2. Response surface approach: an efficient tool for Uncertainty Management and Risk Assessment in Petroleum System Modelling.– 3. Geomicrobial Indicator For Hydrocarbon Exploration: A Case Study of […]

Fields of interest
Earth Sciences; Environmental Sciences; Geology; Geophysics; Mineralogy; Energy Policy, Economics and Management; Renewable Energy;

Content level
Research

Product category
Proceedings

K. Mohan, National Center for Seismology, New Delhi, India; H. Mittal, National Center for Seismology, New Delhi, India (Eds.)

Geophysics for Advancing Seismology

- Highlights the significance and effective use of Geophysical surveys in Seismology
- Emphasizes the role of geophysics in reducing seismic losses through seismic resistant designing
- Appeals to academicians, researchers, students, decision–makers, and practitioners

Contents

1. Applications of Ground Penetrating Radar (GPR) in shallow subsurface.– 2. Understanding the active Himalayan Frontal Thrust system using controlled source seismology.– 3. Seismology Meets Gravity: Earthquake depth Distributions and Gravity Anomalies in Himalaya – Tibet and Indian subcontinent and their relations with Lithospheric structure.– 4. Role of Magnetotellurics in Characterising the […]

Fields of interest
Solid Earth Sciences; Natural Hazards; Geotechnical Engineering and Applied Earth Sciences; Earth System Sciences; Geochemistry; Geophysics; Geotechnical Engineering and Applied Earth Sciences; Geomorphology;

Content level
Research

Product category
Contributed volume

S. Mukherjee, Indian Institute of Technology Bombay, Mumbai, India (Ed.)

Structural Geology and Tectonics

- contains fieldwork dominated research articles
- discusses new terrains in detail
- includes geological maps

Contents

Deep structure and deformation structural style of the Georgian part of Lesser Caucasus orogen.– Rare field evidence of basal breccia within the Kruševac lacustrine basin: Constraints on the Late Oligocene (Early Miocene) opening across southern peri–Pannonian intramontane basins (central Serbia).– Field guide to Coorg Block and the adjoining shear zones, Southern Granulite Terrane, south […]

Fields of interest
Geology; Geodynamics; Geotechnical Engineering and Applied Earth Sciences;

Content level
Research

Product category
Contributed volume

S. S. Muthu, Green Story Inc., Toronto, ON, Canada (Ed.)

Ecological Footprint of Industrial Spaces and Processes

- Presents cases of measuring the ecological footprint of a variety of industrial spaces and processes
- Offers discussions of ways to reduce footprint
- Cases are set in industries such as textile, automotive, and agriculture

Contents

1 Introduction to the Book.– 2 Ecological Footprint Assessment of the Textile Industry in India.– 3 Analyzing the Ecological Footprint of Dry Chemical Silage Derived from Red Tilapia (Oreochromis spp.) Viscera.– 4 Ecological Footprint and Economic Assessment of Ready–Mix Concrete Production.– 5 Quantifying the Environmental Footprint.– 6 Ecological Footprint of Electric Vehicle Charging [...]

Fields of interest

Environmental Management; Environmental Social Sciences; Industrial and Production Engineering; Environmental Engineering/Biotechnology; Chemistry; Sustainability; Industrial Design; Environmental Management; Environmental Policy;

Content level

Research

Product category

Contributed volume

S. S. Muthu, 20/F, Tower 16 Crystal Cove, Hong Kong, Hong Kong (Ed.)

Energy Efficiency and Carbon Footprint Assessment
Case Studies

- Offers a variety of case studies
- Cases focus on but are not limited to the textile industry
- Useful for academics, practitioners and researchers

Contents

1. Introduction to the book.– 2. Energy Consumption Map of Cotton Woven and Knitted Terry Towel.– 3. Energy Efficiency and Carbon Emission Analysis by Using Machine Learning Algorithms in Stenter Machines.– 4. Cotton Waste Management– Reducing Industrial Carbon Footprint through Sustainable Practices.– 5. Circular Economy Strategies for Reducing the Carbon Footprint of the Pharmaceutical [...]

Fields of interest

Environmental Management; Environmental Social Sciences; Industrial and Production Engineering; Environmental Engineering/Biotechnology; Chemistry; Sustainability; Sector and Industry Studies; Climate Sciences;

Content level

Research

Product category

Contributed volume

S. S. Muthu, 20/F, Tower 16 Crystal Cove, Hong Kong, Hong Kong (Ed.)

Reduction of Industrial Carbon Footprint

- Offers a variety of case studies
- Details benefits of carbon footprint reduction
- Useful for a wide variety of audiences

Contents

1. Introduction to the book.– 2. Energy Consumption Map of Cotton Woven and Knitted Terry Towel.– 3. Energy Efficiency and Carbon Emission Analysis by Using Machine Learning Algorithms in Stenter Machines.– 4. Cotton Waste Management– Reducing Industrial Carbon Footprint through Sustainable Practices.– 5. Circular Economy Strategies for Reducing the Carbon Footprint of the Pharmaceutical [...]

Fields of interest

Environmental Management; Environmental Social Sciences; Industrial and Production Engineering; Environmental Engineering/Biotechnology; Chemistry; Sustainability; Regulation and Industrial Policy; Climate Sciences; Sector and Industry Studies;

Content level

Research

Product category

Contributed volume

S. S. Muthu, 20/F, Tower 16 Crystal Cove, Hong Kong, Hong Kong (Ed.)

Renewable Energy Implications for the Textile Industry

- Provides a variety of case studies
- Details use of renewable energy in the fashion industry
- Explores the future of renewable energy in the fashion industry

Contents

1. Introduction to the book.– 2. Energy Consumption Map of Cotton Woven and Knitted Terry Towel.– 3. Energy Efficiency and Carbon Emission Analysis by Using Machine Learning Algorithms in Stenter Machines.– 4. Cotton Waste Management– Reducing Industrial Carbon Footprint through Sustainable Practices.– 5. Circular Economy Strategies for Reducing the Carbon Footprint of the Pharmaceutical [...]

Fields of interest
Economic Geography; Environmental Social Sciences; Chemistry; Machines, Tools, Processes; Consumer Behavior; Sustainability; Wood, fabric, and textiles; Renewable Energy;

Content level
Research

Product category
Contributed volume

S. S. Muthu, 20/F, Tower 16 Crystal Cove, Hong Kong, Hong Kong (Ed.)

Sustainable Solutions in Textiles and Fashion
Case Studies

- Offers a variety of cases
- Details many aspects of fashion sustainability
- Explores innovative technologies in fashion sustainability

Contents

1. Introduction to the book.– 2. Energy Consumption Map of Cotton Woven and Knitted Terry Towel.– 3. Energy Efficiency and Carbon Emission Analysis by Using Machine Learning Algorithms in Stenter Machines.– 4. Cotton Waste Management– Reducing Industrial Carbon Footprint through Sustainable Practices.– 5. Circular Economy Strategies for Reducing the Carbon Footprint of the Pharmaceutical [...]

Fields of interest
Economic Geography; Environmental Social Sciences; Chemistry; Machines, Tools, Processes; Consumer Behavior; Sustainability; Wood, fabric, and textiles; Sector and Industry Studies;

Content level
Research

Product category
Contributed volume

A. Nath, Bankim Sardar College, South 24 Parganas, India; A. Biswas, Indian Statistical Institute, Kolkata, India; B. Koley, Bankim Sardar College, South 24 Parganas, India; T. Choudhury, University of Petroleum and Energy Studies, Dehradun, India; J. Um, Kyungpook National University, Daegu, Korea (Republic of) (Eds.)

Groundwater Depletion and Sustainability
A Methodology Utilizing Artificial Intelligence and Earth Observation Systems

- Describes how AI and GIS techniques can be used to enhance groundwater management
- Offers guidance on innovative technologies' uses in groundwater modeling
- Presents insights on assessing groundwater levels using big data

Contents

Advanced application of Artificial Intelligence (AI) and earth Observation systems on groundwater management.– Leveraging AI and Machine Learning for Groundwater Pollution Control and Management.– Innovative AI and ML Solutions for Groundwater Contamination and Sustainable Management. [...]

Fields of interest
Geographical Information System; Earth Sciences; Information Systems Applications (incl.Internet); Geography; Environmental Management; Artificial Intelligence; Water; Geographical Information System; Soil and Water Protection;

Content level
Research

Product category
Contributed volume

M. Nawaz Tunio, University of Sufism and Modern Sciences, Bhitshah, Pakistan; H. I. Chaminé, Laboratory of Cartography and Applied Geology, Porto, Portugal; P. Mohammad, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; D. Longato, University IUAV of Venice, Venice, Italy; L. Della Spina, Mediterranea Univ. Reggio Calabria, Reggio Calabria, Italy (Eds.)

Landscapes Across the Mediterranean—Volume 2

Interdisciplinary Approaches in Cultural Landscape Management in the Built Environment

- Bridges cultural heritage, environmental regeneration, material innovation, and energy efficiency
- Showcases region–specific studies such as Capo Colonna, Gerace, and the Dodecanese Islands
- Contextualizes global design and sustainability concepts within local Mediterranean realities

Contents
Cultural Heritage, Landscape and Identity.– Adaptive Reuse and Sustainable Development of Cultural Landscapes.– Nature–Based Solutions and Environmental Regeneration Strategies.– Technological Innovation, Energy and Environmental Sustainability.– Structural Safety, […].

Fields of interest
Environmental Social Sciences; Energy Policy, Economics and Management; Environmental Sciences; Water; Geographical Information System; Geography; Cultural Heritage; Landscape Ecology; Environmental Management; Landscape Architecture;

Content level
Research

Product category
Proceedings

D. Nord, Umeå University, Umeå, Sweden (Ed.)

Contemporary Nordic Public Policies

Degrees of Exceptionalism and Inner Diversity

- Utilizes a comparative method rather than a single case study approach
- Authors are drawn from all of the Nordic countries and provide multiple disciplinary perspectives
- Multidisciplinary content addresses the complete Nordic region

Contents
Part I:Overview.– An Introduction to the Nordic Region.– The Evolution of Public Policies in the Nordic Countries.– Part II: The Contributions of Political Culture and the Welfare State.– Nordic Political Culture: Democracy, Emancipative Values and the Rise of Populism.– Welfare and Democracy in the Nordic Region: A Context for Policymaking.– Part III:The Influences of Globalization and […]

Fields of interest
Environmental Sciences; Humanities and Social Sciences; Earth System Sciences; Physical Geography; Environmental Social Sciences; Environmental Policy; Regional Geography; Society; Comparative Social Policy; Comparative Politics; Climate Change Ecology; Human Geography;

Content level
Research

Product category
Contributed volume

M. C. Ogwu, Appalachian State University, Boone, NC, USA; S. Chibueze Izah, Bayelsa Medical University, Yenagoa, Nigeria (Eds.)

Water Quality and Safety in the Global South

Challenges, Solutions and Future Directions

- Provides a multidisciplinary approach to water quality challenges in the Global South
- Features real–world cases
- Comprehensively explores the critical water quality and safety challenges faced by the Global South

Contents
1. Water Scarcity and Insecurity: Causes and Consequences.– 2. Climate Change and Water Resources: Challenges and Adaptation Strategies.– 3. Water Pollution and Contamination: Industrial, Agricultural, and Urban Impacts.– 4. Waterborne Diseases and Public Health: Risks and Interventions.– 5. Low–cost water filtration technologies for the purification of water.– 6. Rainwater harvesting and […]

Fields of interest
Environmental Management; Water; Earth System Sciences; Environmental Sciences; Water; Public Health; Pollution; Environmental Sciences; Climate Change Ecology;

Content level
Research

Product category
Contributed volume

S. Pal, University of Gour Banga, Malda, India; **S. Talukdar**, Ashutosh College, Kolkata, India; **T. K. Saha**, Jamia Millia Islamia, New Delhi, India; **R. Sarda**, University of Delhi, New Delhi, India

Damming and Wetland Eco-Hydrology
Evaluation, Resilience and Restoration

- Explores dam, river, and wetland interplay in floodplain region is very interesting and presentation is innovative
- Provides AI-based wetland habitat, eco-hydrological modification modeling with easy step-by-step method
- Approaches of eco-flow estimation with site-examples would be very interesting

Contents

Understanding Interplay among Dam River and Wetland.- Damming and Downstream Channel Flow.- Eco hydrological Flow.- Floodplain Wetland Mapping Simulation and Prediction.- Damming Effect on Wetland Hydrological Strength.- Eco Hydrological Modification.- Lateral Hydrological Disconnection and Wetland Resilience.- Modelling Wetland Health.- Modelling Restoration of Wetland.

Fields of interest

Physical Geography; Regional Geography; Landscape Ecology; Water; Geoengineering;

Content level

Research

Product category

Monograph

S. Patnaik, Interscience Institute of Management and Technology, Bhubaneswar, India; **F. Vigliarolo**, National University of La Plata, Buenos Aires, Argentina; **J. García-Madariaga**, Universidad Complutense De Madrid, Madrid, Spain; **C. Sahoo**, Institute of Management and Information Technology, Cuttack, India (Eds.)

People, Planet and Profit: Advancing Sustainable Business Practices
International Conference on Sustainable Business(ICSB 2025)

- Emphasizes interconnections between social, environmental, and business factors
- Addresses sustainable and ethical business practices, finances, technological innovations, HR strategies, and governance
- Highlights case studies from business, government, and nonprofit sectors

Contents

Exploring the Impact of Green Human Resource Management Practices on Organizational Sustainability: A Case Study of EcoLuxe Hotels.- Transforming HR: The Evolution from Operational Tasks to Data-Driven Strategic Insights.- Corporate Governance and Corporate Sustainability with Reference to the New Companies Act, 2013.- Financial Inclusion of The Slum Dwellers of Kolkata with Fintech Services: [...]

Fields of interest

Geography; Sustainability; Earth and Environmental Sciences; Sustainability; Corporate Environmental Management;

Content level

Research

Product category

Proceedings

C. A. Quintana, National University of Mar del Plata, Mar del Plata, Argentina

The Natural History of Glyptodonts

- Explores the anatomy, phylogeny, fossil record, extinction, history and anthropic relationships of glyptodonts
- Contains more than 200 images of original specimens of all groups of glyptodonts and 10 naturalistic reconstructions
- Presents recent paleontological findings in accessible, engaging language

Contents

Introduction.- A Brief History of the Double Discovery of Glyptodonts.- Glyptodonts: The Different Mammals.- Phylogeny and Classification.-Glyptodonts: Diversity and Phylogenetic Relationships.- Evolution, Time and Geography.- Improbable Glyptodonts.- The Last of Glyptodonts.

Fields of interest

Earth System Sciences; Paleontology; Earth Sciences; Physical Geography; Paleontology; Paleoecology; Regional Geography;

Content level

Research

Product category

Monograph

L. V. Radionova, Moscow Polytechnic University, Moscow, Russia; D. V. Ulrikh, South Ural State University (National Research University), Chelyabinsk, Russia (Eds.)

Advances in Ecology and Environmental Engineering

Proceedings of the 2nd International Conference on Ecology and Environmental Engineering (RusEcoCon-2024)

- Includes in-depth discussions on development ecology science and technologies for environmental protection
- Presents cutting-edge research results on sustainable development of the urban environment
- Focus on energy science, green technology, and eco-innovation

Fields of interest
Earth Sciences; Environmental Sciences; Earth and Environmental Sciences; Environmental Engineering/Biotechnology; Natural Resource and Energy Economics; Environmental Management;

Content level
Research

Product category
Proceedings

K. V. Reddy, Center for Biotechnology, University college of Engineering Science and Technology Hyderabad, Hyderabad, India; N. R. Maddela, Facultad de Ciencias de la Salud, Universidad Técnica de Manabí, Portoviejo, Ecuador; A. V. K. Reddy, Jawaharlal Nehru Tech University, Hyderabad, India (Eds.)

Emerging Contaminants in the Environment

Occurrence, Detection and Biodegradation

- Discusses health issues brought on by different pollutants
- Offers cases in methods for pollution remediation
- Presents the risks emerging contaminants pose to ecosytems

Contents
Chapter 1. Emerging pollutants / contaminants (EPs/ ECs) in the environment: An Overview.- Chapter 2. Classification of Emerging Pollutants and Their Properties.- Chapter 3. Potential Sources of Emerging Environmental Pollutants: Fate of EPs in Environment (Soil, Water and Air).- Chapter 4. Monitoring of emerging environmental contaminants using bio indicators.- Chapter 5. Fate of Emerging [...]

Fields of interest
Pollution; Environmental Chemistry; Environmental Sciences; Microbial Ecology; Pollution; Environmental Sciences;

Content level
Research

Product category
Contributed volume

Rukhsana, Aliah University, Kolkata, India; A. Alam, Serampore Girls' College, Serampore, India (Eds.)

The Impact of Water Scarcity and Malnutrition on Rural Women's Health

Availability and Sustainability of Water

- Scrutinizes how economic, socio-cultural, and political-normative systems govern the reach of water among rural women
- Assesses the essential components of water security, food security, gender development, and health management
- Offers local, regional, and global perspectives on water and agricultural sustainability

Contents
1 Effect of Water Crisis on Rural Women: A Review of Indian Perspectives.- 2 Overview of the Water Crisis and Malnutrition of the Rural Women at the Global Level.- 3 Water Crises and Vulnerabilities in the Indian Sundarbans: Women's Perspective on Socio-Demographic and Climate Resilience.- 4 Gendered Dimensions of Water Security and Food Supply: Examining Women's Health and Leadership in [...]

Fields of interest
Water; Gender and Health; Sustainability; Nutrition; Food Security;

Content level
Research

Product category
Contributed volume

P. Samuel, SRM Institute of Science and Technology, Kattankulathur Campus,, Chennai, India; D. Arockiam, Amity University, Gwalior, India; B. Balusamy, Shiv Nadar University, Greater Noida, India; L. M. Gernal, University of Science and Technology of Fujairah, Fujairah, United Arab Emirates; C. Prabha, Chitkara University Institue of Engineering and Technology, Rajpura, India (Eds.)

Learning-Driven Data Fabrics for Sustainability
Cloud-to-Thing Continuum Solutions for Global Challenges

- Contains cutting-edge integration of AI and data fabrics
- Offers comprehensive coverage of learning-driven data fabrics
- Focuses on cloud-to-thing continuum architecture

Contents
1. Learning-Driven Data Fabric Evolution: A Thorough Overview.- 2. Cloud-to-Thing Continuum: Connecting IoT Devices and Cloud Infrastructures.- 3. Advances and Considerations for Machine Learning Integration in Data Fabric.- 4. Data Interoperability: Enabling Smooth Cross-Platform Communication.- 5. Security Issues in Data Fabric Driven by Learning.- 6. Scalability Considerations: Fulfilling [...]

Fields of interest
Sustainability; Internet of Things; Artificial Intelligence;

Content level
Professional/practitioner

Product category
Contributed volume

L. Servi, Mitre (United States), Bedford, MA, USA

Mission Dependency Network Analysis
Mathematical Foundations for Modeling and Practice

- Describes opportunities in mission dependency network analysis made possible by advances in optimization methods
- Applies optimization to systems from global logistics to embedded networks in vehicles
- Presents cutting-edge tools developed by MITRE to address real-world operational challenges

Contents
.- Part I Introduction to criticality analysis of mission dependency networks with functional components.

.- 1.Assessing node criticality from local dependencies.

.- 2.A continuous universal framework for mission dependency networks.

.- 3.A discrete universal framework for mission dependency networks applied to system identification and critical node analysis.

.- Part II Mission dependency [...]

Fields of interest
Operations Research and Decision Theory; Public Policy; Risk Management; Regulation and Industrial Policy; Optimization; Operations Research and Decision Theory;

Content level
Research

Product category
Monograph

H. Singh, Forest Research Institute, Dehradun, India (Ed.)

Forestry for a Carbon-Neutral and Sustainable Future
A Scientific Perspective

- Provides a focus on Carbon Neutrality and Environmental Sustainability
- Science-driven forestry management approach
- Interdisciplinary approach and future-oriented insights

Contents
Carbon Neutrality and Environmental Sustainability, Concept and Significance.- The climate crisis and forestry contribution towards sustainable development goals(SDGs).- Sustainable forest management enhancing carbon storage and reducing greenhouse gas emissions for a carbon neutral future.- Enhancing Forest and Tree Cover through Quality Planting Material (QPM), A Pathway to Achieve Carbon [...]

Fields of interest
Environmental Management; Artificial Intelligence; Sustainability; Science, Technology and Society; Geography; Forestry; Sustainability; Climate Change Ecology; Environmental Management;

Content level
Research

Product category
Contributed volume

B. Singh, Indian Institute of Technology, Hauz Khas,
India; S. Kumar Dubey, TIIAME (Tashkent Institute of Irrigation and Agricultural Mechanization Engineers), Tashkent City, Uzbekistan; A. Nath, International Rice Research Institute, Varanasi,
India; P. K. Gupta, Indian Institute of Technology Delhi, New Delhi, India (Eds.)

Innovations and Challenges in Water and Sustainable Agriculture
Hydrology, Agriculture, Pollution and Climate Change

- Seamlessly integrates hydrology, agriculture, environmental science, and engineering
- An in-depth focus on advanced geospatial techniques for river dynamics and flood assessment
- An invaluable resource for environmental scientists, policymakers, and practitioners seeking sustainable solutions

Contents
1. Hydrological Impacts of Climate Change and Land Use Dynamics.- 2. Advanced Geospatial Techniques in River Dynamics and Flood Assessment.- 3. Water Resource Vulnerability and Quality: Challenges and Solutions of Technology, Vellore, Tamil Nadu, India. [...]

Fields of interest
Earth Sciences; Environmental Management; Pollution; Earth System Sciences; Water; Geoengineering; Water; Climate Change Ecology; Pollution; Agriculture; Environmental Sciences;

Content level
Research

Product category
Contributed volume

V. Vijayan, NMAM Institute of Technology, Nitte, Udupi, India; R. P. Shetty, NMAM Institute of Technology, Nitte, Udupi, India; S. P. Pai, NMAM Institute of Technology, Nitte, Udupi, India (Eds.)

Smart Materials and Manufacturing Technologies for Sustainable Development

- Uncovers the future of materials science and manufacturing processes for creating a smarter, greener world
- Promotes sustainable innovation in the areas of materials and manufacturing for a better future
- Explores smart tech applications, equip researchers, engineers, and students for real-world progress

Fields of interest
Environmental Social Sciences; Energy Policy, Economics and Management; Environmental Sciences; Water; Geographical Information System; Geography; Sustainability; Materials Science; Industrial and Production Engineering;

Content level
Research

Product category
Proceedings

T. M. Vinod Kumar, (School of Planning and Architecture, New Delhi), Kozhikode, India (Ed.)

Indo-Pacific E-Gateways
Cases from Digital Economic Communities

- Highlights E-Global Gateways as innovative electronic platforms, facilitating global economic integration
- Identifies gaps in the infrastructure that can extend a community's ability to take advantage of economic opportunities
- Includes case studies from around the world

Contents
The Indo-Pacific E-Gateways in Digital Economic Communities.- Okun's law and digitalisation in ASEAN-10 economies.- E-Global Gateways of Digital Economic Communities as Metropolitan Strategy for Anti-Fragility Experiences from Intelligent Megacities spatially and institutionally connected by international economic linkages.- International Collaborative Research "Indo-Pacific E-Gateways: Cases [...]

Fields of interest
Geography; Physical Geography; Environmental Social Sciences; Earth System Sciences; Mathematical and Computational Engineering Applications; Sustainability; e-Commerce and e-Business; Urban Policy; Urban Economics;

Content level
Professional/practitioner

Product category
Contributed volume

S. Vyas, **Savitribai Phule Pune University, Pune, India**; S. D. Jawak, **The Climate and Environmental Research Institute, Kjeller, Norway**; P. K. Deb Burman, **Indian Institute of Tropical Meteorology, Ministry of Earth Sciences, Pune, India**; H. Patel, **Savitribai Phule Pune University, Pune, India**; A. Kandekar, **Savitribai Phule Pune University, Pune, India**; S. Sawant, **College of Engineering Technological University Pune, Pune, India (Eds.)**

Application of Machine Learning in Earth Sciences
A Practical Approach

- Provides detailed introduction to machine learning
- Presents comprehensive case studies covering the impact of the use of machine learning and deep learning
- Contains graphical illustrations like methodology charts, regional and global maps, and tables

Contents

A ConvGRU Deep Learning Algorithm to Forecast global Ionospheric TEC Maps.– Estimation of Daily Air Relative Humidity Using a Novel Outlier-Robust Extreme Learning Machine Model: A Case Study of Two Algerian Locations.– Significance of Machine Learning in Understanding Earth's Magnetosphere and Solar Activity.– Harnessing artificial intelligence for the detection and analysis of microplastics […]

Fields of interest
Mathematical Applications in Environmental Science; Environmental Monitoring; Machine Learning;

Content level
Research

Product category
Contributed volume

W. Xiong, **National University of Defense Technolog, Changsha, China**; Y. Wu, **National University of Defense Technology, Changsha, China**; X. Ouyang, **National University of Defense Technolog, Changsha, China**; Q. Jia, **National University of Defense Technolog, Changsha, China**; H. Chen, **National University of Defense Technolog, Changsha, China**; L. Chen, **National University of Defense Technolog, Changsha, China**

High Performance Geographic Information System
Architecture and Technologies

- Gives systematic introduction to the architecture, technologies, platforms, and applications of high-performance GIS
- Analyzes and compares the key technologies under the high-performance computing architecture
- Describes the case for building high-performance geographic information applications

Contents

Introduction.– The Architecture of High Performance Geographic Information System.– Management of Big Spatial Data.– Multi-paradigm Geocomputing.– Online Mapping and Visualization High pearformance GIS.– High performance GIS Platform.– Application of High performance GIS.– Trends of High performance GIS.

Fields of interest
Geographical Information System; Computational Intelligence; Data Engineering;

Content level
Research

Product category
Monograph

P. Bertoldi, European Commission, Luxembourg, Luxembourg; W. Gao, The University of Kitakyushu, Kitakyushu, Japan; J. Xuan, Jyukankyo Research Institute Inc., Tokyo, Japan (Eds.)

Proceedings of the 12th International Conference on Energy Efficiency in Domestic Appliances and Lighting

EEDAL'24, 7–9 October, Kitakyushu City, Japan

- Provides global coverage of recent policies and programs for improving energy efficiency in the residential sector
- Covers the latest advances in domestic appliances and lighting technologies
- Addresses the residential sector's contribution to limiting climate change

Contents

20% energy saving by following simple consumer recommendations in using the dishwasher.– Investigating the Impacts of Consumers Behaviors on Lighting Consumption.– Initial environmental assessment of an innovative fuel cell microgeneration system for multifamily buildings.– Simulating Lighting Energy Consumption in Office Buildings by Exploring the Relationship Between Environmental [...]

