

Master Thesis

Smart Structures

4D printing of lightweight structures inspired by ancient geometric motifs

4D printing uses 3D printers to create live three dimensional objects without wires or circuits that could be applicable in the field of aerospace, automotive, biomedical, and textile engineering. Scientists by research on 4D printing structures try to achieve a more complex shape after stimulation. Here, inspired by ancient geometric motifs, we going to introduce a class of switchable architected materials exhibiting complex shape. A discussion on a rich set of thermo-mechanical phenomena follows to lightweight structures on the main design principles governing 4D printing.

Your tasks

- Literature research for smart materials, shape memory polymer, and 4D printing
- Design and Manufacturing samples by 4D printing method
- Conducting thermo-mechanical shape memory tests
- Evaluation and processing of tests data

Your skills

- Interested in the field of smart materials
- Interested in the field of additive manufacturing (AM)

Your benefits

- Insights into the field of smart materials and AM.
- Potential publication opportunities

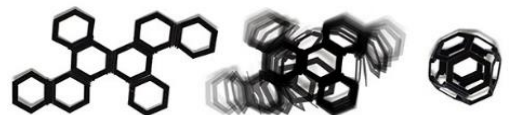
Advertised

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Beginning

As soon as possible

[MIT Self-Assembly Lab](#)



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