

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Supplementary Laser Cutter File

File Name: Supplementary Movie 1

Description: MUTOIS for Adaptive Structures

File Name: Supplementary Movie 2

Description: Demonstration of Locking Devices

File Name: Supplementary Movie 3

Description: Reusable MUTOIS Bridge

File Name: Supplementary Movie 4

Description: Repurpose MUTOIS Bridge after Damage

File Name: Supplementary Movie 5

Description: Navigate Multi-Path Folding

File Name: Supplementary Movie 6

Description: MUTOIS Bridge Comparison

File Name: Supplementary Movie 7

Description: MUTOIS Bridge Loading Experiment

File Name: Supplementary Movie 8

Description: MUTOIS Column Loading Experiment

File Name: Supplementary Code 1

Description: Simulation for MUTOIS