Fields of interest

Energy Policy, Economics and Management; Energy Policy, Economics and Management; Sustainability; Renewable Energy; Sustainable Architecture/Green Buildings; Consumer Behavior;

Content level

Research

Product category

Proceedings

O. Chakraborty, Girijananda Chowdhury University, Guwahati, India; B. Das, National Institute of Technology Silchar, Silchar, India

Parabolic Solar Trough Collector

Design, Development and Usage

- Provides detailed information on the thermal, exergy, useful heat gain, and optical performance of PTCs
- Analyzes issues linked with PTCs due to the non-uniform heat flux distribution on the outermost surface of the tube
- Discusses different techniques, from design aspects to improving the thermal performance of PTCs

Contents

Introduction approx 60 pages.– Different types of Solar concentrating collectors approx 50 pages.– Parabolic solar trough collector technology thermal and optical performance design and diverse applications approx 50 pages.– Thermal performance of parabolic solar trough collectors exploring receiver ube geometry approx 50 pages.– Performance enhancements in parabolic solar trough collectors [...]

Fields of interest

Mechanical Engineering; Classical Mechanics; Solar Thermal Energy; Renewable Energy; Solar Physics; Mechanical and Thermal Energy Storage; Thermal Process Engineering;

Content level

Professional/practitioner

Product category

Professional book

Z. He, Southwest Jiaotong University, Chengdu, China; S. Lin, Southwest Jiaotong University, Chengdu, China; D. Feng, Southwest Jiaotong University, Chengdu, China; Q. Wang, Southwest Jiaotong University, Chengdu, China

Prognostics and Health Management of High-Speed Railway Traction Power Substations

- Explains theoretical framework of Prognostics and Health Management for high-speed railway traction power substations
- Timely prediction and warning of system before failures, accurate identification of fault conditions
- Provides theoretical bases for reliable and economical operation of high-speed railway traction power supply systems

Contents

Chapter 1. The development history and current applications of Prognostics and Health Management (PHM).– Chapter 2. Fault diagnosis of high-speed railway traction power supply system.– Chapter 3. Failure prediction of high-speed railway traction power supply system.– Chapter 4. Health evaluation of high-speed railway traction power supply system.– Chapter 5. Reliability and risk assessment of [...]

Fields of interest

Energy Grids and Networks; Transportation Technology and Traffic Engineering; Power Stations; Rail Vehicles;

Content level

Research

Product category

Monograph

Q. Li, China Electric Power Research Institute, Beijing, China; J. Zhang, China Electric Power Research Institute, Beijing, China; Z. Chen, Sungrow Deutschland GmbH, Munchen, Germany; S. Qin, China Electric Power Research Institute, Beijing, China; J. He, China Electric Power Research Institute, Beijing, China

Renewable Energy Grid Integration Assessment and Certification

- Provides an overview of renewable energy power grid integration assessment and certification in China and Europe
- Combines „standards-testing-certificating" scheme for renewable energy power grid integration certification
- Provided a detailed process for renewable energy power grid integration certification

Contents

Introduction.- Certification system for renewable energy power grid integration.- Renewable energy power grid codes.- Fault ride through capability assessment technology.- Power control capability assessment.- Power quality assessment technology.- Certification processes of renewable energy power grid integration.

Fields of interest
Energy Grids and Networks; Renewable Energy;

Content level
Professional/practitioner

Product category
Professional book

L. Ni, Harbin Institute of Technology, Harbin, China; P. Wang, Harbin Institute of Technology, Harbin, China; J. Li, Harbin Institute of Technology, Harbin, China; Y. Liu, Harbin Institute of Technology, Harbin, China (Eds.)

Proceedings of the 12th International Conference on Cold Climate HVAC & Energy, Volume 2

CCHVAC 2025

- Gathers selected presentations from the 12th International Conference on Cold Climate HVAC and Energy 2025 (CCHVAC2025)
- Presents the latest research findings from leading scholars and research teams
- Promotes technologies of HVAC and energy in smart buildings and cities to improve energy efficiency and life's quality

Contents

Renewable and waste energy utilization.- Sustainable district heating and cooling.- Heat pump.- Smart energy system.- Zero energy buildings.

Fields of interest
Environmental Sciences; Earth System Sciences; Environmental Social Sciences; Analytical Chemistry; Biodiversity; Building Physics, HVAC; Sustainable Architecture/Green Buildings; Energy Policy, Economics and Management; Renewable Energy;

Content level
Research

Product category
Proceedings

R. Pode, Kyung Hee University, Seoul, Korea (Republic of); B. Diouf, Kyung Hee University, Seoul, Korea (Republic of)

Decarbonization of Road Transportation

The Electric Vehicle (EV) Transition

- Tackles how to handle electric vehicle (EV) technology related challenges for the decarbonization of road transportation
- Considers depreciation, the development of lithium-ion batteries, and artificial intelligence
- Evinces how higher EV penetration reduces greenhouse gas emissions and the challenge of reaching "net zero" by 2040

Contents

Electric vehicles in the history of road transportation.- Decarbonizing road transportation.- The electric vehicle transition.- Electric vehicle transition policies and strategies.- Transition to zero-emission vehicles: Case studies of Norway and China.- Technology and subsidies in the depreciation of electric vehicles.- Modelling the used vehicle market share in the electric vehicle […]

Fields of interest
Energy Policy, Economics and Management; Environmental Social Sciences; Environmental Engineering/Biotechnology; Electrical Power Engineering; Automotive Engineering; Renewable Energy; Batteries; Transportation Economics; Production; Transportation Technology and Traffic Engineering;

Content level
Research

Product category
Monograph

R. Qu, Huazhong University of Science and Technology, Wuhan, China; D. Li, Huazhong University of Science and Technology, Wuhan, China; X. Ren, Huazhong University of Science and Technology, Wuhan, China; Y. Gao, Wuhan University, Wuhan, China

Flux Modulation Machine
Theory and Topologies

- Introduces a new flux modulation theory that bridges machine types and complements classical theory
- Offers many more design options and opportunities for electrical machines
- Identifies the essence and evolution of flux modulation machines

Contents
Introduction.– Basic Theory of Flux Modulation.– Classification of Flux Modulation Machines.– Characterization
of Flux Modulation Machines.– High Performance Flux Modulation Machine Topologies.–Summary and Future Outlook of Flux Modulation Machines.

Fields of interest
Electrical Machines; Power Electronics;

Content level
Research

Product category
Monograph

A. Sattar Jatoi, Dawood University of Engineering and Technology, Karachi, Pakistan; N. M. Mubarak, Universiti Teknologi Brunei, Gadong, Brunei Darussalam (Eds.)

Bio–Electrochemical Conversion of Waste to Fuel

- Presents a cutting–edge process that uses biological and electrochemical techniques
- Highlights the use of microorganisms, i.e. bacteria, capable of decomposing complex organic compounds present in waste
- Discusses the advantages of the process in waste management, lowering greenhouse emissions and enhancing sustainability

Contents
Introduction to bioelectrochemical conversion.– Types of Organic Waste for Bio–Electrochemical Systems.– Principle of bioelectrochemical systems.– Design and Operation of Bioelectrochemical System.– Conversion Processes and Pathways in Bio–Electrochemical Systems.– Microbial Communities and Their Role in Bioelectrochemical Systems.– Electron Transfer Mechanisms in Bio–Electrochemical Systems.– [...]

Fields of interest
Energy Policy, Economics and Management; Environmental Social Sciences; Environmental Engineering/Biotechnology; Electrical Power Engineering; Renewable Energy; Waste Management/Waste Technology; Biotechnology; Environmental Biotechnology; Chemical Bioengineering; Agricultural Biotechnology;

Content level
Professional/practitioner

Product category
Contributed volume

P. Sharma, Indian Institute of Technology Bombay, Mumbai, India

A Textbook on Hydrogen Energy
Production, Storage, Transport and Utilisation

- Contributes to the Global interest towards the field of Hydrogen Energy
- Serves as a Reference book for existing MOOC/NPTEL course
- Includes topics in line with the credit course in the curriculum of various institutions across the globe

Contents
Properties of Hydrogen.– Hydrogen Production from Hydrocarbons.– Hydrogen Production from Solid Fuel – Biomass.– Hydrogen Production from Solid Fuels - Coal.– Hydrogen separation and Purification.– Thermochemical Cycles.

Fields of interest
Renewable Energy; Hydrogen Energy; Mechanical and Thermal Energy Storage;

Content level
Upper undergraduate

Product category
Graduate/Advanced undergraduate textbook

Y. Zhang, **North China Electric Power University, Beijing, China**; **C. Yang**, **North China Electric Power University, Beijing, China**; **P. Luo**, **North China Electric Power University, Beijing, China**; **H. Zhang**, **North China Electric Power University, Beijing, China**

Advanced Signal Processing

Decomposition, Entropy, and Machine Learning

- Offers a comprehensive coverage of signal decomposition methods
- Includes advanced techniques and methods
- Bridges theory and practice with case studies

Contents

Introduction.– Signal decomposition methods.– Entropy analysis methods.– Machine learning methods.– Signal denoising applications.– Pattern recognition applications.– Conclusion.

Fields of interest

Energy Policy, Economics and Management; Electrochemistry; Mechanical and Thermal Energy Storage; Energy Grids and Networks; Energy Grids and Networks; Hydroenergy; Electrical and Electronic Engineering; Machine Learning;

Content level

Research

Product category

Brief

S. Zheng, **China Society for Hydropower Engineering, Beijing, China**; **R. M. Taylor**, **RMT Renewables Consulting Ltd., London, UK**; **W. Wu**, **China Society for Hydropower Engineering, Beijing, China**; **B. Nilsen**, **NTNU, Trondheim, Norway**; **G. Zhao**, **Nanjing Hydraulic Research Institute, Nanjing, China (Eds.)**

Hydropower and Renewable Energies

Synergistic Integration for Future Energy Systems

- Comprehensive Analysis of Hydropower and Renewable Energies Synergy
- Delving deep into the integration of traditional hydropower with cutting-edge solar and wind technologies
- Multidisciplinary Approach: Bridging the gap between technology, ecology, economy, and policy in energy sector

Contents

Hydropower and New Energy Technologies.– Ecological Environment Assessment.– Green sustainable energy technologies.

Fields of interest

Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Renewable Energy; Environmental Sciences; Energy Policy, Economics and Management; Electrical and Electronic Engineering; Ecology; Climate Change Ecology;

Content level

Research

Product category

Proceedings

M. Acevedo, Universidad Panameri-
cana, Zapopan, Mexico; L. Valdivia,
Universidad Panamericana, Zapopan,
Mexico; H. Ponce, Universidad Pana-
mericana, Mexico City, Mexico (Eds.)

Multibody Mechatronic Systems

MuSMe 2025

- Describes recent developments
  which integrate multibody systems
  and mechatronics systems
- Presents the papers of the 8th Int'l
  Symposium on Multibody Systems
  and Mechatronics, Guadalajara,
  Mexico, October 2025
- Written by leading experts in the field

Fields of interest
Civil Engineering; Mechanical Enginee-
ring; Control, Robotics, Automation;
Mechatronics; Machinery and Machine
Elements; Engineering Mechanics;

Content level
Research

Product category
Proceedings

A. Acharyya, Kalyani Government
Engineering College, Kalyani,
India; A. Sarkar, Kalyani Government
Engineering College, Nadia,
India; M. Aleksandrova, Technical Uni-
versity of Sofia, Sofia, Bulgaria (Eds.)

Next-Generation High-Speed Electronics and Optoelectronics

Volume 2

- Provides in-depth discussions on
  designing circuits for GHz and THz
  frequencies
- Features case studies and practical
  applications across industries
- Serves as a reference for researchers
  and practitioners in academia and
  industry

Contents
Introduction to Next-Generation High-
Speed Electronics and Optoelectronics
(Vol. 2).- Emerging Devices and Mate-
rials.- Nanotechnology in Electronic
Devices.- Bending Light through Time
and Space: A Translational Symmetry
Perspective on Entangled Anti-nodal
Dynamics.- Translational Symmetry of
Intermediate Nodes in Entangled Par-
ticles: A New Perspective on Quantum
Communication.- Silicon [...]

Fields of interest
Control and Systems Theory; Electrical
and Electronic Engineering; Photonics
and Optical Engineering; Optoelectro-
nic Devices; Electronic Devices;
Nanoscale Devices;

Content level
Research

Product category
Contributed volume

E. AlDhaen, Ahlia University, Manama,
Bahrain; V. Weerakkody, University of
Bradford, Bradford,
UK; F. Ahmed Farouta, New York, NY,
USA (Eds.)

Sustainable Development Agenda 2030

Responsible Business and Technology Innovation Processes and Systems

- Covers different sustainable
  practices related to digitalization,
  and use of green technologies
- Includes business-related challenges
  including ethical considerations
- Provides different theoretical and
  practical practices and cases studies

Contents
Improving Study Habits Using AI for
College Students.- Star Radiation Clas-
sification Using Six Categories of Stars
with NASA Dataset using Machine
Learning Techniques.- Metaheuristic
Portfolio Optimization under Behavi-
oural Utility Functions: A Comparative
Study of PSO and GA.- Informal Entre-
preneurship and Business
Development: A Critical Review of the
Igbo Apprenticeship System in Nigeria.

Fields of interest
Computational Intelligence; Control
and Systems Theory; Systems Theory,
Control ; Control, Robotics, Automa-
tion; Electronic Circuits and Systems;
Computational Intelligence; Sustaina-
bility; Internet of Things;

Content level
Research

Product category
Contributed volume

M. Andalibi, Embry-Riddle Aeronautical University, Prescott, AZ, USA; S. A. Cherkauer, Embry-Riddle Aeronautical University, Prescott, AZ, USA

Advanced MATLAB for Engineers
Integrating Theory and Programming

- Explains advanced MATLAB programming and simulation techniques in Simulink, and new toolboxes and built-in functions
- Reinforces concepts with practice problems related to real-world engineering applications
- Aligned to a diverse range of courses from statics to deep learning resulting in a key resource students/ professionals

Contents
Introduction to matlab for engineering.- Advanced programming techniques.- Object-oriented programming.- mathematical modeling in matlab.- Data visualization in matlab.- Creating
apps with app designer.- Animation Techniques in matlab.- Simulink for engineers.- Interfacing with hardware and other software.- matlab applications and toolboxes for engineering.

Fields of interest
Mathematical and Computational Engineering Applications; Engineering Mathematics; Mechanical Engineering; Engineering Design; Aerospace Technology and Astronautics;

Content level
Upper undergraduate

Product category
Undergraduate textbook

F. Asadi, Ostim Technical University, Ankara, Türkiye

A Problem-Solving Approach to Ordinary Differential Equations
Volume II

- Includes a large number of solved problems, providing step-by-step explanations and solutions
- Integrates MATLAB® and Simulink® to complement traditional pen-and-paper methods
- Serves as a valuable supplement to core textbooks

Contents
A Review of Complex Numbers.- Separable
Differential Equations.- Homogeneous Linear Differential Equations.- First-Order Homogeneous Differential Equations.- Second Order Differential Equations.- The Method of Reduction of Order.- The Method of Undetermined Coefficients.- The Method of Variation of Parameters.- The D-Operator Method.- Systems of First Order Linear Differential Equations.

Fields of interest
Engineering Mathematics; Differential Equations; Computational Science and Engineering;

Content level
Upper undergraduate

Product category
Undergraduate textbook

F. Asadi, Ostim Technical University, Ankara, Türkiye

A Problem-Solving Approach to Ordinary Differential Equations
Volume III

- Includes a large number of solved problems, providing step-by-step explanations and solutions
- Integrates MATLAB® and Simulink® to complement traditional pen-and-paper methods
- Serves as a valuable supplement to core textbooks

Contents
Series Solutions of Differential Equations.- Numerical Solutions of Differential Equations in MATLAB®.- Numerical Solutions of Differential Equations in Simulink®.

Fields of interest
Engineering Mathematics; Differential Equations; Computational Science and Engineering;

Content level
Upper undergraduate

Product category
Undergraduate textbook

F. Asadi, Ostim Technical University, Ankara, Türkiye

A Problem–Solving Approach to Ordinary Differential Equations
Volume IV

- Uses a practical approach to differential equations, focused on real applications
- Includes a large number of solved problems, providing step–by–step explanations and solutions
- Focuses on the topics most pertinent to exam success and future coursework

Contents
Partial Fraction Decomposition.– The Gamma Function.– The Laplace Transform.– The Inverse Laplace Transform.– Solving Differential Equations
with the Laplace Transform.– Impulse, Step, and Frequency Responses.– A Review of Differential Equation Solution Techniques.

Fields of interest
Engineering Mathematics; Differential Equations; Computational Science and Engineering;

Content level
Upper undergraduate

Product category
Undergraduate textbook

N. Atulya K., Liverpool Hope University, Liverpool, UK; J. Dharm Singh, Namibia University of Science and Tech, Windhoek, Namibia; M. Durgesh Kumar, Symbiosis University of Applied Sciences, Indore, Madhya Pradesh, India; A. Joshi, Global Knowledge Research Foundation, Ahmedabad, India (Eds.)

Intelligent Sustainable Systems
Selected Papers of WorldS4 2025, Volume 1

- Gather the outcomes of WorldS4 2025, held in London, UK
- Presents research works in the field of intelligent sustainable systems
- Serves as a reference resource for researchers and practitioners in academia and industry

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Communications Engineering, Networks;

Content level
Research

Product category
Proceedings

N. Atulya K., Liverpool Hope University, Liverpool, UK; J. Dharm Singh, Namibia University of Science and Tech, Windhoek, Namibia; M. Durgesh Kumar, Symbiosis University of Applied Sciences, Indore, Madhya Pradesh, India; A. Joshi, Global Knowledge Research Foundation, Ahmedabad, India (Eds.)

Intelligent Sustainable Systems
Selected Papers of WorldS4 2025, Volume 2

- Gather the outcomes of WorldS4 2025, held in London, UK
- Presents research works in the field of intelligent sustainable systems
- Serves as a reference resource for researchers and practitioners in academia and industry

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Communications Engineering, Networks;

Content level
Research

Product category
Proceedings

N. Atulya K., Liverpool Hope University, Liverpool, UK; **J. Dharm Singh**, Namibia University of Science and Tech, Windhoek, Namibia; **M. Durgesh Kumar**, Symbiosis University of Applied Sciences, Indore, Madhya Pradesh, India; **A. Joshi**, Global Knowledge Research Foundation, Ahmedabad, India (Eds.)

Intelligent Sustainable Systems

Selected Papers of WorldS4 2025, Volume 3

- Gather the outcomes of WorldS4 2025, held in London, UK
- Presents research works in the field of intelligent sustainable systems
- Serves as a reference resource for researchers and practitioners in academia and industry

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Communications Engineering, Networks;

Content level
Research

Product category
Proceedings

N. Atulya K., Liverpool Hope University, Liverpool, UK; **J. Dharm Singh**, Namibia University of Science and Technology, Windhoek, Namibia; **M. Durgesh Kumar**, Symbiosis University of Applied Sciences, Indore, India; **A. Joshi**, Global Knowledge Research Foundation, Ahmedabad, India (Eds.)

Intelligent Sustainable Systems

Selected Papers of WorldS4 2025, Volume 4

- Gather the outcomes of WorldS4 2025, held in London, UK
- Presents research works in the field of intelligent sustainable systems
- Serves as a reference resource for researchers and practitioners in academia and industry

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Communications Engineering, Networks;

Content level
Research

Product category
Proceedings

N. Atulya K., Liverpool Hope University, Liverpool, UK; **J. Dharm Singh**, Namibia University of Science and Technology, Windhoek, Namibia; **M. Durgesh Kumar**, Symbiosis University of Applied Sciences, Indore, India; **A. Joshi**, Global Knowledge Research Foundation, Ahmedabad, India (Eds.)

Intelligent Sustainable Systems

Selected Papers of WorldS4 2025, Volume 6

- Gather the outcomes of WorldS4 2025, held in London, UK
- Presents research works in the field of intelligent sustainable systems
- Serves as a reference resource for researchers and practitioners in academia and industry

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Communications Engineering, Networks;

Content level
Research

Product category
Proceedings

M. E. Auer, CTI Global, Frankfurt, Germany; X. Yue, European University Cyprus, Nicosia, Cyprus (Eds.)

Proceedings of the 2nd International Conference on Intelligent Optimization and Big Data Management (IOBDM2025)

- Presents recent research on Intelligent Optimization and Big Data Management
- Provides the proceedings of the 2nd International Conference on Intelligent Optimization and Big Data Management
- Written by experts in the field

Contents

Research of Stratified Teaching's effects in Junior Schools based on DID model.– Research on the Integration of Ancient Chinese Word Segmentation and Labeling Based on CRF.– Machine Learning-Based Optimization of Neutral Equilibrium Mechanisms for Bridge Displacement Control.– An Adaptive Dual-Population PSO for Constrained Optimization Application to A Realistic Irregular Flight Recovery.– [...]

Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Data Engineering;

Content level

Research

Product category

Proceedings

A. Azizi, Oxford Brookes University, Oxford, UK (Ed.)

Mechatronic Innovations in Smart Grids, IoT, and Autonomous Systems

- Highlights the intersection of control systems AI, and computational tools to deliver efficient, and adaptable solutions
- Provides an in-depth perspective on how modern mechatronic approaches are shaping the future of energy
- Covers diverse topics, i.e., hybrid power systems, IoT-driven network simulations, energy integration, and robotics

Contents

Techno Economic Analysis of Hybrid Systems for Enhancing Power Quality by Homer Software Case Study in Northern Cyprus.– Cisco s Role in IoT Internet of Things Simulations with Cisco Packet Tracer.– Design a Resilient Smart Grid System for Enhanced Efficiency and Reliability with Conventional and Renewable Energy Sources in Iraq.– Bridging Air and Water Intelligent Design and Application of a [...]

Fields of interest

Mechatronics; Energy Grids and Networks; Control, Robotics, Automation; Internet of Things; Artificial Intelligence;

Content level

Professional/practitioner

Product category

Contributed volume

A. Badnjević, Agency for Identification Documents, Banja Luka, Bosnia and Herzegovina; L. Spahić, Research Institute Verlab, Sarajevo, Bosnia and Herzegovina; T. Bego, University of Sarajevo, Sarajevo, Bosnia and Herzegovina; S. Deumić, International Burch University, Ilidža, Bosnia and Herzegovina

Biomedical Instrumentation
Concepts, Technologies, and Future Innovations

- Provides a comprehensive overview of biomedical instrumentation
- Suitable for both students and field experts
- Provides exercises and future perspectives of biomedical instrumentation

Contents

Introduction to biomedical instrumentation.– Medical Devices and Instrumentation.– Clinical Engineering and Healthcare Technology Management.– Laboratory Devices. Review Practice Problems and Future Directions.

Fields of interest

Biomedical Engineering and Bioengineering; Digital and Analog Signal Processing; Biomaterials; Neuroscience; Human Physiology; Radiology; Biomedical Engineering and Bioengineering; Biomedical Devices and Instrumentation; Medical Ethics;

Content level

Graduate

Product category

Graduate/Advanced undergraduate textbook

A. Badnjević, *Agency for Identification Documents, Banja Luka, Bosnia and Herzegovina*; L. Spahić, *Research Institute Verlab, Sarajevo, Bosnia and Herzegovina*

Biomedical Signals and Systems

Acquisition, Processing, and Clinical Insights

- Provides fundamental concepts and future perspectives in the field
- Offers in depth discussions of methods of biomedical signals and systems
- Includes a set of review and practice problems to evaluate the understanding of topics

Contents

Introduction to Biomedical Signals and Systems.– Biomedical Signal Acquisition and Processing.– Processing Cardiac Signals.– Processing Respiratory Signals.– Processing Electroencephalogram EEG Signals.– Processing Ultrasound Signals and Imaging.– Blood Pressure Signal Acquisition and Analysis.– Review & Practice Problems.

Fields of interest

Biomedical Engineering and Bioengineering; Digital and Analog Signal Processing; Biomaterials; Neuroscience; Human Physiology; Radiology; Biomedical Engineering and Bioengineering; Signal, Speech and Image Processing; Medical Physics; Medical and Health Technologies; Medical Ethics; Digital and Analog Signal Processing;

Content level

Graduate

Product category

Graduate/Advanced undergraduate textbook

B. Das, *National Institute of Technology Silchar, Silchar, India*; R. Patgiri, *National Institute of Technology Silchar, Silchar, India*; J. D. Mondol, *Belfast School of Architecture and the Built Environment, Northern Ireland, UK, Ireland*; R. Gupta, *National Institute of Technology Silchar, Silchar, India*; D. K. Baidya, *National Institute of Technology Silchar, Assam, India*

Modeling, Simulation and Optimization

Proceedings of CoMSO 2024

- Disseminates various models of diverse systems
- Presents recent findings of various research in the field of modeling and simulation
- Serves as a reference for researchers and practitioners in academia and industry

Fields of interest

Computational Intelligence; Multimedia Information Systems; Environmental Monitoring; Computational Intelligence; Control and Systems Theory; Optimization;

Content level

Research

Product category

Proceedings

B. Basu, *Trinity College Dublin, Dublin, Ireland*; K. Deb, *Indian Institute of Technology Kharagpur, Kharagpur, India*; A. Sahu, *NIT, Silchar, Silchar, India*; A. K. Das, *National Institute Of Technology Silchar, Silchar, India*; S. Ghosh, *National Institute Of Technology Silchar, Silchar, India* (Eds.)

Natural Disasters: Risk Analysis, Management and Mitigation – Vol. 2

Select Proceedings of NDRAMM 2024

- First book to cover disaster risk analysis and share solutions to minimize damages due to natural disasters
- Presents work of top researchers on current natural disaster issues to build a disaster resilient society
- Deals with early warning systems and AI applications in connection to natural disasters

Contents

Seismic hazard analysis and mitigation.– Landslide and erosion induced disaster: Analysis and Mitigation.– Flood risk management and mitigation.– ML and AI in natural hazard engineering.– Natural Hazards Triggering Technological Accidents (Natech).

Fields of interest

Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Fire Science, Hazard Control, Building Safety; Building Construction and Design; Building Repair and Maintenance;

Content level

Research

Product category

Proceedings

M. Berhanu, CNRS, Université Paris Cité, Paris, France; P. Szymczak, University of Warsaw, Warsaw, Poland (Eds.)

Fluid Flow and Phase Change of a Solid

- Brings together experimental results and numerical implementations of flow-phase change interactions
- Is relevant to environmental processes such as rock dissolution, ice melting, and various industrial applications
- Introduces general methods for addressing practical situations in natural systems and experiments

Contents

Phase changes and fluid flow basic concepts and natural examples.– Phase changes and fluid flow Flow shaping and pattern formation.– Moving front instabilities from viscous fingers to solution pipes.– Computational Fluid Dynamics for liquid solid phase changes.

Fields of interest

Civil Engineering; Classical Mechanics; Computational Intelligence; Engineering Fluid Dynamics; Thermodynamics; Engineering Thermodynamics, Heat and Mass Transfer;

Content level

Research

Product category

Contributed volume

J. Billingsley, University Southern Queensland, Toowoomba, QLD, Australia

Mechatronics Experiments with Machine Vision

- Presents a hands-on quest blending simulation, coding, and real-world control systems
- Explores machine vision with JavaScript-based experiments and practical sensor integration techniques
- Embraces modern learning with AI-aware challenges that test creativity, not just memorization

Contents

Simulating a Dynamic System.– A balancing problem.– Design and build.– Sensors
for consumer devices.– Detection of Errors and Faults in Data.– Basics of Machine Vision.– Precision motor control.– A video control loop.– 2D Control with Vision.– Turning Heads.– Exploring Bluetooth.– Using s-psi for recognition.– AI, Love and Hate.

Fields of interest

Mechatronics; Computational Intelligence;

Content level

Graduate

Product category

Graduate/Advanced undergraduate textbook

A. Biswas, Kazi Nazrul University, Asansol, India; D. Samanta, Rochester Inst. of Tech. – RIT Global, Prishtina, Kosovo; S. Chakraborty, Asansol Engineering College, Kalyanpur, Asansol, India; J. Dutta, Siliguri Institute of Technology, Darjeeling, India (Eds.)

Internet of Vehicles
Scope and Application of Artificial Intelligence-Based Technologies

- Provides a clear concept of the Internet of Vehicles and the necessity of it for smart cities
- Opens up a future research direction of dealing with various challenges and solutions based on emerging technologies
- Provides the security issues and protection measures in Internet of Vehicles

Contents

Demystifying Cloud & Blockchain based Internet of Vehicles (IoV) for Advanced Transportation 5.0 – A Scientific Study.– Revolutionizing Transportation: Security, Privacy, and Smart Connectivity in the Internet of Vehicles (IoV).– Optimization of UAV Resource Allocation and energy cost with respect to UAV Hovering, Local Computing, and Task Offloading.– AI'S EVOLUTION IN THE INTERNET OF […]

Fields of interest

Computer Engineering and Networks; Internet of Things; Communications Engineering, Networks; Artificial Intelligence;

Content level

Research

Product category

Contributed volume

S. Biswas, Maulana Abul Kalam Azad University of Technology, Haringhata, Nadia, India

Machine Learning and Deep Learning in Human Activity Recognition and Fall Detection

Algorithms, Frameworks, and Applications for Sustainable Healthcare

- Presents smart technologies for sustainable health monitoring and care targeted for the elderly
- Discusses tools for privacy aware Human Activity Recognition (HAR) and Fall Detection (FD)
- Includes case studies, scenario-based studies, sponsored projects, prototypes and successful applications

Contents

Introduction.– Introduction to Human Activity Recognition, Fall Monitoring and Detection, Health monitoring.– Fundamental concepts.– Machine Learning in Human Activity Recognition using Smartphone Sensors.– Deep Learning in Human Activity Recognition using Smartphone Sensors.– Machine Learning in Fall Detection System.– Sensor Fusion based HAR for […]

Fields of interest

Communications Engineering, Networks; Digital and Analog Signal Processing; Microwaves, RF Engineering and Optical Communications; Computer Communication Networks; Electronic Circuits and Systems; Communications Engineering, Networks; Health Informatics; Signal, Speech and Image Processing; Machine Learning;

Content level

Research

Product category

Monograph

Springer

Due January 2026

J. Buele, Universidad Tecnológica Indoamérica, Ambato, Ecuador; G. Palacios-Navarro, University of Zaragoza, Teruel, Spain; F. Avilés-Castillo, Universidad Tecnológica Indoamérica, Ambato, Ecuador (Eds.)

Emerging Technologies in Applied Engineering and Education

Selected Papers from the 2nd International Conference on Emerging Technologies and Educational Innovation (ICETEI 2025)

- Presents selected papers from the 2nd Int'l Conference on Emerging Technologies & Educational Innovation (ICETEI 2025)
- Features research into the integration of pedagogical strategies and digital technologies in diverse contexts
- Offers insights and reflections relevant to technologists, educators, researchers, and policy-makers

Contents

Introduction.– Track 1: Pedagogical Innovation and Active Learning.– Project-based and problem-based learning.– Gamification and formative assessment.– Computational thinking and student engagement. […]

Fields of interest

Communications Engineering, Networks; Database Management System; Business and Management; Health Informatics; Engineering and Technology Education; Computers and Education; Innovation and Technology Management;

Content level

Research

Product category

Proceedings

Springer

Due January 2026

D. Bylieva, Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia; D. Luo, Wushan Campus of South China University, Guangzhou, China; A. Nordmann, Darmstadt Technical University, Darmstadt, Germany (Eds.)

Visual Reasoning in Science, Engineering, and the Humanities

Expert Culture for the Challenges of the Future. Volume 1

- Presents the Proceedings of the 25th International Conference "Professional Culture of the Specialist of the Future"
- Covers the latest research on Technology, Innovation, and Creativity in Digital Society
- Written by respected experts in the field

Contents

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Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Data Engineering; Computers and Society; Computational Intelligence;

Content level

Research

Product category

Proceedings

Springer

Due December 2025

D. Bylieva, Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia; D. Luo, Wushan Campus of South China University, Guangzhou, China; A. Nordmann, Darmstadt Technical University, Darmstadt, Germany (Eds.)

Visual Reasoning in Science, Engineering, and the Humanities

Expert Culture for the Challenges of the Future. Volume 2

- Presents the Proceedings of the 25th International Conference "Professional Culture of the Specialist of the Future"
- Covers the latest research on Technology, Innovation and Creativity in Digital Society
- Written by respected experts in the field

Contents

1.Hybrid Formats: Tiktok Lectures and Visual Notes for Generation Z in Language Learning.- 2.Implementing Visual Resources for Studying the Dis-course of Science.- 3.Visualization Problems in University Mathematics Courses:The Example of the Limit of a Function.- 4.Sequencing Strips as a Scaffold to Prevent Indoctrination and Enhance Critical Thinking: A Recipe for Video-Based Foreign Language [...]

Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Data Engineering; Computers and Society; Computational Intelligence;

Content level

Research

Product category

Proceedings

Springer

Due December 2025

2026. VII, 459 p. 123 illus., 62 illus. in color. (Lecture Notes in Networks and Systems, Volume 1714) Softcover
€ 199,99 | £ 179,99 | $ 219.99
€ (D) 213,99 | € (A) 219,99 | CHF 236.00
ISBN 978-3-032-10428-1

D. Cagáňová, Newton University, Prague, Czech Republic; N. Horňáková, Comenius University, Bratislava, Slovakia; M. Malindzakova, Technical University of Kosice, Kosice, Slovakia; M. C. Yu, Yuan Ze University, Taoyuan City, Taiwan; J. Machado, University of Minho, Guimaraes, Portugal (Eds.)

The 11th International Conference on Mobility, IoT and Smart Cities

EAI Mobility IoT 2024

- Features practical, tested applications in Internet of Things mobility as presented at Mobility IoT 2024
- Includes application domains such as urban mobility, smart factory, social mobility, and sustainability
- Applicable to researchers, academics, students, and professionals

Contents

Introduction.- Intenet of things, Internet of Everything.- Creative Technologies.-Intelligent Transport Systems.-Economics and Management 4.0.-New business models and smart services.- Innovation management.- Smart Factory (Factory of the Future).-Education and digital well-being.- New jobs and skills development.- Optimization-based Decision Support Models.- Production Logistics in Supply [...]

Fields of interest

Communications Engineering, Networks; Database Management System; Business and Management; Health Informatics; Communications Engineering, Networks; Computer and Information Systems Applications; Wireless and Mobile Communication; Internet of Things;

Content level

Research

Product category

Proceedings

Springer

Due December 2025

2026. VIII, 342 p. 97 illus., 88 illus. in color. (EAI/Springer Innovations in Communication and Computing) Hardcover
€ 219,99 | £ 199,99 | $ 249.99
€ (D) 235,39 | € (A) 241,99 | CHF 260.00
ISBN 978-3-032-10832-6

P. Chatterjee, MCKV Institute of Engineering, Howrah, India; C. Tsai, Yuan Ze University, Taoyuan City, Taiwan; G. W. Weber, Poznan University of Technology, Poznań, Poland; A. Saha, SRM Institute of Science & Technology, Kattankulathur, India; N. Sharma, Chitkara University Inst. Engg. and Tech., Rajpura, India (Eds.)

Sustainable Communication, Machine Intelligence and Metaverse

Proceedings of the International Conference, SCMIM 2025

- Presents cutting-edge advancements in communication, machine intelligence, and metaverse
- Aims to foster strong collaboration between academia and industry
- Serves scholars and practitioners to explore the latest theories, innovations, technologies, applications, and tools

Contents

A comprehensive review of artificial intelligence and machine learning in cyber-physical systems for grid-connected wind turbine control.- VLSI Implementation of Multiplier and Accumulator.- Millimeter wave Window Frequency Estimation Using Machine Learning.- Analysis of Automatic Speech Recognition for Domain Specific Contents.- Enhancement of dust and shading level classification of solar [...]

Fields of interest

Communications Engineering, Networks; Machine Learning;

Content level

Research

Product category

Proceedings

Springer

Due January 2026

2026. X, 390 p. 415 illus., 315 illus. in color. (Springer Proceedings in Information and Communication Technologies) Hardcover
€ 249,99 | £ 219,99 | $ 279.99
€ (D) 267,49 | € (A) 274,99 | CHF 295.00
ISBN 978-981-96-9649-9

W. Chen, Beijing Jiaotong University, Beijing, China; Z. Qin, Tsinghua University, Beijing, China

Semantic Communications

- Combines theoretical principles with practical implementations of semantic communication systems
- Addresses the foundational concepts and the hands-on application of deep learning to improve communication efficiency
- Features discussion questions, MATLAB code for experiments, PowerPoint slides for instructors, and a solutions manual

Contents

Introduction.– Part I From Conventional Communications to Semantic Communications.– Development of Wireless Communications.– Introduction of Semantic Communications.– Key Components in Semantic Communications.– Part II Joint Coding for Semantic Communications.– Joint Source and Channel Coding.– Joint Semantic Channel Coding.– Channel Adaptive Semantic Communications.– Bandwidth Adaptive [...]

Fields of interest

Communications Engineering, Networks; Database Management System; Industrial Management; Communications Engineering, Networks; Computer Communication Networks; Machine Learning;

Content level

Upper undergraduate

Product category

Graduate/Advanced undergraduate textbook

Z. Cheng, Hefei University of Technology, Hefei, China; X. Liu, Edinburgh Napier University, Edinburgh, UK; J. Su, Nanjing University of Information Science and Technology, Nanjing, China (Eds.)

Proceedings of the 15th International Conference on Computer Engineering and Networks

Volume II

- Covers emerging topics for computer engineering and networking and their applications
- Discusses how to improve productivity by using the latest advanced technologies
- Examines innovation in the fields of computer engineering and networking

Contents

Chapter 1: Analysis of Aircraft Maintenance Errors Based on AHP.– Chapter 2: Load Balancing Scheduling Using Multi-Delivery Model of Data Packets.– Chapter 3: Microservice Tracing Based on Enhanced Link Information Collection Protocol.– Chapter 4: Modeling Technology Based on High-Precision Point Cloud Data and Spatial Vector Data.– Chapter 5: 3D Reconstruction Of Flowering Plants Based On [...]

Fields of interest

Control and Systems Theory; Electrical and Electronic Engineering; Communications Engineering, Networks; Computational Intelligence; Internet of Things; Computer Networks;

Content level

Research

Product category

Proceedings

Ö. Civalek, Akdeniz University, Antalya, Türkiye; H. M. Numanoğlu, Giresun University, Giresun, Türkiye; S. K. Jena, University of Cagliari, Cagliari, Italy

Mechanical Behavior and Vibration of Nano-Scaled Rods, Beams, and Frames

- Integrates analytical and computational approaches specifically for nonlocal elasticity applied to nano-scale vibration
- Presents nonlocal vibration theory with comprehensive practical examples using the nonlocal finite element method
- Details nanorods, nanobeams, nanotrusses, and nanoframes and includes solved problems and boundary condition discussions

Contents

Introduction and Basic Concepts.– Axial Vibration of Nonlocal Nanorods.– Torsional Vibration of Nonlocal Shafts.– Transverse Vibration of Nonlocal Beams.– Introduction to the Finite Element Method.– Applications of NL-FEM for Nanorods.– Applications of NL-FEM for Nanobeams.– Vibration of Discrete Structures: Nanotrusses and Nanoframes.

Fields of interest

Engineering Design; Materials Engineering; Professional and Vocational Education; Nanoscale Devices; Nanotechnology; Engineering Mechanics; Multibody Systems and Mechanical Vibrations; Nanoengineering; Mathematical and Computational Engineering Applications;

Content level

Professional/practitioner

Product category

Professional book

J. R. Correia, **University of Lisbon, Lisbon, Portugal**; S. Cabral-Fonseca, **LNEC – National Laboratory for Civil Engineering, Lisbon, Portugal**; **J. Gonilha, University of Lisbon, Lisbon, Portugal**; **J. Firmo, University of Lisbon, Lisbon, Portugal**; **M. Garrido, University of Lisbon, Lisbon, Portugal (Eds.)**

12th International Conference on FRP Composites in Civil Engineering (CICE 2025)
Volume 1

- Explores new horizons and research frontiers of FRP composites for civil engineering structures
- Explores new horizons and research frontiers of FRP composites and structures
- Written by leading experts in the field

Fields of interest
Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Concrete; Structural Materials; Geotechnical Engineering and Applied Earth Sciences; Fire Science, Hazard Control, Building Safety;

Content level
Research

Product category
Proceedings

G. Cortellessa, **CNR-ISTC, Rome, Italy**; R. De Benedictis, **CNR-ISTC, Rome, Italy**; F. Fracasso, **CNR-ISTC, Rome, Italy**; A. Orlandini, **CNR-ISTC, Roma, Italy**; A. Umbrico, **CNR-ISTC, Rome, Italy (Eds.)**

Ambient Assisted Living
Italian Forum 2025

- Presents the state of the art in the field of ambient assisted living
- Explains the potential of methodologies and technologies to enhance well-being and active aging
- Offers a special focus on advanced monitoring and assessment systems for frail citizens

Contents
A Sensorized Smart Insole for Flatfoot Based on a Flexible Electronics Substrate Encapsulated in a Customized 3D-Printed Shell for Pediatric Applications.– A usability study on the adoption of wearable devices by healthy older adults.– Development and Validation of an E-Textile Parallel Plate Sensor for Grasp Pressure Measurement.– Fall risk evaluation by means of AI integrated wearable [...]

Fields of interest
Biomedical Engineering and Bioengineering; Biophysics; Biomedical Research; Radiology; Digital and Analog Signal Processing; Computer Imaging, Vision, Pattern Recognition and Graphics; Biomedical Engineering and Bioengineering; Control, Robotics, Automation; Biomaterials;

Content level
Research

Product category
Proceedings

A. D'Aloia, **University of Parma, Parma, Italy**; S. Scagliarini, **University of Modena and Reggio Emilia, Modena, Italy (Eds.)**

Law and Rights in the Smart City: The Challenge of Regulation

- Analyses different aspects of the transformation of cities in smart ones
- Describes strategies for improving social participation, data protection, human safety
- Discusses both social life and type of work (remote/smart) in future cities

Contents
Law and rights in the smart city: introductory remarks.– The „smart city": an instrument that tackles inequalities or that amplifies them? The constitutional perspective of social peripheries.– Smart working, its places and some forward-looking directions.– Data protection and data sharing in the smart city context: a possible re-use of company data? A data-driven strategy for the development [...]

Fields of interest
Sustainable Architecture/Green Buildings; Cities, Countries, Regions; Communications Engineering, Networks; Renewable Energy; Urban Economics; Transportation Technology and Traffic Engineering; Urban Policy; Computational Intelligence; Cities, Countries, Regions;

Content level
Research

Product category
Contributed volume

A. da Silveira Neto, UNIVERSIDADE FEDERAL DE UBERLÂNDIA, Uberlandia, Brazil

Turbulent Flows
Physical Analysis and Theoretical Modeling

- Masters the Essentials of Fluid Dynamics Modeling
- Based on a succesful textbook used in Brazilian Universities
- Bridges Theory and Application in Turbulence Modeling

Contents
Introduction to turbulent flows.– Mathematical modeling for fluid dynamics.– Instabilities in laminar flows.– Transition to turbulence.– Homogeneous and isotropic turbulence.– Equations for turbulent flows and the closure problem.– URANS methodology and closing models.– URANS Closing Models with zero balance equation.– URANS closure models with one or more balance equations.– Sub-Grid Closure […]

Fields of interest
Engineering Fluid Dynamics; Mechanical Engineering;

Content level
Graduate

Product category
Graduate/Advanced undergraduate textbook

Springer

Due January 2026
2026. XXIV, 434 p. 200 illus., 65 illus. in color. Hardcover
€ 129,99 | £ 109,99 | $ 139.99
€ (D) 139,09 | € (A) 142,99 | CHF 153.50
ISBN 978-3-031-89221-9

D. Deb, IIT Kharagpur, Kharagpur, India; **V. M. S. R. Murthy**, IIT–ISM Dhanbad, Dhanbad, India; **H. S. Venkatesh**, National Institute of Rock Mechanics, Kolar, India; **K. S. Rao**, IIT Delhi, New Delhi, India; **R. K. Goel**, CSIR-CIMFR Roorkee Centre, Roorkee, India; **M. Singh**, IIT Roorkee, Roorkee, India (Eds.)

Advances in Rock Mechanics—Infrastructure Development, Volume 1
Proceedings of the 13th Asian Rock Mechanics Symposium (ARMS13)

- Offers a multidisciplinary collection of cutting-edge studies
- Highlights advances in thermo-hydro-mechanical behavior of rocks
- Showcases innovative methods such as DEM, thermal–mechanical coupling, AI-assisted blast design

Contents
1. Advancement in Site Investigations and Characterization of Rocks & Rock Masses.– 2. Application of Advance Geophysical Investigation Techniques.– 3. Constitutive Modelling of Rocks and Soils.– 4. Rock Excavation Techniques–Drilling, Blasting and Mechanical Cutting.– 5. Rock and Dump Slope Stability and Foundation Analysis.– 6. Rock Supports, Instrumentations and Ground Improvement.– 7. […]

Fields of interest
Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Geoengineering; Geotechnical Engineering and Applied Earth Sciences; Natural Hazards;

Content level
Research

Product category
Proceedings

Springer

Due February 2026
2026. VIII, 300 p. 219 illus., 199 illus. in color. (Lecture Notes in Civil Engineering, Volume 783) Hardcover
approx.€ 229,99 | £ 199,99 | $ 249.99
approx.€ (D) 246,09 | € (A) 252,99 | CHF 271.50
ISBN 978-981-95-4258-1

S. Desjardins, Université de Moncton, Moncton, NB, Canada; **A. H. Azimi**, Lakehead University, Thunder Bay, ON, Canada; **G. J. Poitras**, Université de Moncton, Moncton, NB, NB, Canada (Eds.)

Proceedings of the Canadian Society for Civil Engineering Annual Conference 2023, Volume 9
Hydrotechnical Track

- Comprises select peer-reviewed proceedings of the conference CSCE 2023
- Enriches understanding by including contributions from leading experts across the globe
- Covers latest research in technological advances in the field construction, materials, and structures engineering, etc

Fields of interest
Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Building Construction and Design; Geoengineering; Transportation Technology and Traffic Engineering; Environmental Civil Engineering;

Content level
Research

Product category
Proceedings

Springer

Now in Softcover
Available
2024. VII, 313 p. 133 illus., 119 illus. in color. (Lecture Notes in Civil Engineering, Volume 503) Softcover
€ 249,99 | £ 219,99 | $ 279.99
€ (D) 267,49 | € (A) 274,99 | CHF 295.00
ISBN 978-3-031-61521-4

D. Di Maio, Universiteit Twente, ENSCHEDE, The Netherlands (Ed.)

Special Topics in Structural Dynamics & Experimental Techniques, Vol. 5

A Conference and Exposition on Structural Dynamics 2024

Contents

1. A new Impact Localization Method Based on Spatially Sparse FRFs: Evaluation using a FE Beam Model.- 2. Tips, Tricks, and Obscure Features for Modal Signal Processing.- 3. 3D Printable Analogue Spine Models: Towards Cost and Time Effective Spinal Biomechanical Research.- 4. Simulating Imager-Based Sensor Networks for Structural Dynamics Applications with Open-Source Software.- 5. Development [...]

Fields of interest

Civil Engineering; Mechanical Statics and Structures; Building Construction and Design; Aerospace Technology and Astronautics; Industrial and Production Engineering; Civil Engineering;

Content level

Research

Product category

Proceedings

Springer

Now in Softcover

Available

2024. VIII, 145 p. 113 illus., 112 illus. in color. (Conference Proceedings of the Society for Experimental Mechanics Series) Softcover
€ 199,99 | £ 179,99 | $ 219.99
€ (D) 213,99 | € (A) 219,99 | CHF 236.00
ISBN 978-3-031-68903-1

P. Du, Northwestern Polytechnical University, Xi'an, China; C. Wang, Marine Design & Research Institute of China, Shanghai, China; S. Zhao, Northwestern Polytechnical University, Xi'an, China; J. Wen, Northwestern Polytechnical University, Xi'an, China; L. Xie, Northwestern Polytechnical University, Xi'an, China; H. Hu, Northwestern Polytechnical University, Xi'an, China

Internal Wave Hydrodynamics on Submersibles

Volume 1: Interactions between Internal Waves and Structures

- Reveals the patterns and mechanisms of interaction between internal waves and submersibles
- Investigates the impact of internal waves on the efficiency of appendages such as propellers and rudders
- Carries out self-propulsion experiments of submersibles under the action of internal waves

Contents

.- Preface.- Chapter 1 Introduction.- Chapter 2 Internal wave theory.- Chapter 3 Numerical methods and validations.- Chapter 4 Interaction between strongly-stratified internal wave and submersible.- Chapter 5 Interaction between continuously-stratified internal wave and submersible.- Chapter 6 Influences of stratified structure and internal waves on propeller.- Chapter 7 Influences of internal [...]

Fields of interest

Engineering Fluid Dynamics; Marine Engineering;

Content level

Research

Product category

Monograph

Springer

Due January 2026

2026. IV, 244 p. 144 illus., 131 illus. in color. Hardcover
€ 169,99 | £ 149,99 | $ 199.99
€ (D) 181,89 | € (A) 186,99 | CHF 201.00
ISBN 978-981-95-4478-3

B. Farahani, Shahid Beheshti University, Tehran, Iran; F. Firouzi, Arizona State University, Tempe, AZ, USA; K. Chakrabarty, Arizona State University, Tempe, AZ, USA (Eds.)

Smart and Connected Health: Applications and Real-World Use Cases

- Offers readers a single-source reference to the state-of-the art in Smart and Connected Health (SCH)
- Enables readers to appreciate the fusion of various technological realms, shaping a new frontier in healthcare
- Includes contributions from world-renowned experts from academia and industry

Contents

Clinical decision support systems.- ML driven disease prediction forecasting and risk assessment.- Deep virtual medical and healthcare assistant.- Harnessing the power of smart and connected health to tackle covid and other pandemics.- Sch solutions for chronic disease diagnosis and management from cancer to diabetes and heart disease.- Mental health monitoring and management.- The promise of [...]

Fields of interest

Embedded Systems; Cyber-Physical Systems; Internet of Things;

Content level

Research

Product category

Contributed volume

Springer

Due January 2026

2026. Approx. 500 p. 150 illus. in color. Hardcover
€ 119,99 | £ 109,99 | $ 129.99
€ (D) 128,39 | € (A) 131,99 | CHF 142.00
ISBN 978-3-032-09252-6

F. Fdez-Riverola, University of Vigo, Vigo, Spain; M. Rocha, University of Minho, Braga, Portugal; M. S. Mohamad, United Arab Emirates University, Abu Dhabi, United Arab Emirates; S. Cuadrado, Icahn School of Medicine, New York, NY, USA; Á. Canal, University of Salamanca, Salamanca, Spain; A. B. Gil-González, University of Salamanca, Salamanca, Spain; A. Caron, University of Lille, Villeneuve-d'Ascq, France (Eds.)

Practical Applications of Computational Biology and Bioinformatics, 19th International Conference (PACBB 2025)

- Presents the latest research on practical applications of computational biology & bioinformatics
- Results of the 19th International Conference on Practical Applications of Computational Biology & Bioinformatics
- Discusses applications of computational intelligence with an interdisciplinary character

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Bioinformatics;

Content level
Research

Product category
Proceedings

X. Gao, Beijing Institute of Technology, Beijing, China; C. Ding, Beijing Institute of Technology, Beijing, China; W. Tang, Beijing Institute of Technology, Beijing, China; K. Guo, Beijing Institute of Technology, Beijing, China

Conformal Array Antennas and Beamforming Technologies for Emergency Communication Applications

- Presents balloon arrays with 720 MHz bandwidth and 360° coverage for rugged environments
- Develops UAV/helmet arrays with dual-circular polarization and adaptive beam coverage
- Introduces ISO algorithm for fast sparse optimization and −20 dB interference suppression

Contents
Introduction.– Balloon Conformal Array Antennas.– Conformal Array Antennas for Mobile Platforms.– DOA Estimation and Beamforming Algorithms Based on Conformal Sparse Arrays.– Conclusion.

Fields of interest
Microwaves, RF Engineering and Optical Communications; Electronic Circuits and Systems; Wireless and Mobile Communication; Microwaves, RF Engineering and Optical Communications; Wireless and Mobile Communication;

Content level
Research

Product category
Monograph

A. Gheibi-Fetrat, Sharif University of Technology, Tehran, Iran; S. Safari, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran; S. Hessabi, Sharif University of Technology, Tehran, Iran; H. Sarbazi-Azad, Sharif University of Technology, Tehran, Iran

RTGPU: Real-Time Computing with Graphics Processing Units
Architectures, Challenges, and Solutions for Time-Critical GPU Systems

- Addresses the integration of high-performance GPU acceleration into systems governed by strict temporal constraints
- Provides a unified treatment of concepts from parallel processing, embedded systems, and scheduling theory
- Offers tools applicable to domains such as autonomous driving, robotics, real-time analytics and cyber-physical systems

Contents
Introduction to Real-Time GPU Systems.– Fundamentals of GPU and Real-Time System Architectures.– Challenges of Integrating GPUs into Real-Time Systems.– GPU Scheduling Techniques.– Explicitly Considering Real-Time Constraints.– Implicit Real-Time Scheduling.– Future Directions and Applications.

Fields of interest
Embedded Systems; Processor Architectures; Electronics Design and Verification; Embedded Systems; Processor Architectures;

Content level
Professional/practitioner

Product category
Professional book

H. Hamann, University of Konstanz, Konstanz, Germany

Swarm Robotics
A Formal Approach

- Provides a updated introduction to the robotics aspect of swarm intelligence;
- Presents applications in robotics, transport, and medicine (nanorobotics)
- Shows how to design and model a swarm robotic system, including relevant mathematical definitions and tools

Contents

Introduction to Swarm Robotics.- Short Introduction to Robotics.- Short Journey
Through Nearly Everything.- Scenarios of Swarm Robotics.- Modeling Swarm Systems and Formal Design Methods.- Collective Decision-Making.- Case Study: Adaptive Aggregation.- References.- Index.

Fields of interest

Communications Engineering, Networks; Control, Robotics, Automation; Artificial Intelligence; Computational Intelligence; Applied Dynamical Systems;

Content level

Upper undergraduate

Product category

Graduate/Advanced undergraduate textbook

A. Hamdan, Ahlia University, Manama, Bahrain; U. Braendle, IMC University of Applied Sciences Krems, Krems, Austria (Eds.)

Harnessing AI, Machine Learning, and IoT for Intelligent Business
Volume 2

- Offers a holistic perspective by integrating AI, ML, and IoT within the context of business management and finance
- Bridges the gap between computer science, finance, and business management
- Acknowledges the ethical implications of AI, ML, and IoT in financial management

Contents

1.Idea Management Type, Competencies and Capacity Impact on Innovation Results and Financial Performance.- 2. Structural potential of the business environment development in Ukraine.- 3.Role of Management Accounting Methods in Managing Foreign Reserves: Proposed Model.- 4.Neuroscience and Higher Education: Mapping Research Trajectories and Future Perspectives.- 5.Individual determinants of IFRS […]

Fields of interest

Computational Intelligence; Control and Systems Theory; Systems Theory, Control ; Control, Robotics, Automation; Electronic Circuits and Systems; Human-Machine Interfaces; Electrical and Electronic Engineering; Artificial Intelligence;

Content level

Research

Product category

Contributed volume

B. Hammi, Institut Polytechnique de Paris, Palaiseau,,
France; N. El Madhoun, Isep, Paris, France (Eds.)

Securing the Digital Supply Chain
Advances, Challenges, and Solutions

- Covers Digital Supply Chains (DSC) and Software Supply Chains (SSC), addressing cybersecurity and emerging technologies
- Offers insights into securing digital supply chains by addressing vulnerabilities introduced by related technologies
- Provides guidance for researchers, academics, professionals, and decision-makers to enhance the security

Contents

Introduction.- Digital Supply Chain.- Cybersecurity.- Cyber Resilience.- Cyber
Physical Systems.- Cyberattacks.- Privacy.- Authentication.- Blockchain.- Countermeasures.- Internet of Things.- Industrial IoT.- Zero-Trust.- Conclusion.

Fields of interest

Communications Engineering, Networks; Digital and Analog Signal Processing; Microwaves, RF Engineering and Optical Communications; Computer Communication Networks; Electronic Circuits and Systems; Communications Engineering, Networks; Cyber-Physical Systems; Blockchain;

Content level

Research

Product category

Contributed volume

H. Heuermann, FH Aachen, Aachen, Germany

Radio Frequency Technologies
Components and Measurement, Radio, RFID, and Localization Systems

- Learn to model and synthesize linear and nonlinear RF components
- Develop skills for creating semiconductor, SMD, and LTCC circuits to realize systems
- RF fundamentals with clear, practical descriptions to perform circuit design

Contents

Introduction.– Circuit Theory Basics.– Passive RF Components Made from Concentrated Components.– RF Transmission Lines: Theory, Line Types and Applications.– Circuit Theory and Synthesis with Common and Differential Mode Quantities.– Resonators and Filters.– RF Switches.– Linear Amplifiers and Noise.– Modelling, Fitting, and Coil Design.– Fundamentals of the System Conception.– Radio Frequency [...]

Fields of interest

Microwaves, RF Engineering and Optical Communications; Electronics and Microelectronics, Instrumentation; Electronic Circuits and Systems;

Content level

Upper undergraduate

Product category

Graduate/Advanced undergraduate textbook

C. Holst, Technische Hochschule Ostwestfalen-Lippe, Lemgo, Germany

Designing Possibilistic Information Fusion Systems
Redundancy as Criterion for Fusion Topologies

- Discusses state-of-the-art uncertainty frameworks for information fusion, with a particular focus on possibility theory
- Highlights the importance of technological systems being aware of epistemic uncertainty
- Presents a distributed fusion system that exploits system-inherent redundancies to enhance resilience

Contents

Introduction.– Preliminaries.– Scientific State of the Art.– Open Research Topics.– Approach.– Evaluation.– Conclusion and Outlook.

Fields of interest

Industrial Automation; Control, Robotics, Automation; Cyber-Physical Systems; Probability and Statistics in Computer Science; Stochastic Networks; System Performance and Evaluation;

Content level

Research

Product category

Ph.D. Thesis

Z. Huang, Jinan University, Guangzhou, China; **Y. Zhou**, Shenzhen University, Shenzhen, China

Innovative Lightweight High-performance Steel-concrete Sandwich Composite for Marine Structures

- Explores cutting-edge lightweight high performance cement composite for resilient marine structures
- Provide a comprehensive understanding of the material and structural behavior of composites under various situations
- Bridges the gap between theory, experiment, mechanism, design and practical implementation, ensuring real-world impact

Contents

Preface.– Chapter 1 Rubberized and fiber reinforced ultra-lightweight high ductility cement composite for structural application.– Chapter 2 Dynamic behavior of fiber reinforced ultra-lightweight high ductility cement composite .– Chapter 3 Structural behaviour of steel–concrete sandwich composites infilled with ultra-lightweight cement composite.– Chapter 4 Novel double-layer [...]

Fields of interest

Building Materials; Building Construction and Design;

Content level

Research

Product category

Monograph

L. Huang, Cranfield University, Cranfield, UK

Ocean Renewable Energy Systems

Harnessing Wind, Wave, Tidal, and Solar Power at Sea

- Focuses on renewable energy technologies for marine environments, an area not fully addressed in existing literature
- Offers comprehensive treatment of four ocean-based technologies: wind, wave, tidal, and solar, unlike other books
- Discusses future trends including hybrid systems, offshore hydrogen, clean fuels, and maritime digitalization

Contents

Introduction.- Offshore Wind Turbines.- Wave Energy Converters.- Tidal Energy Converters.- Floating Solar Farms.- Future Perspectives.- Conclusions.

Fields of interest

Technology and Engineering; Mechanical Engineering; Electrical and Electronic Engineering; Electrical Power Engineering; Engineering Design; Renewable Energy; Wind Energy; Solar Thermal Energy; Offshore Engineering;

Content level

Professional/practitioner

Product category

Professional book

A. Jaiswal, University of Delhi, New Delhi, India; S. Anand, University of Delhi, New Delhi, India; A. E. Hassanien, Kuwait University, Kuwait City, Kuwait; A. T. Azar, Prince Sultan University, Riyadh, Saudi Arabia (Eds.)

Proceedings of International Conference on Computing and Communication Systems for Industrial Applications

ComSIA 2024

- Presents research works in the field of computing and communication systems
- Provides original works presented at ComSIA 2024 held in Delhi, India
- Serves as a reference for researchers and practitioners in academia and industry

Contents

Cloud Computing with a Hybrid Ant Earthworm Optimization Algorithm: A Comprehensive Guide.- A Hybrid Quantum Machine Learning for the Prediction of Protein Folding.- Classification of Cervical Spine Fracture using Deep Learning.- A Performance Evaluation of Cross-Lingual and Monolingual IR.- Optimized AI Bed for Maim & Bedridden Elder Person Based on Mobile Application.- Huntington's Disorder [...]

Fields of interest

Computational Intelligence; Artificial Intelligence; Computer Networks; Computer Science; Communications Engineering, Networks; Computational Intelligence; Artificial Intelligence;

Content level

Research

Product category

Proceedings

Now in Softcover

K. Johari, Centre for Dev of Advanced Computing, Noida, India; K. Saroha, Centre for Dev of Advanced Computing, Noida, India; E. Pricop, Petroleum-Gas University of Ploiesti, Ploiesti, Romania; A. Sen, Kwantlen Polytechnic University, Surrey, BC, Canada; G. Trivedi, IIT Guwahati, Guwahati, India (Eds.)

Proceedings of Fifth Emerging Trends and Technologies on Intelligent Systems

ETTIS 2025, Volume 1

- Presents research works in the field of intelligent systems
- Discusses results of ETTIS 2025 held at C-DAC, Noida, India
- Serves as a reference for researchers and practitioners in academia and industry

Contents

A Structured and Reusable Function Generation Method by Encapsulating Code Generated by LLMs with Helper Object.- GEN AI in the Healthcare Industry An Analysis of Privacy and Security Challenges, Emerging Models, Applications, and Limitations.- Comparative Evaluation of Deep Learning based Object Detection Techniques for Aircraft Detection.

Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence; Communications Engineering, Networks;

Content level

Research

Product category

Proceedings

N. Kim, University of Florida, Gainesville, FL, USA

Introduction to Nonlinear Finite Element Analysis

- Clearly explains nonlinear finite element analysis for elasticity, elastoplasticity, contact and dynamic problems
- Includes numerous examples and exercises of nonlinear analyses, helping students to better grasp nonlinear theory
- Offers practical applications of FEM to engineering analysis, providing a balance between theory and practice

Contents

1 Continuum Mechanics And Linear Finite Element Analysis.- 2 Nonlinear Finite Element Analysis Procedure.- 3 Finite Element Analysis For Nonlinear Elastic Systems.- 4 Finite Element Analysis For Elastoplastic Problems.- 5 Finite Element Analysis For Contact Problems.- 6 Finite Element Analysis For Time-Dependent Problems.

Fields of interest

Engineering Mechanics; Computational Mathematics and Numerical Analysis; Biomedical Engineering and Bioengineering; Aerospace Technology and Astronautics; Civil Engineering;

Content level

Research

Product category

Graduate/Advanced undergraduate textbook

Z. Kong, Chinese Academy of Agricultural Sciences, Beijing, China; M. Li, Chinese Academy of Agricultural Sciences, Beijing, China; Y. Wang, Lanzhou University of Technology, Lanzhou, China; Z. Zhang, China Agricultural University, Beijing, China (Eds.)

Smart and Green Production Technologies for Traditional Chinese Medicinal Materials

State-of-the-art Innovative Techniques

- Summarizes smart technologies in traditional Chinese medicinal materials
- Introduces green production technologies in traditional Chinese medicinal material
- Contains artificial intelligence in identifying medicinal ingredients

Contents

Risk assessment for the process from planting to processing of Rhizoma Polygonati, Panax notoginseng, and Portulaca oleracea.- Extraction Analysis, and Identification Methods of Active Components from Rhizoma Polygonati, Panax notoginseng, and Portulaca oleracea.- Evaluation and Applications of Bioactive Compounds in Rhizoma Polygonati, Panax Notoginseng, and Portulaca oleracea.- Honeysuckle […]

Fields of interest

Control, Robotics, Automation; Agriculture; Internet of Things; Robotics; Robotic Engineering; Plant Materials; Agriculture; Artificial Intelligence; Mechatronics; Automation;

Content level

Research

Product category

Contributed volume

S. Koratagere Anantha Kumar, University of Strathclyde, Glasgow, UK

Wireless Broadband Access to Bridge the Digital Divide

- Explores global digital divide and combines cutting-edge technologies with socioeconomic analysis
- Presents architecture, suitability, enablers, and network economics for ground, space, and air technologies
- Highlights the approaches employed by the stakeholders to bridge the access and usage gap among the end users

Contents

Introduction.- Rural Connectivity Issues, Use-cases, and Challenges.- Existing Telecommunication Technologies and Infrastructure Sharing.- Rural 5G Solutions.- Satellite Solutions for Rural Connectivity.- Wi-Fi for Rural Connectivity Solutions.- HIBS/HAPS/UAVs/Hot Air Balloon for Rural Connectivity.- Stakeholder Views and Initiatives to Encourage Rural Connectivity.- Rural Connectivity Lesson […]

Fields of interest

Communications Engineering, Networks; Database Management System; Industrial Management; Communications Engineering, Networks; Innovation and Technology Management; Global Social Policy;

Content level

Upper undergraduate

Product category

Graduate/Advanced undergraduate textbook

R. Kountcheva, TK Engineering, Sofia, Bulgaria; W. Wang, Shanghai Institute of Technology, Shanghai, China; S. Patnaik, Interscience Institute of Management and Technology, Bhubaneswar, India (Eds.)

AI-based Methods and Applications

Proceedings of the Fourth World Conference on Intelligent and 3D Technologies (WCI3DT 2025), Volume 1

- Presents recent innovative research in the field of intelligent and 3-D technologies
- Discusses the outcomes of WCI3DT 2025, held in China during May 2025
- Serves as a reference resource for researchers and practitioners in academia and industry

Contents

Reversed Fusion Architecture Based on Spiking Neural Networks (RFSNN): For Dynamic Image Dataset Recognition.– Design and Implementation of Object Component Segmentation Algorithm Based on Improved PointNet++.– Application of the BERT and TextCNN Fusion Model in Chinese Sentiment Classification.– Legal Risks and Regulatory Paths of Generative Artificial Intelligence for Artificial Intelligence [...]

Fields of interest

Computational Intelligence; Multimedia Information Systems; Environmental Monitoring; Control, Robotics, Automation; Artificial Intelligence; Computer Imaging, Vision, Pattern Recognition and Graphics; Signal, Speech and Image Processing;

Content level
Research

Product category
Proceedings

R. Kountcheva, TK Engineering, Sofia, Bulgaria; W. Wang, Shanghai Institute of Technology, Shanghai, China; S. Patnaik, Interscience Institute of Management and Technology, Bhubaneswar, India (Eds.)

Multidimensional Imaging and Control Engineering

Proceedings of the Fourth World Conference on Intelligent and 3D Technologies (WCI3DT 2025), Volume 2

- Presents recent innovative research in the field of intelligent and 3-D technologies
- Discusses the outcomes of WCI3DT 2025, held in China during May 2025
- Serves as a reference resource for researchers and practitioners in academia and industry

Contents

Research on Autonomous Collision Avoidance and Navigation Strategies for Mobile Robots Based on Point Cloud Library (PCL) and Imitation Learning.– Development and Application Research of Motion Video Analysis Platform in Sports Training.– Construction of A Quadruped Robot Imitation Motion Control System Based on Deep Reinforcement Learning.– Sports Action Teaching Correction System Combined [...]

Fields of interest

Computational Intelligence; Multimedia Information Systems; Environmental Monitoring; Control, Robotics, Automation; Artificial Intelligence; Computer Imaging, Vision, Pattern Recognition and Graphics; Signal, Speech and Image Processing;

Content level
Research

Product category
Proceedings

M. Kripka, University of Passo Fundo (UPF), Passo Fundo, Brazil

Optimized and Sustainable Structural Design

- Presents practical optimization strategies tailored for structural design applications
- Lists clear, actionable guidelines for designing reinforced concrete, steel structures, trusses, slabs, and frames
- A valuable resource that connects theoretical foundations with real-world engineering challenges

Contents

1. Introduction.– 2. Comparison among classical configurations.– 3. Reinforced concrete elements.– 4. Building grillages and frames.– 5. Sustainability optimization.

Fields of interest
Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Building Construction and Design; Sustainable Architecture/Green Buildings; Structural Materials;

Content level
Graduate

Product category
Graduate/Advanced undergraduate textbook

A. Krouska, **University of West Attica, Aigaleo, Greece**; **P. Mylonas**, **University of West Attica, Egaleo, Athens, Greece**; **J. Caro**, **University of the Philippines Diliman, Diliman, Philippines (Eds.)**

Novel and Intelligent Digital Systems: Proceedings of the 5th International Conference (NiDS 2025)
Volume II

- Presents recent research on novel and intelligent digital systems
- Proceedings of the third Novel & Intelligent Digital Systems Conference (NiDS 2025)
- Written by experts in the field

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence;

Content level
Research

Product category
Proceedings

A. Krouska, **University of West Attica, Aigaleo, Greece**; **P. Mylonas**, **University of West Attica, Egaleo, Athens, Greece**; **J. Caro**, **University of the Philippines Diliman, Diliman, Philippines (Eds.)**

Novel and Intelligent Digital Systems: Proceedings of the 5th International Conference (NiDS 2025)
Volume III

- Presents recent research on novel and intelligent digital systems
- Proceedings of the third Novel & Intelligent Digital Systems Conference (NiDS 2025)
- Written by experts in the field

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Artificial Intelligence;

Content level
Research

Product category
Proceedings

D. Lapesa Barrera, **The Lean Airline, Zaragoza, Spain**

Aircraft Maintenance Programs

- Presents a comprehensive overview of aircraft maintenance and safety programs, and now expanded in this second edition
- Compares the maintenance requirements for EASA and FAA, explaining the history behind them
- Offers numerous tools and techniques to improve the quality of the aircraft maintenance programs

Contents
Introduction.– Part 1: Regulatory environment.– ICAO and the aviation authorities.– The story of airworthiness approvals and certifications.– Continuing
airworthiness management – organization
and amp requirements.– Instructions for continuing airworthiness (ICA).–
Part 2: Aircraft maintenance programs: Content and management.– AMP content & maintenance planning document (MPD).– AMP primary [...]

Fields of interest
Industrial and Production Engineering; Engineering Design; Applied Dynamical Systems; Probability Theory; Industrial Management; Aerospace Technology and Astronautics; Law of the Sea, Air and Outer Space; Logistics;

Content level
Professional/practitioner

Product category
Professional book

H. Lee, Hanyang University ERICA, Ansan, Korea (Republic of); **H. Lgaz**, Hanyang University ERICA, Ansan, Korea (Republic of); **K. Muthusamy**, Universiti Malaysia Pahang, Pekan, Malaysia (Eds.)

3rd International Conference on Durability of Building and Infrastructures for Smart City
Proceedings of DuraBI 2025

- Discusses the latest trends in disaster prevention and control, and construction technologies
- Written by leading experts in the field
- Addresses researchers, scientists, industry experts, and students

Contents
Fatigue Assessment of Fillet Weld Root of Penstock Thrust Collars in Hydropower Plants Based on FEA Method.– Seismic Performance Analysis of the Sluice and Pump Station Co-Body Structure.– Seismic Safety Analysis of Arch Dam System Response.– Performance-Based Nonlinear Finite Element Seismic Safety Assessment Method and its Application for Offshore Wind Turbine Foundations.– Seismic Analysis [...]

Fields of interest
Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Building Construction and Design; Fire Science, Hazard Control, Building Safety; Sustainability;

Content level
Research

Product category
Proceedings

M. Li, Xi'an Jiaotong University, Xi'an, China; **B. He**, Xi'an Jiaotong University, Xi'an, China

Intention-Controlled Hand Rehabilitation for Stroke Survivors
Motion Assistance and Haptic Stimulation

- Explores human intent-controlled rehabilitation methods with motion assistance and haptic feedback
- Covers cutting-edge technologies in wearable robots, EEG-based brain control, and soft robotics
- Integrates haptic stimulation and exoskeleton-assisted therapy for enhanced stroke recovery

Contents
Motor Rehabilitation after Stroke Neurophysiological Mechanisms and Human Intent-Controlled Approaches.– Revolutionizing Hand Rehabilitation Soft Wearable Hand Robots.– Bilateral Hand Rehabilitation Using a Soft Robotic Glove with Kinematics and EMG Based Control.– A Multi Segment Mechanism Based Hand Exoskeleton Motion Planning and Finger Structure Optimization.– Attention Controlled Hand and [...]

Fields of interest
Control, Robotics, Automation; Medical and Health Technologies; Biomedical Devices and Instrumentation;

Content level
Research

Product category
Monograph

P. C. López-López, Facultade de Ciencias Políticas e Sociais (Universidade de Santiago de Compostela), Santiago de Compostela, Spain; **M. Vernier**, Universidad Austral de Chile, Valdivia, Chile; **Ú. Freundt-Thurne**, Universidad Peruana de Ciencias Aplicadas, San Isidro, Peru; **D. B. Ibáñez**, Departamento de Periodismo, Málaga, Spain (Eds.)

Communication and Applied Technologies
Proceedings of ICOMTA 2025

- Presents research works in the field of communication and applied technologies
- Provides original works presented at ICOMTA 2024 held in Valdivia, Chile
- Serves as a reference for researchers and practitioners in academia and industry

Contents
RFID-Smart Access: Integrated System for Automated Access Management through Credential Decoding.– Hyperparameter Optimization of GPT-2 for Enhanced Text Generation.– Using Virtual Reality to Improve Visualization and Comprehension Skills in a Multivariable Calculus Course.– A Real-Time Political Sentiment Analysis System Using DeepSeek-R1 on Multiplatform Social Media Data.– Robertiño: A [...]

Fields of interest
Computational Intelligence; Multimedia Information Systems; Environmental Monitoring; Computational Intelligence; Artificial Intelligence; Media and Communication;

Content level
Research

Product category
Proceedings

A. Lucietto, Purdue University, West Lafayette, IN, USA (Ed.)

Women in Engineering Technology – Innovating for the Future

Stories from Faculty, Students, and Industry Professionals

- Covers the evolving landscape of engineering technology, focusing on contributions of women in the field
- Delves into the challenges and opportunities within engineering technology to help students discover their passions
- Presents a future where diverse voices are celebrated and aspiring engineers are empowered to pursue their passions

Contents

Introduction.– The Importance of Diversity in Engineering Technology.– Overview of Women's Contributions in the Field.– Breaking Barriers.– Navigating Challenges.– Inspiring the Next Generation o Engaging Young Women in STEM.– Cultural Perspectives of Women in in Engineering Technology.– Career Pathways in Engineering Technology.– The Role of Education.– Work–Life Balance.– Future Trends in […]

Fields of interest
Civil Engineering; History of Science; Mathematics and Computing; Life Sciences; Physical Sciences; Humanities and Social Sciences; Engineering and Technology Education; Innovation and Technology Management; Women's History / History of Gender; Inclusive Education;

Content level
Professional/practitioner

Product category
Professional book

A. Mahajan, Khalsa College of Engineering and Technology, Amritsar, India; S. Devgan, Khalsa College of Engineering and Technology, Amritsar, India; G. Singh, Indian Institute of Technology Delhi, New Delhi, India

Surface Modification of Co−Cr Alloy for Orthopaedic Applications

- Covers fundamentals of electrical discharge machining for surface modification of metallic biomaterials
- Improving bioactivity of Co−Cr alloy and wettability characteristics of modified Co−Cr surface
- Investigates mechanical and tribological properties of the EDMed Co−Cr surface for application in medical implants

Contents

Chapter 1: Biomaterials for Medical Implants.– Chapter 2: Surface Engineering of Metallic Biomaterials.– Chapter 3: Electrical Discharge Machining for Surface Engineering of Biomedical Alloys.– Chapter 4: Electric Discharge Treatment of Co–Cr Alloy.– Chapter 5: In–Vitro Biocompatibility Analysis of EDMed Co-Cr Alloy (Stage − I).– Chapter 6: In–Vitro Corrosion Investigation of Co–Cr Alloy […]

Fields of interest
Biomedical Materials; Biomedical Engineering and Bioengineering; Materials Science; Biomedical Engineering and Bioengineering; Medical and Health Technologies; Orthopaedics;

Content level
Research

Product category
Monograph

B. B. Mallik, Institute of Engineering & Management, Kolkata, India; S. Ghosh, Institute of Engineering & Management, Kolkata, India; S. Das, Institute of Engineering & Management, Kolkata, India; J. Sen, Institute of Engineering & Management, Kolkata, India; S. Jana, Techno International New Town, Kolkata, India (Eds.)

Proceedings of the Sixth International Conference on Emerging Trends in Mathematical Sciences & Computing (IEMSC–25)

- Presents recent advances in the field of Mathematics and Scientific Computing
- Proceedings of the Fifth International Conference on Emerging Trends in Mathematical Sciences & Computing (IEMSC–25)
- Written by experts in the field

Contents

1. Impact of Demographic Factors on E-Commerce Sales Events: An Empirical Study of Indian Consumers.– 2. Waves at spring contact of two fiber–reinforced thermo–elastic mediums.– 3. Aqua–sentinels safeguarding inland waters from plastic peril.– 4. Predicting Cyclonic Events: A Machine Learning Approach Using Weather Data.– 5. Comparative Study of Machine Learning Algorithms for Loan Prediction […]

Fields of interest
Computational Intelligence; Data Engineering; Mathematical and Computational Engineering Applications; Computational Intelligence; Operations Research and Decision Theory; Artificial Intelligence;

Content level
Research

Product category
Proceedings

G. Manolis, **Aristotle University, Thessaloniki, Greece**; **C. Panagiotopoulos**, **Hellenic Mediterranean Unversity, Rethymno, Greece**

Vibrations of Structural Systems

- Concise exposition of basic structural dynamics principles
- Java-based open source platform for numerical solutions
- Signal identification techniques

Contents
Mathematical Models.– Numerical Methods of Solution.– Signal Processing.– Identification Modal Analysis.– Software
and Application Examples.– Software Modules.

Fields of interest
Electrical and Electronic Engineering; Engineering Design; Materials Science; Engineering Mechanics; Building Construction and Design; Building Repair and Maintenance;

Content level
Graduate

Product category
Graduate/Advanced undergraduate textbook

G. Mastinu, **Politecnico di Milano, Milano, Italy**; **F. Braghin**, **Politecnico di Milano, Milano, Italy**; **F. Cheli**, **Politecnico di Milano, Milano, Italy**; **M. Corno**, **Politecnico di Milano, Milano, Italy**; **S. M. Savaresi**, **Politecnico di Milano, Milano, Italy (Eds.)**

16th International Symposium on Advanced Vehicle Control

Proceedings of AVEC'24 – Society of Automotive Engineers of Japan

- This book is open access, which means that you have free and unlimited access
- Features the state of the art in Vehicle Control
- Explores new horizons and research frontiers of Automotive Engineering

Fields of interest
Engineering Design; Civil Engineering; Machinery and Machine Elements; Vehicle Engineering; Automotive Engineering; Transportation Technology and Traffic Engineering; Control, Robotics, Automation;

Content level
Research

Product category
Proceedings

N. Mejjad, **Kénitra, Morocco (Ed.)**

Nuclear-Based Approaches application for marine pollution assessment and monitoring

- Provides insight into the use of nuclear technology and its usefulness for marine environmental issues management
- Covers a broad range of marine pollution topics and explores the potential use of nuclear and isotopic techniques
- Shows how nuclear technology enables more informed decision making for environmental protection and restoration efforts

Contents
A bibliometric analysis of Radiometric datation of coastal sediments.– Radioactive contamination assessment in edible fish.– Monitoring and history reconstruction of heavy metals pollution in coastal lagoon.– Sediment core dating using fallout radionuclides including 137Cs and 210Pbxs.– Nuclear technology application for monitoring plastic pollution in Moroccan lagoons.– The use of […]

Fields of interest
Environmental Sciences; Earth System Sciences; Environmental Social Sciences; Analytical Chemistry; Biodiversity; Environmental Monitoring; Water; Freshwater and Marine Ecology; Soil and Water Protection; Marine Engineering;

Content level
Research

Product category
Contributed volume

G. Meyer, VDI/VDE Innovation + Technik GmbH, Berlin, Germany; S. Beiker, Stanford University, Palo Alto, CA, USA (Eds.)

Road Vehicle Automation 12

- Reports on key technological developments for automated/autonomous and connected vehicles
- Discusses sustainable policies and business models
- Gathers important pilot and case studies

Contents

Public Sector and Policy Activities.- Business
Models and Operations.- Users and Human Factors.- Vehicle Technology Development and Testing.

Fields of interest

Transportation Technology and Traffic Engineering; Automotive Engineering; Environmental Social Sciences; Microsystems and MEMS; Control, Robotics, Automation; Transportation Technology and Traffic Engineering; Automation; Transportation Economics;

Content level

Research

Product category

Proceedings

A. Mishra, University of Delhi, New Delhi, India; D. Gupta, MNNIT Allahabad, Prayagraj, India; M. Jha, CQ University, Sydney, SA, Australia; U. G. Singh, University of KwaZulu-Natal, Durban, South Africa; R. S. Goswami, National Institute of Technology Arunachal Pradesh, Jote, Itanagar, India (Eds.)

Advances in IoT and Security with Computational Intelligence

Proceedings of ICAISA 2025, Volume 1

- Presents research works in the field of Internet of Things and security
- Provides original works presented at ICAISA 2025 held in Delhi, India
- Serves as a reference for researchers and practitioners in academia and industry

Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Cyber-Physical Systems; Internet of Things; Data and Information Security;

Content level

Research

Product category

Proceedings

A. Mishra, University of Delhi, New Delhi, India; D. Gupta, MNNIT Allahabad, Prayagraj, India; M. Jha, Sydney, SA, Australia; U. G. Singh, University of KwaZulu-Natal, Durban, South Africa; R. S. Goswami, National Institute of Technology Arunachal Pradesh, Jote, Itanagar, India (Eds.)

Advances in IoT and Security with Computational Intelligence

Proceedings of ICAISA 2025, Volume 2

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- Serves as a reference for researchers and practitioners in academia and industry

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Content level

Research

Product category

Proceedings

P. Mishra, University of Florida, Gainesville, FL, USA (Ed.)

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- Provides a comprehensive introduction to design automation for both classical and quantum computing
- Describes popular quantum algorithms and architectures
- Covers key design phases, including specification, compilation, synthesis, mapping, measurement, verification and debug

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Fields of interest
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Product category
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S. C. Müller, Otto von Guericke University Magdeburg, Magdeburg, Germany; **J. Parisi**, Carl von Ossietzky University Oldenburg, Oldenburg, Germany (Eds.)

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Contents

Introduction.– A Phenomenological Overview of Structural Elements and Characteristic Shapes.– Gallery.– Dirichlet Domains: Can They Help to Extract Common Pattern Formation Mechanisms?.– Spirals in Turban Shell.– Rings versus Spirals.– Spiral and Target Patterns in Stingless Bee Combs.– Theory
and Specific Methods.– Thermodynamic Principles for Nonequilibrium Chemical Systems.– Fluctuations [...]

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Popular science

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K. Nakamatsu, University of Hyogo, Kobe, Japan; **R. Kountcheva**, TK Engineering, Sofia, Bulgaria; **S. Patnaik**, Interscience Institute of Management and Technology, Bhubaneswar, India (Eds.)

Virtual Reality and Visualization based on AI Technologies
Proceedings of 9th International Conference on Artificial Intelligence and Virtual Reality (AIVR 2025)

- Discusses the outcomes of AIVR 2025, held in Osaka, Japan, during July 2025
- Presents recent advances on artificial intelligence and virtual reality
- Serves as a reference guide for researchers and practitioners in academia and industry

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Bridging Theory and Practice: Developing Virtual Classroom for Interactive Lighting Education.– Mitigating Overfitting in Tikog Grass Prediction: An Enhanced LSTM–XGBoost Model for Sustainable Handicraft Production.– Livia: An Emotion–Aware AR Companion Powered by Modular AI Agents and Progressive Memory Compression.– DATA IMPUTATION STRATEGIES FOR GRU–BASED CORN YIELD FORECASTING: A [...]

Fields of interest
Computational Intelligence; Multimedia Information Systems; Environmental Monitoring; Computational Intelligence; Artificial Intelligence; Computer Imaging, Vision, Pattern Recognition and Graphics; Data Structures and Information Theory;

Content level
Research

Product category
Proceedings

Springer

Due December 2025
2026. XXIV, 640 p. 229 illus., 114 illus. in color. (Smart Innovation, Systems and Technologies, Volume 463) Hardcover
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S. J. Nanda, MNIT, Jaipur, India; R. P. Yadav, MNIT, Jaipur, India; M. Prasad, University of Technology, Sydney, NSW, Australia; M. Saraswat, Jaypee Institute of Information Technology, Noida, India (Eds.)

Data Science and Applications
Proceedings of ICDSA 2025, Volume 2

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- Provides original works presented at ICDSA 2025 held in Jaipur, India
- Serves as a reference for researchers and practitioners in academia and industry

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Leveraging NLP features for Multi-Class Protein Sequence Classification using Machine Learning and Deep Learning Models.– Improving Secure Multi-Party Computation and Blockchain-Enhanced Data Sharing for Financial Services in Mobile Cloud Environments.– AI Enabled IoT-Based Crop Protection System With AI-Driven Animal Detection and Water Management.– Adaptive Honeypot Framework for [...]

Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Data Mining and Knowledge Discovery; Cyber-Physical Systems; Internet of Things;

Content level

Research

Product category

Proceedings

A. Pandey, San Juan Capistrano, CA, USA; P. Gupta, Brentwood, CA, USA; N. K. Sehgal, Santa Clara, CA, USA

Artificial Intelligence in Medical Software

- Describes each stage of AI/ML-enabled medical device development, covering both regulatory and technical requirements
- Illustrates how AI/ML-enabled device development differs from traditional software development in medical devices
- Includes strategies for addressing common challenges during development and regulatory review

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Introduction.– Clinical data management.– Aiml enabled medical device training algorithm selection.– Aiml clinical model training and evaluation.– clinical aiml model transparency.– Clinical aiml model testing and validation.– Aiml clinical model integration and deployment.– Security and privacy considerations aiml enabled medical devices.– Medical device machine learning operation mlops.– [...]

Fields of interest

Embedded Systems; Biomedical Devices and Instrumentation; Medical and Health Technologies;

Content level

Professional/practitioner

Product category

Professional book

B. Pradhan, University of Technology Sydney, Ultimo, NSW, Australia; S. Mukhopadhyay, Macquarie University, North Ryde, NSW, Australia (Eds.)

IoT Sensors, ML, AI and XAI: Empowering A Smarter World

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- Serves as a platform for researchers and practitioners to exchange knowledge in AI, ML, IoT, and sensing technologies
- Discusses the challenges and issues encountered in the real-time implementation of IoT and AI/ML technologies

Contents

Sensors ML and AI for Real World Applications.– Flying IoT Sensor Fusion Performance Analysis for UAV Applications in Indoor Spaces.– Machine Learning Empowered IoT Devices Analysis of Indoor and Outdoor Temperature and Health Risks.– Identification of IoT devices through Machine Learning and hardware fingerprints based on clock skew.

Fields of interest

Electronics and Microelectronics, Instrumentation; Communications Engineering, Networks; Measurement Science and Instrumentation; Digital and Analog Signal Processing; Analytical Chemistry; Computational Intelligence; Computational Intelligence; Internet of Things; Sensors and biosensors; Mechatronics;

Content level

Research

Product category

Contributed volume

M. Rahmani-Andebili, University of Alabama, ECE Department, Tuscaloosa, AL, USA

AC Electrical Circuit Analysis
Practice Problems, Methods, and Solutions

- Includes a wide selection of basic and advanced examples, exercises, and problems
- Categorizes problems by difficulty level and calculation amount
- Provides detailed and instructor-recommended solutions and methods, along with clear explanations

Contents
Sinusoids and Phasors.- Sinusoidal Steady-State Analysis.- AC Power Analysis.- Magnetically Coupled Circuits.

Fields of interest
Electronic Circuits and Systems; Electrical and Electronic Engineering; Engineering and Technology Education; Electronics Design and Verification;

Content level
Upper undergraduate

Product category
Undergraduate textbook

M. Rana, University of the Cumberlands, WIlliamsburg, KY, USA; **B. Pandey**, GL Bajaj Institute of Technology and Management, Greater Noida, India (Eds.)

Quantum Ops
Bridging Quantum Computing and IT Operations

- Enables organizations to implement quantum computing solutions in IT contexts
- Investigates the state and future of quantum Machine Learning applications
- Explores utility of quantum operations in enterprise environments

Contents
Introduction.- Quantum Computing Fundamentals: Beyond Classical Bits.- Qubits, Quantum Gates, and Quantum Circuits.- Quantum Programming: Languages and Frameworks.- Key Quantum Algorithms: Shor's, Grove's, and Applications.- Quantum Error Correction
and Noise Mitigation.- Quantum Cloud Services: Accessing Quantum Power.- Quantum Simulation and Emulation Techniques.- Quantum Machine Learning: [...]

Fields of interest
Embedded Systems; Quantum Computing; IT Risk Management; IT Operations;

Content level
Professional/practitioner

Product category
Contributed volume

M. S. Raval, Ahmedabad University, Ahmedabad, India; **T. Kaya**, Sacred Heart University, CT, CT, USA; **N. S. Artan**, New York Institute of Technology, New York, NY, USA; **C. Taber**, Sacred Heart University, CT, CA, USA (Eds.)

Sports Data Analytics
Techniques, Applications, and Innovations

- Offers a comprehensive guide to the latest techniques, applications, and future directions in sports data analytics
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- Addresses emerging technologies, ethical considerations, and the future landscape of sports data analytics

Contents
Chapter 1`:Fundamentals of Sports Analytics .–Chapter 2 :Analytical Techniques and Models .– Chapter 3 : Case Studies.- Chapter 4: Future Trends .

Fields of interest
Computational Intelligence; Data Mining and Knowledge Discovery; Astronomy, Observations and Techniques; Communications Engineering, Networks; Computational Intelligence; Data Analysis and Big Data; Artificial Intelligence; Computer Vision; Natural Language Processing (NLP);

Content level
Research

Product category
Contributed volume

A. Rocha, **University of Lisbon, Porto, Portugal**; F. García Peñalvo, **University of Salamanca, Salamanca, Spain**; C. J. Costa, **University of Lisbon, Lisbon, Portugal**; R. Gonçalves, **Universidade de Trás-os-Montes, Vila Real, Portugal (Eds.)**

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Volume 2

- Presents recent research on information systems and technologies
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Risk Taxonomies and Governance Frameworks for Generative AI: A Review of Ethical, Cybersecurity, and Regulatory Challenges.- Requirements for implementing a Transportation Management System in an adhesives production unit.- Hybrid Machine Learning and Deep Learning Model for Efficient DDoS Attack Detection in Software-Defined Networks.- Designing Blockchain-based Systems with Clean Architecture.

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Data Engineering; Computer and Information Systems Applications;

Content level
Research

Product category
Proceedings

A. Rocha, **University of Lisbon, Porto, Portugal**; F. García Peñalvo, **University of Salamanca, Salamanca, Spain**; C. J. Costa, **University of Lisbon, Lisbon, Portugal**; R. Gonçalves, **Universidade de Trás-os-Montes, Vila Real, Portugal (Eds.)**

Proceedings of 20th Iberian Conference on Information Systems and Technologies (CISTI 2025)
Volume 4

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Exploring the Digital Shift: Advances in Fact-Checking Research.- DeepFakes field research: weapon of modern Information Warfare.- The AGI Research Field: Mapping Scientific Contributions and Global Trends.- Integrating Cybersecurity into Accounting Systems: Evidence from Portuguese SMEs.

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Data Engineering; Computer and Information Systems Applications;

Content level
Research

Product category
Proceedings

M. Rodriguez Martinez, **University of Puerto Rico, Mayagüez, Puerto Rico**; K. Lu, **University of Puerto Rico, Mayagüez, Puerto Rico**; F. Ye, **University of Wisconsin-Madison, Madison, WI, USA**; Y. Qian, **University of Tulsa, Tulsa, OK, USA (Eds.)**

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ISICN 2025

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- Results of the International Symposium on Intelligent Computing and Networking ISICN 2025
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Contents
.- Networking in Collaborative Multi-Robot Systems for Enhanced Mapping and Navigation.- Intelligent Multi-Channel Fan Control System for Data Center Power Containers Using Siemens PLC.- MADNET: Redefining the Way for Data Caching and Distribution with Sporadic Internet Connectivity.- CEKER: A Generalizable LLM Framework for Literature Analysis with a Case Study in Unikernel Security.- Design […]

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Data Engineering; Artificial Intelligence;

Content level
Research

Product category
Proceedings

N. Rouky, Hassan First University, Settat, Morocco; F. E. Ben Bouazza, Hassan First University, Settat, Morocco; A. Hussain, Edinburgh Napier University, Scotland, UK; B. El Bhiri, Harmony Technology, Rabat, Morocco; L. Nkenyereye, Sejong University, Seoul, Korea (Republic of); E. M. Onyema, Coal City University, Enugu, Nigeria; H. Lamaazi, UAE University, Al Ain, United Arab Emirates (Eds.)

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- Written by experts in the field

Contents

Robust-Vibes: A Robust System For Virtual Human Balance And Uprightness Evaluation.- Difact – Distance Estimation Using Face Detection Framework For Acuity Testing: An Ai-Based System For […]

Fields of interest

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Content level

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Content level

Research

Product category

Proceedings

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- Serves as a reference resource for researchers and practitioners in academia and industry

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Content level

Research

Product category

Proceedings

A. K. Saha, National Institute of Technology Agartal, Agartala, India; H. Sharma, Rajasthan Technical University, Kota, India; M. Prasad, University of Technology Sydney, Sydney, NSW, Australia; P. K. Gupta, The ICFAI University, Dehradun, India (Eds.)

Intelligent Vision and Computing
Proceedings of ICIVC 2025, Volume 3

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Content level
Research

Product category
Proceedings

S. Satapathy, KIIT Deemed to be University, Bhubaneswar, India; M. Mishra, KIIT Deemed to be University, Bhubaneswar, India

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- Describes industry 5.0 to resolve Supply chain risk
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- Describes risks associated with occupational health and biomechanics

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Chapter1: Introduction.– Chapter 2: Literature Review.– Chapter 3: An Analysis on Challenges or Risk Associated with Industry 5.0.– Chapter 4: Industry 5.0 and Risk Mitigation a Systematic Framework for Sustainable Development.– Chapter 5: Biomechanical Risk Assessment in Manual Material Handling
Job and Sensor of Industry 5.0.– Chapter 6: Industry 5.0 and Future Changes in Service Sector for [...]

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Computational Intelligence; Control and Systems Theory; Systems Theory, Control ; Control, Robotics, Automation; Electronic Circuits and Systems; Computational Intelligence; Control, Robotics, Automation; Sustainability;

Content level
Research

Product category
Monograph

M. M. Schiraldi, Tor Vergata University of Rome, Rome, Italy; F. De Carlo, University of Florence, Florence, Italy; M. Fera, University of Campania Luigi Vanvitelli, Aversa, Italy (Eds.)

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Fields of interest
Industrial and Production Engineering; Engineering Design; Machines, Tools, Processes; Industrial Management; Production;

Content level
Research

Product category
Proceedings

T. Schoenherr, Sandia National Laboratories, Albuquerque, NM, USA; A. Karlicek, Anduril Industries, Lexington, MA, USA; D. Beale, Sandia National Labs, Albuquerque, NM, USA (Eds.)

Dynamic Environments Testing, Vol. 7: Proceedings of the 42nd IMAC, A Conference and Exposition on Structural Dynamics 2024

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Civil Engineering; Multibody Systems and Mechanical Vibrations; Mechanical Statics and Structures; Materials Characterization Technique; Structural Materials;

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Fields of interest
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Content level
Research

Product category
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Due December 2025
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A. Shaban-Nejad, The University of Tennessee Health Science Center (UTHSC) – Oak-Ridge National Lab (ORNL) – Center for Biomedical Informatics, Memphis, TN, USA; M. Michalowski, University of Minnesota, Minneapolis, MN, USA; S. Bianco, Altos Labs – Institute of Computation, Redwood City, CA, USA (Eds.)

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Fields of interest
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Content level
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S. N. Shahbazova, Azerbaijan State University of Economics, Baku, Azerbaijan; V. Kreinovich, University of Texas at El Paso, El Paso, TX, USA; J. Kacprzyk, Polish Academy of Sciences, Warsaw, Poland; B. De Baets, Ghent University, Ghent, Belgium (Eds.)

Soft Computing Applications

Selected Papers of the 9th World Conference on Soft Computing, September 25–27, 2024, Baku, Azerbaijan. Volume 1

- Presents recent research on Soft Computing Applications
- Selected Papers of the 9th World Conference on Soft Computing, September 25–27, 2024, Baku, Azerbaijan
- Written by experts in the field

Contents
Fuzzy sets and Quantum Computing.– What Fuzzy and Quantum Computing can Learn from the Success of Deep Learning.– How to Fairly Allocate Safety Benefits of Self-Driving Cars.– Paradox of Causality and Paradoxes of Set Theory.– Fuzzy Recognition System.– Continuous Growth of Information and the "Forgetting" Function in the Recognition of Sound Information.– Technology Building a Virtual Room […]

Fields of interest
Computational Intelligence; Digital and Analog Signal Processing; Communications Engineering, Networks; Control, Robotics, Automation; Data Mining and Knowledge Discovery; Computational Intelligence; Artificial Intelligence;

Content level
Research

Product category
Proceedings

S. N. Shahbazova, Azerbaijan State University of Economics, Baku, Azerbaijan; V. Kreinovich, University of Texas at El Paso, El Paso, TX, USA; J. Kacprzyk, Polish Academy of Sciences, Warsaw, Poland; B. De Baets, Ghent University, Ghent, Belgium (Eds.)

Soft Computing Applications

Selected Papers of the 9th World Conference on Soft Computing, September 25–27, 2024, Baku, Azerbaijan. Volume 2

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Fuzzy Control and Fuzzy Approach.– Regression with Level Set Fuzzy Systems.– Optimal Route Selection Problem in Operational and Organizational Control.– Enhancing COVID-19 Forecasting Through Transfer Learning with Fuzzy Logic Integration: A Comparative Analysis of Data Augmentation, Model Architecture, and Hyperparameter Tuning.– Fuzzy Methods and Modern Approaches.– Creation and Testing of […]

Fields of interest
Computational Intelligence; Digital and Analog Signal Processing; Communications Engineering, Networks; Control, Robotics, Automation; Data Mining and Knowledge Discovery; Computational Intelligence; Artificial Intelligence;

Content level
Research

Product category
Proceedings

F. Shahnia, Murdoch University, Murdoch, WA, Australia; Y. Liu, University of Tennessee System, Knoxville, TN, USA; P. A. Pegoraro, University of Cagliari, Cagliari, Italy (Eds.)

Power System Inertia, Strength, and RoCoF

- Highlights recent advancements in the area of power and energy systems
- Presents various measurement and estimation techniques in renewable energy dominated electrical power systems
- Includes interesting topics such as networks' operation and technology accommodation

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Concepts definitions and importance of system inertia strength and RoCoF.– Traditional measurement methods of frequency and RoCoF.– Measurement and estimation of frequency and RoCoF in low inertia systems.– Impact of distortions harmonics and unbalance on measurements.– Various estimation methods of system inertia and strength.– Various calculation methods of center of inertia for renewable […]

Fields of interest
Energy Grids and Networks; Electrical Power Engineering; Control, Robotics, Automation; Electrical Power Engineering; Energy Grids and Networks; Energy Policy, Economics and Management; Electronic Circuits and Systems; Renewable Energy;

Content level
Professional/practitioner

Product category
Contributed volume

T. Shang, Beihang University, Beijing, China

Quantum Nonlinear Function Obfuscation Theory and Application

- The first book available on quantum obfuscation theory
- Includes the main research results and preliminaries of quantum obfuscation
- Offers the application of quantum obfuscation to quantum cryptography

Contents
Introduction.– Preliminary.– Quantum point obfuscation.– Quantum power obfuscation.– Quantum symmetric encryption.– Quantum asymmetric encryption.– Quantum homomorphic encryption.– Quantum one-way function.– Quantum access control.– Quantum zero-knowledge proof.

Fields of interest
Quantum Computing; Cryptology;

Content level
Research

Product category
Monograph

S. S. Shaumarov, Tashkent State Transport University, Tashkent, Uzbekistan (Ed.)

Smart Transport Systems and the Digital Economy Infrastructure

- Presents a novel view of smart transport systems and the digital economy infrastructure
- Focuses on smart transport systems in developing countries of Central Asia, the Eurasian Economic Union (EAEU)
- Discusses IoT, big data, artificial intelligence, machine learning, and cyber security for smart transport systems

Contents
The Role of Digital Technology and Innovation in the Development of the Country's State Budget.– Selecting an Optimal Investment Portfolio of Transport Subsystems Based on the Markovitz Model.– Transformational Processes of the Influence of Economic Factors on the Construction of the Railway
in Turkestan: Historical Aspect.– The Impact of the Corporate Financing Ratio on the Weighted Average […]

Fields of interest
Transportation Technology and Traffic Engineering; Computational Intelligence; Urban Geography and Urbanism; Transportation Technology and Traffic Engineering; Mathematical and Computational Engineering Applications; Cyber-Physical Systems;

Content level
Research

Product category
Contributed volume

G. Shen, China Special Equipment Inspection and Research Institute, Xiyuan, China; L. Gelman, The University of Huddersfield, Huddersfield, UK; B. Hu, China Special Equipment Inspection and Research Institute, Xiyuan, China; J. Zhang, China Special Equipment Inspection and Research Institute, Hepingjie, Chaoyang District, China (Eds.)

Advances in Condition Monitoring and Structural Health Monitoring, Volume 3
Select Proceedings of WCCM 2024

- Presents select proceedings of the 3rd World Congress on Condition Monitoring (WCCM 2024)
- Covers the latest advances in condition monitoring technology
- Includes a group of top scholars on the issue of methods, instruments, and techniques

Contents
Non-contact dynamic strain calculation method for rotating blades under multi-modal vibration.– A Fault Diagnosis Method for Data Imbalance Conditions Based on the Improved Unet Diffusion Model.– Analysis of the impact of weighting methods on the environmental vibration evaluation results of high-speed maglev trains.– Research on the Impact of Track Irregularity Wavelength on the Dynamic […]

Fields of interest
Engineering Design; Civil Engineering; Machinery and Machine Elements; Multibody Systems and Mechanical Vibrations; Tribology; Building Repair and Maintenance;

Content level
Research

Product category
Proceedings

G. Shen, China Special Equipment Inspection and Research Institute, Beijing, China; L. Gelman, The University of Huddersfield, Huddersfield, UK; B. Hu, China Special Equipment Inspection and Research Institute, Beijing, China; J. Zhang, China Special Equipment Inspection and Research Institute, Beijing, China (Eds.)

Advances in Condition Monitoring and Structural Health Monitoring, Volume 4

Select Proceedings of WCCM 2024

- Presents select peer-reviewed proceedings of WCCM 2024
- Brings together the application of condition monitoring technology in various industries and fields
- Guides together a group of top scholars on the issue of methods, instruments, and techniques

Contents

Case Analysis of Elevator Speed Limiter Failure and Self-monitoring Assumption.- Stress Monitoring and Early Damage Prediction for Large Roller Coasters.- Key Technologies and Application of State Monitoring and Fault Diagnosis for High-parameter Large Amusement Facilities.- Intelligent Monitoring System for Ensuring Efficient Lubrication of Roller Coaster Lifting Chains.- Method and visual […]

Fields of interest
Engineering Design; Civil Engineering; Machinery and Machine Elements; Multibody Systems and Mechanical Vibrations; Building Repair and Maintenance; Tribology;

Content level
Research

Product category
Proceedings

K. V. Spiliopoulos, National Technical University of Athens, Athens, Greece; D. Weichert, RWTH Aachen University, Aachen, Germany (Eds.)

Advances in Direct Methods for Limit States of Structures and Materials

Algorithms and Applications

- Presents a state-of-the-art review of direct methods employed in structural design and assessment
- Collects the latest results of specialized research focused on the limit and shakedown analysis of structures
- Written by leading experts in the field

Contents

On Shakedown of shape memory alloys structures with functional fatigue - Application to nitinol stents.- A crystal plasticity-based lower bound direct method and its application in the fatigue strength prediction of the aloumínum alloy material.- Limit analysis of 2D problems using a hybrid virtual element formulation.- Evaluation of the torsional strength of thin-walled RC beams in fire […]

Fields of interest
Classical Mechanics; Computational Intelligence; Civil Engineering; Engineering Mechanics; Computational Mathematics and Numerical Analysis; Nanotechnology;

Content level
Research

Product category
Contributed volume

A. Swaroop, Bhagwan Parshuram Institute of Technology, New Delhi, India; B. Virdee, London Metropolitan University, London, UK; S. D. Correia, Escola Superior de Tecnologia Gestão, Portalegre, Portugal; Z. Polkowski, Jan Wyzykowski University, Polkowice, Poland (Eds.)

Proceedings of Data Analytics and Management

ICDAM 2025, Volume 10

- Presents research works in the field of data analytics and management
- Provides original works presented at ICDAM 2025 held at London Metropolitan University, London, UK
- Serves as a reference for researchers and practitioners in academia and industry

Contents

A Comprehensive Study on Hybrid Injection Attacks in AI- Driven Applications.- A Review of Ciphertext-Policy Attribute-Based Encryption Models:- Comparative Analysis and Hybrid Integration for Secure Cloud Access Control.- Predicting Stroke Outcomes Using Machine Learning: Analysis of Clinical and Imaging Data.- Optimized Deep Learning Framework for Rheumatoid Arthritis Diagnosis Using Medical […]

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Data Analysis and Big Data; Communications Engineering, Networks;

Content level
Research

Product category
Proceedings

V. Taraate, Bengaluru, India

Advanced Digital Design Techniques

High Speed and Low Power Design Techniques

- Provides a comprehensive overview of Advanced Digital Design Techniques
- Covers topics such as advanced digital design concepts, area, speed, and power optimization
- Useful to the SoC and IP design engineers, hardware professionals, undergraduate and postgraduate students

Contents
Introduction.– Architecture design.– Low power design.– Low power aware architecture.– Speed Versus Power.

Fields of interest
Electronic Circuits and Systems; Power Electronics; Computer Hardware;

Content level
Research

Product category
Undergraduate textbook

C. Touzé, ENSTA Paris, Palaiseau, France; A. Frangi, Politecnico di Milano, Milano, Italy (Eds.)

Model Order Reduction for Design, Analysis and Control of Nonlinear Vibratory Systems

- Explores the engineering applications while detailing the conceptual tools & techniques for nonlinear vibrating systems
- Features independent chapters, plus the first one serving as a general introduction of the topic
- Written by leading experts in the field

Contents
Modelling, Reductionism and the Implications for Digital Twins.– Nonlinear normal modes as invariant manifolds for model order reduction.– The Direct Parametrization of Invariant Manifolds applied to model order reduction of microstructures.– Understanding, computing and identifying the nonlinear dynamics of elastic and piezoelectric structures thanks to nonlinear modes.

Fields of interest
Civil Engineering; Classical Mechanics; Computational Intelligence; Multibody Systems and Mechanical Vibrations; Microsystems and MEMS; Structural Materials;

Content level
Research

Product category
Contributed volume

H. Trinh, Deakin University, Geelong, VIC, Australia; V. T. Huynh, Deakin University, Geelong, VIC, Australia; S. Yu, Deakin University, Geelong, VIC, Australia; T. Fernando, University of Western Australia, Crawley, WA, Australia

Unknown Inputs Estimation in Linear Time-Delay Systems Using Generalized Functional Observers

- Provides the estimation of unknown inputs using generalized functional observers
- Focuses on unknown input observers to asymptotically estimate unknown inputs of a wide range of dynamical systems
- Introduces unified framework for estimating unknown inputs and unmeasured states in time-delay systems

Contents
Background, Motivations, Preliminaries
and Organization of the Book.– Unknown Input Observers Design – Single Unknown Input Case.– Estimation of an Unknown Input in the Presence of Multiple Unknown Inputs.– Unknown Input Observers Design for Time-Delay Systems.– Unknown Input Observers Design: A Time Delay in both […]

Fields of interest
Computational Intelligence; Control and Systems Theory; Systems Theory, Control ; Control, Robotics, Automation; Electronic Circuits and Systems; Control and Systems Theory; Applied Dynamical Systems; Mathematical and Computational Engineering Applications;

Content level
Research

Product category
Monograph

C. Ünsalan, Yeditepe University, Istanbul, Türkiye; B. Höke, Agsenze Ltd, Lancaster, UK; E. Atmaca, Technical University of Munich, Munich, Germany

Embedded Machine Learning with Microcontrollers

Applications on STM32 Development Boards

- Teaches the embedded system design skills needed for today's job market
- Thoroughly explains each concept and provides illustrated examples and projects
- Includes sample codes and course slides and a solutions manual

Contents

Introduction.– Hardware to Be Used in the Book.– Software to Be Used in the Book.– Data Acquisition From Sensors.– Introduction
to Machine Learning.– Classification.– Regression.– Clustering.– The Tensorflow Platform and Keras API.– Fundamentals
of Neural Networks.– Embedding the Neural Network Model to the Microcontroller.– Multi-layer Neural Networks.– Convolutional Neural Networks.– [...]

Fields of interest

Embedded Systems; Electronic Circuits and Systems; Electronics and Microelectronics, Instrumentation; Machine Learning; Processor Architectures;

Content level

Upper undergraduate

Product category

Graduate/Advanced undergraduate textbook

R. P. Vargas, Universidad Nacional de Educación a Distancia (UNED), Madrid, Spain; A. Carrera, University of Salamanca, Salamanca, Spain; B. Molnár, Eötvös Loránd University, Budapest, Hungary; Ó. Lage, Tecnalia, Derio, Spain; J. Prieto, University of Salamanca, Salamanca,
Spain; A. Nongaillard, University of Lille, Villeneuve-d'Ascq, France (Eds.)

Blockchain and Applications, 7th International Congress

- Presents the latest research on blockchain and applications
- Includes the outcomes of the 7th International Congress on Blockchain and Applications (BLOCKCHAIN 2025)
- Written by respected experts in the field

Contents

Overview of Fiat Integration in Decentralized Finance (DeFi).– Hyperledger Fabric Network From Vision to Configuration.– Enhancing Blockchain with Quantum Safe Verification A Quantum Fingerprinting Framework.– Bridging Private and Public Blockchains A zk SNARK Framework for Secure ERC 1155 Transfers.– HyperLender Blockchain and AI to Redefine P2P Lending.– IOT-PAY A Decentralized Payment [...]

Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Data Engineering; Computational Intelligence; Artificial Intelligence;

Content level

Research

Product category

Proceedings

A. Varma, Chandigarh University, Mohali, India; V. Chand Sharma, Chandigarh University, Mohali, India; E. Tarsi, Università degli Studi di Firenze, Firenze, Italy (Eds.)

Proceedings of the 2nd International Conference on Trends in Architecture and Construction

ICTAC-2024; 09 April, Chandigarh, India

- Includes peer reviewed article from ICTAC-2024 held at Chandigarh in India
- Presents a spotlight on the pivotal roles of AI, digital tools, and cutting-edge construction techniques
- Explores modernity, sustainability, technology, and education within the ever-evolving architectural landscape

Contents

Potential for Heritage Management as a Tool for Localisation of SDGs Specific Target 11 3.– Ibu Kota Nusantara Understanding the Dynamics of Indonesias New Capital Construction.– A recent critical history of urban green for psychological wellbeing and physical health.– Research Trends on [...]

Fields of interest

Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Building Construction and Design; Sustainability; Urban Policy; Internet of Things; Climate Change Ecology; Sustainable Architecture/Green Buildings;

Content level

Professional/practitioner

Product category

Proceedings

Z. Wang, Nanjing Tech University, Nanjing, China; X. Cao, Nanjing Tech University, Nanjing, China

Mechanism of Composite Explosion Inhibition and Venting Protections

- This book is open access, which means that you have free and unlimited access
- Shares theoretical guidance significance for the development of explosive release technology equipment
- Enhances the theoretical and engineering application significance of discharge technology research

Contents
Introduction.– Characteristics and influence factor of methane and coal dust two phase mixture explosions.– Experimental apparatus and procedures.– Research on the inhibition of methane coal dust hybrid explosions by the ultrafine water mist.– Research on the inhibition characteristics of ultrafine water mist on gas dust two phase mixture explosions.

Fields of interest
Fire Science, Hazard Control, Building Safety; Classical Mechanics;

Content level
Research

Product category
Brief

M. Weyrich, Universität Stuttgart, Stuttgart, Germany

Industrial Automation and Information Technology
IT Architectures, Communication and Software for System Design

- The textbook provides solid basic knowledge in the field of automation
- It has a strong application orientation
- Modern developments are taken into account

Contents
Introduction.– Basic terms and concepts
of automation technology.– Exploring system topologies and IT architectures.– Software for industrial automation systems.– IT for networking and communication in automation.– Case study: Cognitive sensors for autonomous guided vehicles (AGVs).– Case study: IT integration of industrial production systems.– Case study: Automotive IT today and in the [...]

Fields of interest
Control, Robotics, Automation; Control and Systems Theory; Computer and Information Systems Applications;

Content level
Upper undergraduate

Product category
Graduate/Advanced undergraduate textbook

R. P. Yadav, Malaviya National Institute of Technology, Jaipur, India; S. J. Nanda, Malaviya National Institute of Technology, Jaipur, India; M. Prasad, University of Technology Sydney, Ultimo, NSW, Australia; M. Saraswat, Jaypee Institute of Information Technology, Noida, India (Eds.)

Data Science and Applications
Proceedings of ICDSA 2025, Volume 1

- Presents latest innovations and developments in data science and applications
- Provides original works presented at ICDSA 2025 held in Jaipur, India
- Serves as a reference for researchers and practitioners in academia and industry

Contents
Emerging Threats and Mitigation Strategies in Biometric Authentication Systems.– Predicting the Effectiveness of B2B Marketing Strategies using Deep Learning: A Multi-Target Regression and Classification Approach.– Machine Learning Based Feature Extraction and Stress Detection using Different Dataset.– IoT-based Smart Grid: Architecture, Security Challenges and Mitigations.– An IoT-Enabled [...]

Fields of interest
Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Computational Intelligence; Data Mining and Knowledge Discovery; Cyber-Physical Systems; Internet of Things;

Content level
Research

Product category
Proceedings

A. Zaporozhets, General Energy Institute, Kyiv, Ukraine (Ed.)

Smart Charging in Solar Microgrids
Intelligent Forecasting and Control for Sustainable Electric Mobility

- Explores smart charging solutions for electric vehicles powered by solar microgrids
- Discovers how intelligent control boosts energy efficiency and grid stability
- Helps understand the role of AI in managing clean energy and electric mobility

Contents

Integration of Electric Vehicle Charging Stations into Microgrid with Solar Generation.– Analysis of the Impact of Meteorological Factors on Solar Energy Generation in the Microgrid.– Models for Forecasting Solar Generation in the Microgrid.– Predictive Models of Solar Generation in the Microgrid.– Algorithm for Charging Stations Controlling in a Microgrid with Solar Generation.– Modelling and [...]

Fields of interest

Control and Systems Theory; Electrical and Electronic Engineering; Communications Engineering, Networks; Energy Grids and Networks; Control, Robotics, Automation;

Content level

Research

Product category

Contributed volume

W. Zhang, Beijing Jiaotong University, Beijing, China; D. Yang, Beijing Jiaotong University, Beijing, China; S. Gao, Beijing Jiaotong University, Beijing, China; H. Zhang, Beijing Jiaotong University, Beijing, China; X. Shen, University of Waterloo, Waterloo, ON, Canada

Intelligent Resource Scheduling in End–Edge–Cloud Networks

- Demonstrates a comprehensive resource scheduling design for end–edge–cloud networks
- Presents federated learning and DNN inference studies in end–edge–cloud networks
- Features applications of deep reinforcement learning in intelligent resource scheduling

Contents

Introduction.– Overview of End–Edge–Cloud Networks.– Communication and Computation Integration Network Architecture.– Multi–Dimensional Resource Adaption for Hierarchical Federated Learning.– Deterministic Transmission Scheduling for Time–Sensitive Federated Learning.– End–Edge–Cloud Orchestration for Collaborative DNN Inference.– Discussion of Future Directions.– Conclusion.

Fields of interest

Computer Engineering and Networks; Communications Engineering, Networks; Computer Communication Networks; Cyber–Physical Systems;

Content level

Research

Product category

Monograph

L. Zhang, Tongji University, Shanghai, China; B. Huang, The University of Hong Kong, Hong Kong, China; J. Xu, Peking University, Beijing, China; J. Liu, Shanghai Maritime University, Shanghai, China (Eds.)

Proceedings of the 13th International Conference on Information Systems and Computing Technology
Volume 1

- Provides original works presented at ISCTech 2025
- Showcases cutting-edge research in information systems and computing technology
- Serves as a valuable reference for academicians, researchers, and industry professionals

Contents

PM STGformer A Simplified SpatioTemporal Graph Transformer for PM25 Concentration Prediction.– MSSLMS A Masked Self Supervised Learning with Muti Scale for Pedestrian Re Identification.– A Prediction Method for Overflow of Stormwater Pipelines Based on GA Attention BiLSTM.– MS DGCNet Multi Scale Dynamic Graph Convolutional Network for Skeleton Based Video Anomaly Detection.– MPI Parallel [...]

Fields of interest

Computational Intelligence; Communications Engineering, Networks; Control and Systems Theory; Civil Engineering; Database Management System; Transportation Technology and Traffic Engineering; Data Engineering; Data Structures and Information Theory; User Interfaces and Human Computer Interaction;

Content level

Research

Product category

Proceedings

C. Zilio, **University of Padova, Vicenza, Italy**; **F. Busato**, **Mercatorum University, Rome, Italy**; **L. Mazzarella**, **Politecnico di Milano, Milan, Italy**; **M. Noro**, **University of Padova, Vicenza, Italy (Eds.)**

Proceedings of the 15th REHVA HVAC World Congress – CLIMA 2025

Volume 3

- Presents new developments and recent trends in the field of heating, ventilation, and air conditioning (HVAC)
- Gathers the proceedings of the 15th REHVA HVAC World Congress (CLIMA), held in Milan, Italy, on June 4–6, 2025
- Organized by REHVA (Federation of European Heating, Ventilation, and Air Conditioning Associations)

Fields of interest
Civil Engineering; Geotechnical Engineering and Applied Earth Sciences; Geographical Information System; Environmental Social Sciences; Building Physics, HVAC; Renewable Energy; Sustainability; Climate Sciences;

Content level
Research

Product category
Proceedings

Handbook of Environmental Sanitation and Protection Machinery

Fields of interest
Machinery and Machine Elements; Environmental Health; Transportation Technology and Traffic Engineering;

Content level
Research

Product category
Handbook

- Provides a comprehensive, in-depth and authoritative analysis of fundamental and cutting-edge technologies for environmental sanitation and protection machinery
- Offers engineers, technicians and managers in the field of environmental sanitation and protection valuable help in selecting machinery
- Covers the latest advances in key enterprises and mainstream equipment products, and written by authors with extensive experience in this field

This is the first handbook to cover environmental sanitation and protection machinery in China. It introduces readers to seven main types of product, and addresses their selection, application and maintenance. It offers a valuable reference guide for engineers, technicians and managers in the fields of environmental sanitation and environmental protection, especially with regard to selecting machinery.

Road Sweeper.– Waste Collecting Machinery.– Waste Transferring Machinery.– Waste Treatment Machinery.– Water Treatment Machinery.– Sludge Treatment Machinery.– Dust Removal Machinery.

X. Huang, Shanghai Association of Science and Technology, Shanghai, China; **W. Xie**, Shanghai Landscaping and City Appearance, Shanghai, China; **J. Sheng**, Tongji University, Shanghai, China; **J. Qiu**, Shanghai Institute of Environmental Engineering Design and Research Co., Ltd., Shanghai, China; **Q. Zhou**, Shanghai Zhenhua Heavy Industry Co., Ltd., Shanghai, China(Eds.)

N. D. Alikakos, University of Athens (EKPA), Athens, Greece; C. Villani, Universite Claude Bernard Lyon 1, Villeurbanne, France (Eds.)

Analysis Techniques for Mathematical Physics and Geometry – and Music

Festum Pi, Chania, 2024

- Lecture notes by world leading experts in mathematical analysis
- Covers recent advancements in mathematical physics
- Accessible to beginning researchers in the field

Contents

Foreword (Dionysios Dervis–Bournias).–– Introduction (Nicholas Alikakos & Cédric Villani).– Part I: Modelling and derivation.–1. Graph and Mean–Field Limits for Interacting Particles Systems (Nathalie Ayi).–2. Four Lectures on The Mathematical Theory of (multi) Phase Transitions (Nicholas Alikakos).– Part II: Analysis Tools.– 3. Introduction to Quantitative De Giorgi Methods (Giovanni Brigati [...]

Fields of interest
Mathematics; Mathematics; Analysis;

Content level
Graduate

Product category
Contributed volume

D. Alonso-Gutiérrez, Universidad de Zaragoza, Zaragoza, Spain; B. González Merino, Universidad de Murcia, Murcia, Spain; C. H. Jimenez, Universidad de Sevilla, Sevilla, Spain; R. Villa, Universidad de Sevilla, Sevilla, Spain (Eds.)

Geometry, Analysis and Convexity

- Provides a comprehensive current state of the field Convex Geometric Analysis
- Gives an overview of the works exposed during the onference
- Shows new lines of interest in the field

Contents

Chapter 1. An overview of complex ellipsoids.– Chapter 2. A new excluding condition towards the Soprunov–Zvavitch conjecture on Bézout–type inequalities.– Chapter 3. On the Sausage
Catastrophe in 4 Dimensions.– Chapter 4. On some new discrete variations of the Brunn–Minkowski inequality.– Chapter 5. Constrained Clustering, Diagrams, Coresets, and their Applications.– Chapter 6. A [...]

Fields of interest
Mathematics; Geometry; Analysis;

Content level
Research

Product category
Proceedings

B. Balasubramanyam, Indian Institute of Science Education & Research Pune, Pune, India; K. Sinha, Indian Institute of Science Education & Research Pune, Pune, India; M. Vidyasagar, Indian Institute of Technology Hyderabad, Hyderabad, India (Eds.)

Some Contributions to Number Theory and Beyond

Proceedings of the Centenary Symposium for M. V. Subbarao

- Honors the legacy of Professor M. V. Subbarao and the fields he contributed to fundamentally
- Compiles research on modern contributions to number theory
- Highlights modelling methods for pandemics with applications to COVID–19

Contents

Preface.– Prof. Mathukumalli Venkata Subbarao: A Personal Reminiscence.– Results and conjectures related to the work of M.V. Subbarao.– Partition Identities for k–Regular Partitions with Distinct Parts.– Some reflections on the partition function.– On the number of parts in all partitions enumerated by the Rogers–Ramanujan identities.– Ramanujan and Koshliakov Meet Abel and Plana.– [...]

Fields of interest
Mathematics; Number Theory; Real Functions; Special Functions; Order, Lattices, Ordered Algebraic Structures; Mathematical Modeling and Industrial Mathematics;

Content level
Research

Product category
Proceedings

V. Basco, Acea Spa, Rome, Italy

Nonsmooth Constrained Optimal Control on Infinite Horizon

A Brief Course

- Extends optimal control theory beyond finite horizons while handling state constraints
- Focuses on optimal control problems involving nonsmooth cost functions, dynamics, and differential inclusions
- Develops solution concepts for Hamilton–Jacobi–Bellman equations over infinite horizons

Contents

Preface.– Introduction.– Overview.– First Order Necessary Conditions for Infinite Horizon Optimal Control Problems
Under State Constraints.– Lipschitz Continuity of the Value Functions.– Hamilton–Jacobi–Bellman Equations with Time–Measurable Data and infinite Horizons.– Representation of Fiber–Convex Hamiltonian with Time–Measureable Data.– Appendix.

Fields of interest

Mathematics; Systems Theory, Control; Continuous Optimization; Artificial Intelligence;

Content level

Research

Product category

Brief

E. Beltrami, SUNY Stony Brook, Setauket, NY, USA

Digressions in Elementary Probability

The Unexpected in Medicine, Sports, and Society

- Entertaining and informative topics of interest to social scientists
- Insights into medicine and unexpected outcomes in sports and in voting, among other topics
- Provides guidance to increase insight into the workings of happenstance

Contents

Success Runs in Bernoulli Trials.– Chapter 2. The Remarkable Streak of Joe Di Maggio.– Chapter 3. Inherited, Not Acquired.– Chapter 4. A Subtle Bias.– Chapter 5. Addendum : Conditional Expectation.– Chapter 6. Hot Hands in Basketball.– Chapter 7. Restricted Choice.– Chapter 8. Another Conundrum : What Does Crowd Size at Wimbledon's Tennis Match Tell us About Baseball Batting Averages?– Chapter […]

Fields of interest

Statistics in Social Sciences, Humanities, Law, Education, Behavorial Sciences, Public Policy; Statistical Theory and Methods; Statistics in Social Sciences, Humanities, Law, Education, Behavorial Sciences, Public Policy; Bayesian Network; Multivariate Analysis;

Content level

Research

Product category

Monograph

P. Biscari, Politecnico di Milano, Milano, Italy; T. Ruggeri, Università di Bologna, Bologna, Italy; G. Saccomandi, Università degli Studi di Perugia, Perugia, Italy; M. Vianello, Politecnico di Milano (retired), Milano, Italy

Rational Mechanics

- A guide to the mechanics of points and rigid bodies, from first principles to advanced Lagrangian methods
- Specifically designed for engineers, but appropriate also for physicists and mathematicians
- Combines rigorous theory with extensive real–world applications and many worked examples

Contents

1 Point kinematics.– 2 Rigid body kinematics.– 3 Relative motions.– 4 Constraints.– 5 Geometry of masses.– 6 Kinematics of masses.– 7 Forces, work, power.– 8 The laws of Mechanics.– 9 Statics.– 10 Particle dynamics.– 11 Dynamics of systems.– 12 Dynamics of rigid bodies.– 13 Non–inertial reference frames.– 14 Lagrangian Mechanics.– 15 Equilibrium of one–dimensional continua.– Appendix A: A […]

Fields of interest

Mathematics; Mathematics; Discrete Mathematics;

Content level

Lower undergraduate

Product category

Undergraduate textbook

R. F. Bordley, College of Engineering, University of Michigan, Ann Arbor, MI, USA

Managing Project Complexity and Risk with Systems Engineering

- Practical step by step systems approach to solving complex, volatile and risky real-world engineering problems
- Accessible to newcomers with limited technical background and industry experience while being insightful to experts
- Bridges both rigorous theory and high impact practice with examples and insights from real-world systems engineering

Contents

Introduction.- Understanding the Opportunity.- Stakeholder Identification.- Collecting Data on Stakeholders.- Negotiating Feasible Requirements with Stakeholders.- System Spec.- Scoring Proposed Solutions.- Requirement Decomposition.- Systems Modelling.- Subsystem Design.- Verification.- Validation through Implementation.- Summary and Conclusions.- Exercises for each Chapter.

Fields of interest

Mathematics; Software Engineering; Mathematics in the Humanities and Social Sciences; Probability and Statistics in Computer Science; Statistics and Computing;

Content level

Lower undergraduate

Product category

Graduate/Advanced undergraduate textbook

U. Çapar, Sabancı University, Istanbul, Türkiye

A Guide to Generalized Functions

Linear, Nonlinear, Random, and Infinite Dimensional Distributions

- Very few publications on random distributions
- Provides a fast entrance into the theory of generalized functions
- Includes the interconnections of four types of distributions

Contents

Chapter 1. Linear Distributions.- Chapter 2. Some Applications of Linear Distributions.- Chapter 3. Non-linear Distributions.- Chapter 4. Random Distributions.- Chapter 5. Infinite Dimensional Distributions.

Fields of interest

Functional Analysis; Probability Theory;

Content level

Graduate

Product category

Graduate/Advanced undergraduate textbook

F. M. Chelli, Università Politecnica delle Marche, Ancona, Italy; C. Crocetta, Università di Bari, Bari, Italy; S. Ingrassia, University of Catania, Catania, Italy; M. C. Recchioni, Università Politecnica delle Marche, Ancona, Italy (Eds.)

Statistical Learning, Sustainability and Impact Evaluation

SIS 2023, Ancona, Italy, June 21–23

- This book highlights the statistical data analysis in Statistical Learning, Sustainability and Impact Evaluation
- The book includes contributions from statistical scientific community which is interested in new advanced developments
- This volume propose the application of new statistical methods in the sustainability and social fields

Contents

PART 1: Advanced Statistical Methods and Modeling, The Italian experience on register-based statistics considering measurement, coverage and sampling errors.- Generalized separation scores for ranking partially ordered data.- Bayesian nonparametric mixing distribution estimation in the Gaussian-smoothed 1-Wasserstein distance.- On the probability of success of a reliability experiment.- […]

Fields of interest

Mathematics; Statistics; Applied Statistics; Mathematical Statistics; Statistics; Data Analysis and Big Data; Environmental and Sustainability Education; Machine Learning;

Content level

Research

Product category

Proceedings

B. Chen, Michigan State University, Okemos, MI, USA; M. A. Choudhary, Maulana Azad National Urdu University, Hyderabad, India (Eds.)

Geometric Inequalities and Applications

- Presents a comprehensive and up-to-date survey of recent developments in geometric inequalities and their applications
- Includes chapters on a broad spectrum of topics contributed by leading scientists from across the world
- Discusses Riemannian manifolds, statistical maps and their inequalities, and Ricci–Yamabe solitons

Contents
Chapter 1 Some inequalities for geometric solitons.- Chapter 2 Generalized Ricci–Yamabe Soliton On 3–Dimensional Lie Groups.- Chapter 3 Riemannian Invariants in Submanifold Theory.- Chapter 4 Chen Inequalities for Submanifolds of Kenmotsu Space Forms.- Chapter 5 IMPROVED CHEN-RICCI INEQUALITIES FOR SEMI–SLANT $\xi^\perp$–RIEMANNIAN SUBMERSIONS FROM SASAKIAN SPACE FORMS.- Chapter 6 CHARACTERIZATIONS OF […]

Fields of interest
Computational Intelligence; Mechanical Engineering; Optimization; Algebra; Mathematics; Differential Geometry;

Content level
Research

Product category
Contributed volume

S. Chun, Yonsei University, Seoul, Korea (Republic of)

Moving Frames for the Numerical Solution of Partial Differential Equations in Complex Domains
Computation Using Orthonormal Basis Vectors

- Unified framework for the numeircal solution of PDEs on curved domains
- Practical implementation with high-order numerical schemes in MATLAB and C++
- Designed for accessibility and visualization of geometric concepts

Contents
Chapter 1 Introduction.- Chapter 2 Constructing moving frames.- Chapter 3 Covariant Derivative in Moving Frames.- Chapter 4 Differential Operators in Moving Frames.- Chapter 5 Applications
to PDEs on Curved Surfaces.- Chapter 6 Relative Acceleration and the Riemann Curvature Tensor.

Fields of interest
Applications of Mathematics; Artificial Intelligence; Computational Mathematics and Numerical Analysis; Algebra; Geometry; Analysis; Computational Mathematics and Numerical Analysis; Differential Equations;

Content level
Research

Product category
Monograph

E. Coşkun, Middle East Technical University, Ankara, Türkiye

Projective Geometry

- Presents both the analytic and the synthetic viewpoints
- Treats conic sections
- Includes problems for practice

Contents
Chapter 1. The Analytic Approach: Projective Planes over a Field.- Chapter 2. The Synthetic Approach: Axioms for Projective Planes.- Chapter 3. Conics.

Fields of interest
Mathematics; Projective Geometry;

Content level
Upper undergraduate

Product category
Graduate/Advanced undergraduate textbook

A. Dvurečenskij, **Slovak Academy of Sciences, Bratislava, Slovakia**; **O. Zahiri**, **Slovak Academy of Sciences, Bratislava, Slovakia**; **M. Aaly Kologani**, **Hatef Higher Education Institute, Zahedan, Iran**; **R. A. Borzooei**, **Shahid Beheshti University, Teheran, Iran**

Hoop Algebras
An Introduction

- Comprehensive overview of hoop theory
- Numerous examples
- A resource for researchers and students

Contents

Chapter 1. Basic notions.– Chapter 2. Pocrims and Related Structures.– Chapter 3. Structure of hoops.– Chapter 4. Filters and congruences of hoops.– Chapter 5. Algebraic structures related to hoops.– Chapter 6. Lattice-theoretical properties.– Chapter 7. State hoops.– Chapter 8. Appendix A – A trip into non-commutative structures.– Chapter 9. Appendix B.

Fields of interest
Mathematics; Order, Lattices, Ordered Algebraic Structures; General Algebraic Systems;

Content level
Research

Product category
Monograph

G. Harder, **University of Bonn, Bonn, Germany**

Cohomology of Arithmetic Groups

- Based on examples, the book serves as an introduction to the many facets of the cohomology of arithmetic groups
- Presents the deep connections with the theory of automorphic forms and special values of L-functions
- Focuses on number theoretic aspects and questions

Contents

1 Basic Notions and Definitions.– 2 The Cohomology Groups.– 3 Hecke Operators.– 4 Representation Theory.– 5 Applications to Number Theory.– 6 Analytic Methods.

Fields of interest
Mathematics; Mathematics;

Content level
Research

Product category
Monograph

M. Hintermüller, **Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany**; **R. Herzog**, **Heidelberg University, Heidelberg, Germany**; **C. Kanzow**, **Julius-Maximilians-Universität Würzburg, Würzburg, Germany**; **M. Ulbrich**, **Technical University of Munich, Garching b. München, Germany**; **S. Ulbrich**, **Technical University of Darmstadt, Darmstadt, Germany (Eds.)**

Non-Smooth and Complementarity-Based Distributed Parameter Systems
Simulation and Hierarchical Optimization, Part II

- Presents results obtained in the second funding phase of the DFG Special Priority Program1962
- Develops algorithmic paradigms for the treatment of non-smooth phenomena and associated parameter influences
- Considers a wide range of applications

Contents

Chapter 1. Numerical Approximation of Optimal Convex Shapes in R3.– Chapter 2. Multiobjective Optimization of Non-Smooth
PDE-Constrained Problems.– Chapter 3. Bilevel Optimal Control: Theory, Algorithms, and Applications.– Chapter 4. Identification of Stress in Heterogeneous Contact Models.– [...]

Fields of interest
Numerical Analysis; Optimization; Numerical Analysis; Optimization; Computational Science and Engineering; Systems Theory, Control;

Content level
Research

Product category
Contributed volume

R. Hirsch, Stat-Aid Consulting, Overland Park, KS, USA

Statistical Hypothesis Testing with Microsoft ® Office Excel ®

- Presents the classical and Bayesian interpretations of hypothesis tests under various conditions
- Demonstrates how to plan the size of a sample and describes different methods of selecting samples
- Explains how to use Excel to perform statistical hypothesis tests and analyze the results

Contents

Logic of Hypothesis Testing Classical (Frequentist) Approach Statistical Hypotheses and Conclusions.- Sampling.- Basic Statistical Methods Selecting a Test.- Nonparametric Methods.- Interim Analysis.- Planning the Sample's Size.

Fields of interest

Mathematics; Statistics; Engineering Mathematics; Statistical Theory and Methods; Statistics; Bayesian Inference; Applied Statistics; Methodology of Data Collection and Processing; Data Analysis and Big Data;

Content level

Professional/practitioner

Product category

Professional book

C. Lemieux, University of Waterloo, Waterloo, ON, Canada; B. Feng, University of Waterloo, Waterloo, ON, Canada (Eds.)

Monte Carlo and Quasi-Monte Carlo 2024

MCQMC 2024, Waterloo, Canada, August 18–23

- Proceedings of the top conference in the field
- Covers hot topics in the field
- Top-level contributors

Contents

I Invited Talks, Fred J. Hickernell, Nathan Kirk, Aleksei G. Sorokin, Quasi-Monte Carlo Methods: What, Why, and How?.- Alexander Keller, Frances Y. Kuo, Dirk Nuyens, and Ian H. Sloan, Lattice-based Deep Neural Networks: Regularity and Tailored Regularization.- Qingyang Liu, Heishiro Kanagawa, Matthew Fisher, François-Xavier Briol, and Chris. J. Oates, Fast Approximate Solutions of Stein […]

Fields of interest

Mathematics; Statistics; Probability Theory; Computational Mathematics and Numerical Analysis; Mathematical Statistics; Theoretical, Mathematical and Computational Physics;

Content level

Research

Product category

Proceedings

A. Meister, University of Kassel, Kassel, Germany

Numerical Methods for Linear Systems of Equations

An Introduction to Modern Methods With MATLAB® Implementations by C. Vömel

- Linear algebra for practical applications
- Covers all essential fundamentals and is suitable for self-study
- Solutions and additional materials are available online

Contents

Examples of the Occurrence of Linear Systems of Equations.- Fundamentals of Linear Algebra.- Direct Methods.- Iterative Methods.- Preconditioners.

Fields of interest

Mathematics; Linear Algebra; Computational Mathematics and Numerical Analysis;

Content level

Upper undergraduate

Product category

Undergraduate textbook

M. Mokhtar-Kharroubi, Université Marie et Louis Pasteur, Besançon, France

Peripheral Spectra of Perturbed Positive Semigroups
Applications to Transport Theory and Related Fields

- Provides new functional analytic results on spectral problems
- Unifies and extends established results in different directions
- Includes numerous open questions

Contents
Chapter 1. Introduction.- Chapter 2. Mathematical Toolbox.- Chapter 3. Time asymptotics of Kato-Voigt semigroups.- Chapter 4. Spectral analysis of Desch semigroups.- Chapter 5. Spectral analysis of absorption semigroups.- Chapter 6. On jump semigroups in L1(v).- Chapter 7. Detailed balance and Hilbert space theory.- Chapter 8. Perturbed Frobenius-Perron semigroups.- Chapter 9. Jump semigroups [...]

Fields of interest
Mathematics; Operator Theory; Differential Equations; Numerical Analysis;

Content level
Research

Product category
Monograph

J. Pach, Rényi Institute, Budapest, Hungary; G. Tóth, Rényi Institute, Budapest, Hungary (Eds.)

Courses in Discrete and Computational Geometry

- Includes the material from 4 intensive mini-courses on hot topics in discrete geometry
- Provides the first systematic survey of the existential theory of reals
- Illustrates the interplay between combinatorial, geometric, and topological methods

Contents
Part I. Lecture notes.- Chapter 1. Graph Product Structure Theory with Applications.- Chapter 2. Threshold for the measure of random polytopes.- Chapter 3. Approximation in geometry.- Part II. The Existential Theory of the Reals.- Chapter 4. Intersection graphs of segments and $\exists$R.- Chapter 5. The Existential Theory of the Reals as a Complexity Class: ACompendium.

Fields of interest
Mathematics; Mathematics;

Content level
Graduate

Product category
Contributed volume

G. Pagès, Sorbonne University, Paris, France

Numerical Probability
An Introduction with Applications to Finance

- The new edition includes advanced stochastic gradient descent algorithms
- Covers detailed applications to finance
- Based on years of teaching and research experience

Contents
1 Simulation of Random Variables.- 2 The Monte Carlo Method and Applications to Option Pricing.- 3 Variance Reduction.- 4 The Quasi-Monte Carlo Method.- 5 Optimal Quantization Methods I: Cubatures.- 6 Stochastic Optimization with Applications to Finance.- 7 Discretization Scheme(s) of a Brownian Diffusion.- 8 The Diffusion Bridge Method: Application to Path-Dependent Options (II).- 9 Biased [...]

Fields of interest
Mathematics; Probability Theory; Mathematics in Business, Economics and Finance; Statistics in Business, Management, Economics, Finance, Insurance;

Content level
Graduate

Product category
Graduate/Advanced undergraduate textbook

M. Pant, **Indian Institute of Technology, Roorkee, India; K. Deep, Indian Institute of Technology, Roorkee, India; A. K. Nagar, Liverpool Hope University, Liverpool, UK (Eds.)**

Applications of Mathematics in E-Commerce and Finance

SocProS 2025, Roorkee, India, February 24–26

- Showcases cutting-edge applications of machine learning, deep learning and optimization in engineering and commerce
- Covers real-world problems in facial expression recognition, blockchain security, smart energy and inventory management
- Highlights advances in language technologies, recommendation systems, financial forecasting and environmental monitoring

Contents

Chapter 1. Fooling A Deep Learning-based Facial Expression Recognition System using its Class Activation Map and Differential Evolution.- Chapter 2. Cryptocurrency and Blockchain The Future Of Finance?.- Chapter 3. AI-Powered Custom Emoji Generator: Enhancing Digital Expression and Engagement.- Chapter 4. A Comparative Analysis of Classification with Explainability of Customer Churn […]

Fields of interest
Mathematics; Statistics; e-Commerce and e-Business; Mathematical Applications in Computer Science; Engineering Mathematics;

Content level
Research

Product category
Proceedings

M. Pant, **Indian Institute of Technology Roorkee, Roorkee, India; K. Deep, Indian Institute of Technology Roorkee, Roorkee, India; A. K. Nagar, Liverpool Hope University, Liverpool, UK (Eds.)**

Machine Learning and Its Applications to Healthcare

- Explores soft computing methods like neural networks, genetic algorithms and ensemble learning in healthcare
- Aligns with SDG 3, it discusses health equity using AI: enable real-time care, early detection and precision diagnosis
- Discusses AI applications in disease diagnosis, predictive modeling, image segmentation and drug impact analysis

Contents

Assessing Students Emotions in Learning Environment Integrating Deep Learning with Statistical Learning.- MediAI A Specialized Medical LLM for Accurate Diagnosis and Clinical Documentation.- Predicting Maternal Health Risks using Ensemble Model Multilayer Perceptron and PCA Features.- Performance Evaluation of Deep Learning Models using Transfer Learning on Ultrasound Images for Breast Cancer […]

Fields of interest
Sustainability; Applications of Mathematics; Sustainable Architecture/Green Buildings; Renewable Energy; Climate Change Ecology; Social Policy; Applications of Mathematics; Machine Learning; Artificial Intelligence; Health Informatics;

Content level
Research

Product category
Contributed volume

F. Pichi, **SISSA International School for Advanced Studies, Trieste, Italy; G. Rozza, SISSA International School for Advanced Studies, Trieste, Italy; M. Strazzullo, Politecnico di Torino, Torino, Italy; D. Torlo, Università di Roma Sapienza, Roma, Italy (Eds.)**

Scientific Machine Learning
Emerging Topics

- Covers emerging topics in computational science and engineering
- Includes scientific machine learning to enhance numerical simulation
- Discusses mathematical modelling and numerical simulation enhanced by artificial intelligence

Contents

Chapter 1. Domain-decomposed image classification algorithms using linear discriminant analysis and convolutional neural networks.- Chapter 2. Discovering Partially Known Ordinary Differential Equations: a Case Study on the Chemical Kinetics of Cellulose Degradation.- Chapter 3. Deep Unfolding for Scientific Computing on Embedded Systems.- Chapter 4. Non-Asymptotic Analysis of Projected […]

Fields of interest
Mathematics; Machine Learning; Computational Science and Engineering;

Content level
Graduate

Product category
Proceedings

N. Privault, **Nanyang Technological University, Singapore, Singapore**

Understanding Markov Chains
Examples and Applications

- Easily accessible to both math and non-math majors who are taking an introductory course on Stochastic Processes
- Filled with numerous exercises to test students' understanding of key concepts
- A gentle introduction to help students ease into later chapters, also suitable for self-study

Contents
Probability Background.– Gambling Problems.– Random Walks.– Discrete-Time Markov Chains.– First Step Analysis.– Classification of States.– Long-Run Behavior of Markov Chains.– Branching Processes.– Continuous-Time
Markov Chains.– Discrete-Time Martingales.– Spatial Poisson Processes.– Reliability Theory.

Fields of interest
Mathematics; Probability Theory; Statistical Theory and Methods; Statistics in Engineering, Physics, Computer Science, Chemistry and Earth Sciences;

Content level
Upper undergraduate

Product category
Undergraduate textbook

A. Prohl, **Eberhard Karls Universitaet Tübingen, Tübingen, Germany**; **Y. Wang**, **School of Mathematics and Statistics, Chongqing, China**

Numerical Methods for Optimal Control Problems with SPDEs

- Presentation of different algorithms to solve the linear-quadratic optimal control problem with stochastic PDEs
- Concise error analysis of the proposed algorithms
- Comparison of complexities of proposed algorithms by computational studies

Contents
Introduction.– Preliminaries.– Discretization based on the open-loop approach.– Discretization based on the closed-loop approach.

Fields of interest
Mathematics; Analysis; Data Science; Analysis;

Content level
Graduate

Product category
Brief

T. Shioya, **Tohoku University, Sendai, Japan**; **S. Shimizu**, **Kyoto University, Kyoto, Japan**; **W. Tuschmann**, **Karlsruhe Institute of Technology, Karlsruhe, Germany (Eds.)**

Facets of Contemporary Analysis, Geometry and Non-Euclidean Statistics
HeKKSaGOn Mathematics Group Meetings, Kyoto and Sendai, September 2023

- The fifteen articles in this proceedings volume consist of expanded and peer-reviewed versions of expert talks
- The articles represent an illuminating cross section of their agendas
- The research and survey articles on certain recent developments in analysis, geometry, statistics and stochastics

Contents
Chapter 1 What is a Groupoid?.– Chapter 2 A Surgical-Mechanical Imagery.– Chapter
3 The Material Groupoid.– Chapter 4 Double Groupoids.– Chapter 5 Binary Composites.– Chapter 6 Hypercubes and Skeletons.– Chapter 7 n-fold Groupoids.

Fields of interest
Mathematics; Algebra; Geometry; Analysis; Computational Mathematics and Numerical Analysis; Analysis; Geometry; Probability Theory;

Content level
Research

Product category
Proceedings

J. J. P. Veerman, **Portland State University, Portland, OR, USA**

Numbers from all Angles

- Covers the required content for a full year first course in number theory
- Copious exercises, examples, and illustrations boost mastery of concepts
- Efficient resource for anyone interested in learning about the main currents in number theory

Contents

Preface.– Part 1 Introduction to Number Theory.– 1. A Quick Tour of Number Theory.– 2. The Fundamental Theorem of Arithmetic.– 3. Linear Diophantine Equations.– 4. Number Theoretic Functions.– 5. Modular Arithmetic and Primes.– Part 2 Current in Number Theory: Algebraic, Probabilistic, and Analytic.– 6. Continued Fractions.– 7. Fields, Rings, and Ideals.– 8. Factorization in Rings.– 9. Ergodic […]

Fields of interest
Number Theory;

Content level
Upper undergraduate

Product category
Graduate/Advanced undergraduate textbook

K. Antosz, Rzeszów University of Technology, Rzeszów, Poland; **J. D. Carvalho**, University of Minho, Guimarães, Portugal; **J. C. Vieira De Sá**, Instituto Superior Engenharia do Porto, Porto, Portugal; **J. Trojanowska**, Poznań University of Technology, Poznań, Poland (Eds.)

Advances in Lean Manufacturing, Volume 2

LEAN in Action: Solutions for Operational Excellence

- Reports on AI and robotics enhancing lean transformation
- Covers strategies in lean management, sustainability issues and human factors
- Second volume of a 2-volume set

Fields of interest
Engineering Design; Civil Engineering; Machinery and Machine Elements; Industrial Automation; Industrial Management; Business Strategy and Leadership;

Content level
Research

Product category
Proceedings

H. da Hora, Instituto Federal Fluminense, Campos dos Goitacazes, Brazil; **A. L. Porter**, Search Technology, Inc., Norcross, GA, USA; **D. Chiavetta**, Search Technology, Inc, Norcross, USA; **Y. Zhang**, University of Technology Sydney, Sydney, NSW, Australia (Eds.)

Technology Mining

Text Analytics for Evidence-Based Foresight

- Showcases advancing frontiers concerning data, methods, and applications
- Examines how tech mining supports decision-making
- Includes contributions from a cross-disciplinary group of global experts

Contents
Data: Maximizing the Potential of Traditional and Novel Data.- Methods: Advancing and Integrating Methods.- Applications: Innovative Analyses Translating to Useful Intelligence.

Fields of interest
Industrial Management; Innovation and Technology Management; Data Analysis and Big Data; Industrial Organization; Data Engineering;

Content level
Research

Product category
Contributed volume

X. Feng, Tsinghua University, Beijing, China; **K. Zhou**, Nanyang Technological University, Singapore, Singapore (Eds.)

Computational and Experimental Simulations in Engineering

Proceedings of ICCES 2025, Volume 2

- Features papers from the Int'l Conference on Computational and Experimental Engineering and Sciences (ICCES 2025)
- Presents the state of the art in computational and experimental engineering
- Written by leading experts in the field

Contents
Numerical Study of Drag Reduction and Thermal Protection Performance in a Combined Opposing Jet-Aerospike Configuration.- Cross-View Image Geo-Localization Based on the Integration of Overhead-View Feature Synthesis and MixVPR.- Numerical Study on Flow Characteristics of Positive and Reverse Spiral V-Shaped Tools in Horizontal Well.- Intelligent Component Layout Design of Steel Frame-Braced […]

Fields of interest
Civil Engineering; Mechanical Engineering; Control, Robotics, Automation; Mechanical Engineering; Computational Science and Engineering; Structural Materials;

Content level
Research

Product category
Proceedings

X. Feng, Tsinghua University, Beijing, China; K. Zhou, Nanyang Technological University, Singapore, Singapore (Eds.)

Computational and Experimental Simulations in Engineering
Proceedings of ICCES 2025, Volume 3

- Features papers from the Int'l Conference on Computational and Experimental Engineering and Sciences (ICCES 2025)
- Presents the state of the art in computational and experimental engineering
- Written by leading experts in the field

Contents
Numerical Simulation Study on the Compression of Shield Tunnel Segment Sealing Gaskets.– A Machine Learning–Based System for Cement Slurry Design with Dynamic User–Driven Models.– Fatigue Crack Growth Behavior of a Nickel–Based Superalloy Precharged with Hydrogen.– The Influence of EMC Properties on the EMC/Si Delamination in a 2.5D CoWoS Package.– Biomechanical Signatures of Osteoporosis: [...]

Fields of interest
Civil Engineering; Mechanical Engineering; Control, Robotics, Automation; Mechanical Engineering; Computational Science and Engineering; Structural Materials;

Content level
Research

Product category
Proceedings

M. Hilgers, Daimler Truck, Stuttgart, Germany

The Driver´s Cab

- Clear and well–founded introduction to complex commercial vehicle technology
- Understanding modern commercial vehicles
- Understanding the function and structure of today's trucks

Contents
The cab concept.– Functions of the cab.– Cab technology.– Abbreviations and symbols.

Fields of interest
Vehicle Engineering; Automotive Engineering; Engine Technology;

Content level
Upper undergraduate

Product category
Graduate/Advanced undergraduate textbook

S. K. Bhargava, RMIT University, STEM College, Melbourne, VIC, Australia; M. Brandt, RMIT University, STEM College, Melbourne, VIC, Australia; R. Batterham, The University of Melbourne, Melbourne, VIC, Australia; S. Grocott, Newmont Corporation, Melbourne, VIC, Australia; S. Mehla, RMIT University, STEM College, Melbourne, VIC, Australia (Eds.)

Additive Manufacturing for Critical Minerals

- Elaborates materials and technological innovations to address risks to critical mineral supply chains
- Focuses on enhancing sustainability and process efficienciess in critical mineral production
- Gives a comprehensive overview of the scope and potential of additive manufacturing in critical mineral production

Contents
How Additive Manufacturing Enables Sustainable Production of Critical Minerals.– Additive Manufacturing for Sensors and Automation in the Critical Minerals Industry.– Additive Manufacturing for Sustainable Comminution and Mineral Concentration.– Additive Manufacturing in Extractive Metallurgy.– Emerging New Products from the Critical Mineral Industry.

Fields of interest
Materials Engineering; Chemical Engineering; Materials Science;

Content level
Research

Product category
Contributed volume

M. Kahl, Fisita, Bishops Stortford, UK (Ed.)

2025 EuroBrake Conference Technical Proceedings

- Collecting the latest proceedings of the world's leading event serving the brake and friction technical community
- Contains papers covering cutting-edge research and innovative technology
- Showcasing sustainability considerations including environmentally friendly materials and approaches

Contents
Chapter 1 – Development of 2-Piston MoC Brake System for Heavy Duty Pick-up Truck.– Chapter 2 – Development of Drum EPB Brake System for Passenger Vehicle.– Chapter 3 – Simulative potential analysis of brake-by-wire systems for integrated chassis control strategies and software-defined vehicles.– Chapter 4 – Design and preliminary experimental tests of an innovative test bench for zero [...]

Fields of interest
Industrial Management; Civil Engineering; Transportation Technology and Traffic Engineering; Mathematical and Computational Engineering Applications; Environmental Sciences; Automotive Engineering; Automotive Engineering; Automotive Industry; Tribology; Rail Vehicles; Aerospace Technology and Astronautics; Materials Science;

Content level
Research

Product category
Proceedings

Q. Li, China Railway Siyuan Survey and Design Group Co., Ltd., Wuhan, China; B. Zhu, China Railway Siyuan Survey and Design Group Co., Ltd., Wuhan, China; S. Zhang, China Railway Siyuan Survey and Design Group Co., Ltd., Wuhan, China

Continuously Welded Turnouts on High-Speed Railway Bridge
Technology and Application

- Establishes the finite element calculation model of turnout-bridge interaction
- Proposes the design method of welded turnout on bridge
- Carries out the service condition monitoring and dynamic performance trial

Contents
Introduction.– Overview of Technological Development of CWR Turnout on Bridge in China and Abroad.– Computational Models and Methods for CWR Turnout on Bridge.– Design Methodology of CWR Turnout on Bridge.– Research on Structural Design of Girder Turnout.– Dynamic Simulation
Analysis of Turnout on Bridge.– Status Monitoring of CWR Turnout on Bridge.– Field Test for Mechanical Properties of CWR [...]

Fields of interest
Building Law for Engineers and Architects; Transportation Technology and Traffic Engineering; Communications Engineering, Networks; Database Management System; Light-weight Construction, Steel and Timber Construction; Rail Vehicles; Foundation Engineering; Transportation Technology and Traffic Engineering;

Content level
Research

Product category
Monograph

K. Luo, Jiangsu University, Zhenjiang, China; Y. Su, Nantong University, Nantong, China; J. Lu, Jiangsu University, Zhenjiang, China

Melt Pool In-Situ Controlling of Laser Additive Manufacturing Technology

- Introduces the MPMed-LAM for the forming quality control and high-performance improvement of key components
- Develops a mathematical model of the heat accumulation suppression effect by in-situ control of the melt pool
- Elucidates the interlayer microstructure evolution and metallurgical defect closure mechanism

Contents
General introduction.– Theoretical basis of melt pool monitored assisted-laser additive manufacturing.–Forming quality of 316L SS coatings deposited assisted by melting pool in-situ control.– Effect of melt pool in-situ control on the wear properties of laser directed energy deposition of 316L SS coatings.– Effect of melt pool in-situ control on the tensile properties of laser directed energy [...]

Fields of interest
Thermal Process Engineering; Mechanical Process Engineering; Materials Engineering;

Content level
Research

Product category
Monograph

Y. Okumoto, Higashi-Hiroshima, Japan; T. Okada, Yokohama National University, Yokohama, Japan; Y. Takeda, Yokohama, Japan; M. Mano, Japan Ship Design Council, Yokohama, Japan; M. Toyoda, Japan Marine United Corporation, Yokohama, Japan

Design of Ship Hull Structures
A Practical Guide for Engineers

- Written from the practical design viewpoint
- Comprehensive guide through all parts of the general arrangement plan
- Condenses the experiences of three generations of ship designers

Contents
Fundamentals.– Philosophy of Hull Structure Design.– Structural Design Loads.– Strength Evaluation.– Hull Structure Design System.– Progress in Ship Design.– Materials.– Finite Element Method.– Theory.– Design of Beams.– Design of Girders.– Damage of Girders.– Design of Pillars.– Design of Plates.– Design of Stiffened Panel.– Torsion.– Deflection of Hull Structures.– Welding.– Fracture […]

Fields of interest
Marine Engineering; Engineering Design; Solid Mechanics;

Content level
Professional/practitioner

Product category
Professional book

A. Papanikolaou, National Technical University of Athens, Zografou, Greece

Ship Design
Methodologies of Preliminary Design

- Presents a well-structured introduction to the synthetic discipline of ship design
- Explores the foundations of ship design, focusing on methodologies for the preliminary design of ships
- Includes new holistic approaches and optimization in ship design and the impact of new international regulations

Contents
1 General on Ship Design.– 2 Selection of Main Dimensions and Calculation of Basic Ship Design Values.– 3 Ship's Hull Form.– 4 Naval Architectural Drawings and Plans.– 5 Machinery Installation, Propulsion and Steering Devices.– 6 Estimation of Building Cost.– Appendix A: Diagrams of Regression Analysis of Basic Design Values for Merchant Ships.– Appendix B: Systematic Hull Form – Model […]

Fields of interest
Marine Engineering; Engineering Design; Transportation Technology and Traffic Engineering; Engine Technology; Offshore Engineering;

Content level
Upper undergraduate

Product category
Graduate/Advanced undergraduate textbook

C. Peng, Shanghai University, Shanghai, China; H. Wang, Northeastern University, Shenyang, China; Y. Yang, Shanghai University, Shanghai, China; Y. Zhang, China University of Mining and Technology, Xuzhou, China

Modeling and Resilience Recovery for Disrupted Supply Chain

- Designs knowledge graph framework for supply chain
- Considers product design collaboration with control-theoretic methods
- Combines supply chain risk measurement and control to help supply chain recovery

Contents
Introduction.– A knowledge graph driven
risk management framework.– Product change modeling with multi objective optimization.– Petri net based modeling on operational and structural dynamics.– Decision modeling with risk cascading propagation effects.– A prediction based recovery strategy under demand dynamics.– Recovery strategy incorporated into product changes and lifecycles.– Recovery […]

Fields of interest
Industrial Management; Control and Systems Theory; Optimization;

Content level
Research

Product category
Monograph

A. Salah, University of Stuttgart, Stuttgart, Germany

Model–Based Fault Diagnosis and Fault–Tolerant Control

An Approach for Automotive Electric Machines

- Fault detection and identification utilizing digital twin and machine learning
- Leveraging the functionality of vehicle diagnostics and maintenance
- Fault–tolerant control for automotive electric machines

Contents
Derivation of an equivalent mathematical model for the automotive electric power generation and storage system.– Providing a study on the effects of common faults on the performance of automotive electric machines.– Development of a concept for fault detection and identification for automotive electric machines.– Development of a concept for active fault–tolerant control based on model [...]

Fields of interest
Automotive Engineering; Mechanical Power Engineering; Automotive Engineering;

Content level
Research

Product category
Ph.D. Thesis

M. Xu, North China University of Technology, Beijing, China; X. Luo, Beijing Institute of Petrochemical Techn, Beijing, China; C. Zhang, North China University of Technology, Beijing, China; W. Li, North China University of Technology, Beijing, China

Design and Case of Intelligent Electromechanical Equipment System

- Is rich in content and suitable for a wide range of readers
- Contains actual design cases
- Focuses on intelligent equipment system including principles and engineering practice

Contents
Overview of Intelligent Manufacturing Equipment.– Intelligent manufacturing equipment mechanical body design.– Design of Intelligent Manufacturing Equipment Drive System.– Design of perception system for Intelligent Manufacturing equipment.– Intelligent manufacturing equipment control system design.– Design of Intelligent IoT Electromechanical Equipment System.– Industrial Equipment Systems [...]

Fields of interest
Control, Robotics, Automation; Industrial and Production Engineering; Cyber–Physical Systems; Industrial Automation; Electronics and Microelectronics, Instrumentation; Internet of Things; Machines, Tools, Processes; Control and Systems Theory;

Content level
Professional/practitioner

Product category
Professional book

Q. Xu, University of Macau, Faculty of, Taipa, Macao

Piezoelectric–Driven Flexible Robotic Microgrippers

- Provides new mechanical designs of microgrippers with simulation and experimental verifications
- Presents new motion control of the microgripping systems for precision micromanipulation
- Contains theoretical modeling, prototype fabrication, and extensive experimental results

Contents
Recent advances in piezoelectric driven compliant devices.– Recent development of piezoelectric actuated compliant microgrippers.– Design of a Compliant Gripper Based on the Scott Russell Mechanism.– Design Analysis and Testing of a Large Range Compliant Microgripper.– Design and Testing of a New Piezoelectric Actuated Symmetric Compliant Microgripper.

Fields of interest
Mechatronics; Microsystems and MEMS; Robotic Engineering;

Content level
Research

Product category
Monograph

L. Yu, **Southwest Jiaotong University, Chengdu, China; S. Gao**, **Southwest Jiaotong University, Chengdu, China; Z. Liu**, **Southwest Jiaotong University, Chengdu, China**

Prognostic and Health Management of Overhead Contact Lines for High-Speed Railway

- Introduces high-speed railway OCS reliability, availability, maintainability and safety indicators
- Focuses on the prediction model of OCS faults under lightning strike, high wind and haze conditions
- Highlights result of single-pantograph catenary system and double-pantograph catenary system dynamics models

Contents

Chapter 1 Overview of High-speed Railway OCS.- Chapter 2 Reliability of High-speed Railway OCS and Components.- Chapter 3 Model and Analysis of Single-pantograph-catenary System.- Chapter 4 Model and Analysis of Double-pantograph-catenary System.- Chapter 5 Prediction of Exogenous Faults in High-speed OCS.- Chapter 6 Endogenous Fault Prediction and Risk Prediction in High-Speed OCS.- Chapter 7 [...]

Fields of interest
Rail Vehicles; Energy Grids and Networks;

Content level
Research

Product category
Monograph

Springer

Due January 2026

E. J. Zak, **Redmond, WA, USA**

Popular Optimization
Making Complex Choices Simple

- Pioneers the field of popular optimization
- Presents a variety of intriguing optimization problems and explores non-traditional methods for solving them
- Offers a detailed analysis of solutions with graphical illustrations of the optimal solutions benefits

Contents

Geometry.– Logistics.– Area.– Volume.– Packing and Covering.– Algebra.– Fake coins.– Chess.

Fields of interest

Business Strategy and Leadership; Operations Management; Human Resource Management; Innovation and Technology Management; Marketing; IT in Business; Operations Research and Decision Theory; Optimization; Mathematics in Popular Science; Mathematical Applications in Computer Science;

Content level

Professional/practitioner

Product category

Popular science

R. K. Agarwal, Washington University in St. Louis, Saint Louis, MO, USA; Y. Shao, Nanjing Normal University, Nanjing, China

Theory and Application of Discrete Element Method to Simulation of Multiphase Flows

- Provides a complete roadmap from core theory to high-performance applications for complex multiphase flow simulations
- Delivers insights on a range of sectors, featuring dedicated applications in energy, manufacturing and heavy industry
- Future-proofs computational modeling skills by offering practical guidance on bridging simulation with AI

Contents

Nomenclature.- Introduction.- Theoretical Framework.- Contact Mechanics.- Particle Shapes and Contact Parameters.- Computational Fluid Dynamics (CFD).- Fluid-Particle Coupling
Schemes (CFD-DEM).- Application of DEM to Fluidized Bed.- Application of DEM to Dense Granular System.- Application of DEM to Aerodynamic Particle Separation of Mixture Particles.- Application of DEM to Powder Transport […]

Fields of interest

Computational Science and Engineering; Chemical Engineering; Engineering Fluid Dynamics; Chemical Process Engineering;

Content level

Research

Product category

Monograph

M. Agop, Gheorghe Asachi Technical University of Iasi, Iași, Romania; S. A. Irimiciuc, National Institute for Laser Plasma and Radiation Physics, Bucharest, Romania

Multifractal Theory of Motion
From Small to Large Scales

- Focuses on both fundamental and applied research in mineralogy and materials science
- Presents the state of the art in advanced topics in crystal growth technologies
- Offers various applications of crystal polymorphism and microstructure to advanced electronics and photonics

Contents

From Small to Large Scales Through Dynamics Defined by Kepler Type Problems.- From Special to General Relativity Through Complex Potentials.- Geometrical and Physical Forms.- Motion on Spatial Multifractal Manifolds.- Motions on the Space-time Multifractal Manifolds.- Some Applications on Spatial Multifractal Manifolds.- Some Applications on Space-time Multifractal Manifolds.

Fields of interest

Complex Systems; Astrophysics; Theoretical, Mathematical and Computational Physics; Classical and Quantum Gravity;

Content level

Research

Product category

Monograph

J. E. Beckman, Inst of Astrophysics of Canary, La Laguna, Spain

Galaxies in an Accelerating Universe

- Reveals to the reader the beauty of galactic and extragalactic astronomy
- Explains to the reader what galaxies are, their structure, and how they map the large scale structure of the Universe
- Written by a professional astronomer with extensive experience in science outreach and communication

Contents

Introduction.- Our Galaxy–the Milky Way.- Nearby Galaxies and Clusters.- Galaxy clusters in general and the structure of the Universe.- The Evolution of Galaxies.- Multi-wavelength Observations of Galaxies.- New and future observations of Galaxies.- Technical Appendices.

Fields of interest

Astronomy, Cosmology and Space Sciences; Planetary Science; Physical Sciences; Mathematics and Computing; Technology and Engineering; Humanities and Social Sciences; Astronomy, Cosmology and Space Sciences; Astronomy, Cosmology and Space Sciences;

Content level

Popular/general

Product category

Popular science

D. J. Biswas, **Bhabha Atomic Research Centre, Mumbai, India**

A Beginner's Guide to Lasers and Their Applications, Part 2

The Laser's Impact on Science and Humanity

- Favors qualitative explanations over advanced mathematics without sacrificing scientific accuracy
- Accessible to anyone with a working knowledge of high-school physics
- Explores both Nobel Prize-winning advances in fundamental science and everyday technology that affects our daily lives, all enabled by the laser

Contents

Chapter 1: Introduction.– Part 1: Impact of Lasers On Science.– Chapter 2: Lasers and the Physics Nobel Prize: A Journey Through Breakthroughs.– Chapter 3: Revealing The Invisible: Unlocking Matter With Laser Spectroscopy.– Chapter 4: Some Breakthroughs In Modern Science That Were Enabled By Lasers.– Chapter 5: Changing Light's Colors: The Magic of Nonlinear Optics.– Chapter 6: Beaming Into […]

Fields of interest

Mathematical Methods in Physics; Classical Mechanics; Classical and Quantum Gravity; Quantum Physics; Astrophysics; Applications of Mathematics; Laser; Microwaves, RF Engineering and Optical Communications; Spectroscopy; Optical Materials; Biophysical Methods; Biomedical Devices and Instrumentation;

Content level

Upper undergraduate

Product category

Undergraduate textbook

V. Khanna, **Chandigarh University, Mohali, India (Ed.)**

Carbon-Based Nanocomposites for Sustainable Applications, Volume III

Biomedicine, Electronics, and Catalysis

- Covers carbon nanocomposites for drug delivery, cancer care, and tissue engineering
- Highlights roles in sensors, shielding, photonics, and smart electronic materials
- Explores catalytic uses in energy, conversion, and environmental applications

Contents

1 Carbon Based Nanocomposites for Drug Delivery.– 2 Applications of Carbon-Based Nanomaterials for Cancer Therapy.– 3 Carbon Nanocomposites for Drug Delivery and Tissue Regeneration Breakthroughs.– 4 Carbon Based Nanocomposites: Advanced Materials for Tissue Engineering Applications.– 5 Carbon Based Nanocomposites for Sensing and Biosensing.– 6 Carbon-Based Nanocomposites for Electromagnetic […]

Fields of interest

Nanotechnology; Optical Materials; Nanophysics; Microsystems and MEMS; Nanochemistry; Quantum Optics; Nanophysics; Carbon Materials; Two-dimensional Materials; Sustainability; Nanobiotechnology; Materials for Energy and Catalysis;

Content level

Research

Product category

Contributed volume

S. Korobeynikov, **Lavrentyev Institute of Hydrodynamics, Novosibirsk, Russia**; **A. Larichkin**, **Lavrentyev Institute of Hydrodynamics, Novosibirsk, Russia**; **P. Neff**, **University of Duisburg-Essen, Essen, Germany**

Two Types of Compressible Isotropic Neo-Hookean Material Models

- Presents a comparative review of the performance of two types of compressible isotropic neo-Hookean material models
- Provides recommendations for choosing volumetric functions
- Describes methods for testing hyperelastic models for consistency with the postulates of continuum mechanics

Contents

Introduction.– Preliminaries.– Constitutive relations for neo-Hookean isotropic hyperelastic material models.–

Some volumetric functions and their properties.– Constitutive inequalities for neo-Hookean materials.– Testing neo-Hookean materials in homogeneous deformations.– Concluding remarks.

Fields of interest

Energy Policy, Economics and Management; Engineering Fluid Dynamics; Engineering Thermodynamics, Heat and Mass Transfer; Industrial Chemistry; Engineering Fluid Dynamics; Engineering Thermodynamics, Heat and Mass Transfer; Field Theory and Polynomials; Classical and Continuum Physics; Classical Mechanics; Continuum Mechanics; Engineering Mechanics;

Content level

Research

Product category

Brief

T. L. Lacmann, Institute of Physics, École polytechnique fédérale de Lausanne (EPFL), Lausanne, Switzerland

Origin, Symmetry and Elastic Tuneability of Charge Density Waves in the Superconductor BaNi$_2$(As$_{1-}$☐P☐)$_2$

- Nominated as an outstanding thesis by the Karlsruhe Institute of Technology
- Presents groundbreaking findings of superconductivity and CDWs in doped BaNi$_2$As$_2$
- Sheds light on the unconventional nature of CDWs, their symmetry, and the influence of pressure

Contents

Introduction.– Introduction to BaNi2As2.– Physical basics.– Origin of the charge density waves.– Symmetry of the charge density waves.– Pressure tuning of the charge density waves.– Conclusion and outlook.

Fields of interest

Nanotechnology; Physical Chemistry; Elementary Particles, Quantum Field Theory; Surface and Interface and Thin Film; Spectroscopy; Optical Materials; Superconductivity; Quantum Fluids and Solids; Magnetism; Low Temperature Physics;

Content level

Research

Product category

Monograph

F. Lederer, Universität Jena, Jena, Germany; S. Skupin, Université Lyon 1, CNRS, Lyon, France

Lectures on Theoretical Optics

- Represents a self-contained presentation of theoretical optics
- Provides sample programs (Matlab m-files) for hands-on numerical experiments
- Gives an outlook on more advanced topics of current research interest

Contents

Optical Fields in Dispersive Media.– Normal Modes in Linear, Homogeneous, and Dispersive Media.– Light Propagation in Homogeneous Media.– Optical Fields in Stratified Media.– Optical Fields in Waveguides.– Optical Fields in Nonlinear Media.– Mathematical Tools.

Fields of interest

Quantum Physics; Physical Chemistry; Classical Electrodynamics; Mathematical Methods in Physics; Complex Systems; Optical Materials; Classical Electrodynamics; Quantum Optics; Microwaves, RF Engineering and Optical Communications; Theoretical, Mathematical and Computational Physics; Laser;

Content level

Graduate

Product category

Graduate/Advanced undergraduate textbook

L. Ledwani, Manipal University Jaipur, Jaipur, India; S. Srivastava, Manipal University Jaipur, Jaipur, India (Eds.)

Experimental and Computational Advances in Materials

- Highlights recent advances in the field of materials and related computational techniques
- Discusses methods to explore materials development and the properties of novel and existing materials
- Includes computational techniques developed by mathematical & ML models to design various devices and their applications

Contents

Novel Molecules and Materials for drug discovery.– Emerging 2D and 3D materials for nano electronics nano devices semiconductors.– Composite Materials.– Multifunctional nanomaterials.– Sensors and actuators.– Energy storage materials.

Fields of interest

Characterization and Analytical Technique; Metals and Alloys; Ceramics; Nanotechnology; Microsystems and MEMS; Condensed Matter Physics; Machine Learning; Computer Modelling; Composites; Computational Physics and Simulations; Materials for Energy and Catalysis;

Content level

Research

Product category

Contributed volume

W. Lerch, Fraunhofer Institute for Electronic Microsystems and Solid–State Technologies EMFT, Munich, Germany; M. Current, San Jose, CA, USA (Eds.)

Ion Implantation and Annealing Applications, Science and Technology
Contributions from IIT School, Edition 2024

- Expert insights from the 2024 IIT School lectures offering cutting–edge knowledge in ion implantation
- Comprehensive coverage of ion implantation, CMOS, power devices, and emerging materials like SiC and GaN
- Practical applications and the latest advancements in ion beam technology for both academia and industry

Contents

Chapter 1: History of Integrated Circuits and Ion Implantation.– Chapter 2: Common Applications of Ion Implantation
in CMOS Process Technology.– Chapter 3: Commercial Ion Implantation Systems.– Chapter 4: Ion Sources.– Chapter 5: Radiation Damage of
Silicon.– Chapter 6: Annealing of Radiation Damage in Silicon and
Silicon.–Chapter 7: New Advancement in Ion Implantation Annealing for Si, Ge, [...]

Fields of interest
Laser; Technology and Engineering; Electronic Devices; Optical Materials; Spectroscopy; Semiconductors;

Content level
Research

Product category
Contributed volume

D. L. R. Marini, Università degli Studi di Milano, Milano, Italy

The Mandate of Heaven
Astronomy in Ancient China

- Explore thousands of years of evolution in Chinese astronomical knowledge and its impact on culture
- Show how Chinese astronomy intertwines with the Taoist and Confucian vision of the cosmos
- Combine elements of the history of science, Oriental studies, philosophy, and culture, offering a holistic perspective

Contents

INTRODUCTION.– A 4000–YEAR EMPIRE: KINGDOMS AND DYNASTIES.– PHILOSOPHICAL AND RELIGIOUS THOUGHT.– MATHEMATICS.– ASTRONOMY.– ASTRONOMICAL INSTRUMENTS.– ASTRONOMY IN THE WEST AND IN CHINA.– CONCLUSIONS.– APPENDICES: A. ASTRONOMICAL PRINCIPLES AND TABLES.– B. LEXICAL NOTES AND TABLESC.– IMAGE CREDITS.– BIBLIOGRAPHY.– NAME INDEX.– GENERAL INDEX.

Fields of interest
Astronomy, Cosmology and Space Sciences; Planetary Science; Physical Sciences; Mathematics and Computing; Technology and Engineering; Humanities and Social Sciences; History of Physics and Astronomy; History of Science; History of China; History of Technology;

Content level
Popular/general

Product category
Popular science

A. May, Crewkerne, UK

The Antigravity Enigma
Fiction, Fringe Science, and Modern Physics

- Takes an unbiased approach, neither dismissing the idea of antigravity nor promoting a single theory
- Grounds the discussion in established science and evidence, stressing that new ideas must align with these
- Notes that imaginative visions of future technology can be thought–provoking even if impractical

Contents

Gravity and Antigravity.– Antigravity in Science Fiction.– Speculations on Antigravity in Mainstream Science.– Fringe
Theories of Antigravity.– Antigravity and UFOs.– The Future of Antigravity.

Fields of interest
Astronomy, Cosmology and Space Sciences; Space Physics; Planetary Science; Physics and Astronomy; Aerospace Technology and Astronautics; Biotechnology; Newtonian Physics; General Relativity; Aerospace Technology and Astronautics;

Content level
Popular/general

Product category
Popular science

F. Méot, Brookhaven National Laboratory, Upton, NY, USA

Understanding the Physics of Particle Accelerators

A Guide to Beam Dynamics Simulations Using ZGOUBI

- This book is open access, which means that you have free and unlimited access
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- Introduces readers to numerical methods for integrating the Lorentz force equation

Contents

Introduction.– Electrostatic Accelerator.– Linear Accelerator.– Classical Cyclotron.– Relativist Cyclotron.– Microtron.– Betatron.– Synchrocyclotron.– Weak Focusing Synchrotron.– Strong Focusing Synchrotron.– FFAG, Scaling.– Optical Elements.– Ancillary Tools.– Solutions.– Glossary.

Fields of interest

Accelerator Physics; Measurement Science and Instrumentation; Classical Electrodynamics; Electrical and Electronic Engineering; Accelerator Physics; Theoretical, Mathematical and Computational Physics; Radiology; Measurement Science and Instrumentation; Biophysics;

Content level
Research

Product category
Monograph

O. Movilla Miangolarra, University of California, Irvine, Irvine, CA, USA

Stochastic Thermodynamic Treatment of Thermal Anisotropy

- Nominated as an outstanding PhD Thesis by the University of California, Irvine
- Begins with an accessible introduction to optimal mass transport
- Presents a geometric framework to quantify the performance of thermodynamic engines under anisotropic fluctuations

Contents

Chapter 1: Introduction to Optimal Mass Transport.– Chapter 2: Introduction to Stochastic Thermodynamics.– Chapter 3: Stochastic thermodynamic systems subject to anisotropic fluctuations.– Chapter 4: Energy harvesting from anisotropic temperature fields.– Chapter 5: Minimal entropy production in anisotropic temperature fields.– Chapter 6: Application: thermodynamic engine powered by [...]

Fields of interest

Nanotechnology; Physical Chemistry; Elementary Particles, Quantum Field Theory; Surface and Interface and Thin Film; Spectroscopy; Optical Materials; Thermodynamics; Engineering Thermodynamics, Heat and Mass Transfer; Mathematical Physics; Stochastic Processes;

Content level
Research

Product category
Ph.D. Thesis

K. Pal, Chandigarh University, Mohali, India (Ed.)

Nanotechtonics
Design, Synthesis, and Applications

- Highlights unique trends of novel nanomaterials design, their architecture, processing and characterization
- Presents integration of nanotechnologies into diagnostic and therapeutic applications and commercialization
- Includes future perspectives of nanotechnology miniaturization that allows association and design of nanotools

Contents

Overview and Implications of Nanotechtonics.– Nanotechtonic enabled Biomaterials Applications.– Green nanotechtonics driven economic and technological revolution towards biochemical sciences.– Multi functionalization of nanotechtonics and potential applications.– Bio-nanotronics for sensor applications.– Covergence of nanotechtonics and semiconductors.– Nanotechtonics for deformable electronic [...]

Fields of interest

Characterization and Analytical Technique; Metals and Alloys; Ceramics; Nanotechnology; Microsystems and MEMS; Nanophysics; Nanochemistry; Nanoengineering; Polymers; Biomaterials;

Content level
Research

Product category
Contributed volume

C. J. Papachristou, Hellenic Naval Academy, Piraeus, Greece

Aspects of Relativity in Flat Spacetime

- Presents an emphasis to the group-theoretical aspects of relativity
- Designs for students and researchers with a basic background in SR and electrodynamics
- Explores the essential role of symmetry in physics, with a focus on its dynamic presence in special relativity

Contents

OVERVIEW OF THE BASIC IDEAS.– THE LORENTZ GROUP.– RELATIVISTIC TRANSFORMATIONS.– COVARIANCE IN ELECTRODYNAMICS.– SPECIAL TOPICS.

Fields of interest

Philosophical Foundations of Physics and Astronomy; Quantum Physics; Laser; Complex Systems; Classical and Quantum Gravity; Cosmology; General Relativity; Quantum Electrodynamics, Relativistic and Many-body Calculations; Mathematical Physics;

Content level

Upper undergraduate

Product category

Brief

G. Ricciardi, Università di Napoli Federico II, Caserta, Italy

Introduction to Neutrino and Particle Physics

From Quantum Field Theory to the Standard Model and Beyond

- Introduces fundamental neutrino and particle physics and their quantum field theory foundations, clearly and concisely
- Provides the essential background for theorists and experimentalists to conduct advanced research
- Discusses recent progress within a didactic context

Contents

1 Historical survey.– 2 Global symmetries.– 3 Gauge theories.– 4 The Standard Model.– 5 The mass of neutrinos.– 6 The mixing of neutrinos.– 7 Natural neutrino sources.– 8 Oscillations at reactors and accelerators.– 9 Neutrino cross sections.– 10 Theoretical
and experimental prospects.– References.

Fields of interest

Elementary Particles, Quantum Field Theory; Astrophysics; Classical and Quantum Gravity; Complex Systems; Atomic and Molecular Structure and Properties; Classical and Continuum Physics; Elementary Particles, Quantum Field Theory; Astrophysics; Nuclear and Particle Physics;

Content level

Graduate

Product category

Graduate/Advanced undergraduate textbook

P. Sakthivel, Manipal University Jaipur, Jaipur, India (Ed.)

Proceedings of the National Symposium on Recent Advances in Electronic, Optical and Magnetic Materials

RAEOM'25, 6–7 February, Coimbatore, India

- Disseminates current research and advances within numerous materials science subfields
- Provides a broad platform for readers to learn about progress in materials science internationally
- Presents a diversity of peer-reviewed papers

Contents

1. Investigation of dielectric behavior and thermal stability of PMMA-PVDF blend-based polymer electrolyte for flexible battery applications.– 2. Experimental Study on Enhancing Supercapacitor Performance by using Graphene-Polypyrrole-Silver Nanoparticles Composites.– 3. Design, Optimization, and Performance Enhancement of a 24 GHz Wearable Microstrip Patch Antenna for Body-Centric [...]

Fields of interest

Condensed Matter Physics; Physical Chemistry; Laser; Complex Systems; Engineering Fluid Dynamics; Optical Materials; Magnetic Materials; Electronic Materials; Spintronics; Nanotechnology; Computational Materials Science;

Content level

Research

Product category

Proceedings

Y. Sue, High Energy Accelerator Research Organization, Tsukuba, Japan

Precision Measurement of the $\Box\Box\Box\Box + \Box\Box\Box\Box \rightarrow \pi^+ \pi^- \pi^0$ Cross Section Using Initial-State Radiation

- Nominated as an outstanding Ph.D. thesis by Nagoya University
- Demonstrates efficiency correction techniques for ISR-based precision measurements
- Serves as a benchmark analysis framework for future hadronic cross-sectional studies at Belle II

Contents

Introduction.– Theoretical Prediction of Muon Anomalous Magnetic Moment and Hadronic Annihilation Cross Section Measurements in $\Box + \Box$– Collisions.– Experimental Apparatus and Dataset.– Event Selection and Signal Extraction.– Background Estimation.– Signal Efficiency.– Unfolding.– Result and Discussion.– Conclusion.

Fields of interest

Nanotechnology; Physical Chemistry; Elementary Particles, Quantum Field Theory; Surface and Interface and Thin Film; Spectroscopy; Optical Materials; Particle Physics; Accelerator Physics;

Content level

Research

Product category

Monograph

M. Usman, CSIRO and The University of Melbourne, Melbourne, VIC, Australia (Ed.)

Quantum Robustness in Artificial Intelligence
Principles and Applications

- Provides a comprehensive overview of an emerging and rapidly developing research area
- Covers both fundamental aspects and its applications
- Accessible to audiences in both quantum computing and AI who are looking to branch out into quantum machine learning

Contents

Fundamentals of Quantum Machine Learning and Robustness.– Adversarial Robustness in Quantum Machine Learning.– Adversarial Attack Transferability of Quantum and Classical Classifiers.– Fundamental questions on robustness and accuracy for classical and quantum learning algorithms.– Adversarial Threats in Quantum Machine Learning: A Survey of Attacks and Defenses.

Fields of interest

Quantum Physics; Quantum Computing; Spintronics; Theoretical, Mathematical and Computational Physics; Quantum Optics; Quantum Computing; Machine Learning; Quantum Information; Models of Computation;

Content level

Research

Product category

Contributed volume

K. A. Yasir, Zhejiang Normal University, Jinhua, China; W. Liu, Institute of Physics, Chinese Academy of Sciences, Beijing, China

Rydberg Atoms in Cavity

- Offers a comprehensive description of Rydberg atoms coupled to optical and microwave cavities
- Highlights cutting-edge cavity-enhanced phenomena enabling quantum gates, entanglement, and photon control
- Bridges theory and experiments on cavity–Rydberg systems, showcasing their role in next-generation quantum tech

Contents

1. Introduction.– 2. Rydberg atoms and their interactions.– 3. Cavity–Rydberg interaction,– 4. Nonlinear optics with blockade and polaritons.– 5. Cavity mediated Rydberg Quantum Phase Transitions.

Fields of interest

Condensed Matter Physics; Optical Materials; Physical Chemistry; Quantum Optics; Quantum Electrodynamics, Relativistic and Many-body Calculations; Nonlinear Optics; Quantum Information;

Content level

Research

Product category

Monograph

Y. Demchenko, **Universiteit van Amsterdam, Amsterdam, The Netherlands**; J. J. Cuadrado-Gallego, **University of Alcalá, Alcalá de Henares, Spain**; O. Chertov, **National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute," Kyiv, Ukraine**; M. Aleksandrova, **Université du Luxembourg, Esch-sur-Alzette, Luxembourg**

Big Data Infrastructure Technologies for Data Analytics

Scaling Data Science Applications for Continuous Growth

- Explains how modern cloud-based platforms and tools can be integrated to form a coherent solution with business benefits
- Reveals the major Big Data infrastructure technologies that data science and analytics developers need to know
- Useful for students to practitioners for competent evaluation and implementation of Big Data projects in organizations

Contents

Chapter 1 Introduction. – Chapter 2 Big Data Technologies Foundation: Definition, Reference Architecture, use cases. – Chapter 3 Cloud Computing Foundation: Definition, Reference Architecture, Foundational Technologies, Use cases. – Chapter 4 Cloud and Big Data Service Providers and Platforms. [...]

Fields of interest

Data Science; Data Analysis and Big Data; Software Engineering; Artificial Intelligence; Computer and Information Systems Applications;

Content level

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Professional book

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M. Grieves, **Digital Twin Institute, Cocoa Beach, FL, USA**; E. Y. Hua, **The MITRE Corporation, McLean, VA, USA (Eds.)**

Digital Twins, Simulation, and the Metaverse

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Fields of interest

Computer Science; Computer Modelling; Computational Physics and Simulations; Mathematical Modeling and Industrial Mathematics; Internet of Things;

Content level

Professional/practitioner

Product category

Professional book

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M. Mahdhi, **Darmstadt, Germany**

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Contents

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Fields of interest

Microsoft; Web Development;

Content level

Professional/practitioner

Product category

Professional book

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M. Maleki, Naas, Ireland

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Fields of interest
Programming Language; Artificial Intelligence; Programming Techniques;

Content level
Popular/general

Product category
Professional book

B. Tyers, Bury House, Worthing, UK

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Contents

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Fields of interest
Game Development;

Content level
Professional/practitioner

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Professional book

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