



Physics of Morphing Matter

December 12-14, 2022



In recent years morphing matter has emerged as a new and dynamic field that connects researchers across disciplines and time to create responsive and adaptive material systems. Such systems share a common core: they continuously change their shape when interacting with their environment in a way that is usually the handywork of biology, e.g., as seen in plants and other growing organisms. These malleable and programmable materials offer unprecedented opportunities, their compliance makes them suitable for interacting with humans in the form of soft robots while their scalability from micro- to macroscopic sizes ensures their functional range from biomedical to architectural applications. Yet, these materials come along with a series of fundamental challenges, ranging from their assembly to their design and programming. As such, an explosion of work is ongoing across rapidly evolving fields such as additive manufacturing, but also reviving established disciplines such as theoretical mechanics and blurring the lines between inert and living matter with biomimetic and biohybrid systems. The goal of PCTS Program on Morphing Matter is to help generate a unified framework by which we can understand and control these important materials.

There will be a poster session during the workshop. Details are on line.

Registration is free but required. [Click HERE](#)



Organizers: P.-T. Brun; Emily Davidson; Andrej Kosmrlj; Glaucio Paulino

Speakers include:

Kaushik Bhattacharya * Katia Bertoldi * Tian Chen * Evgueni Filipov * Yonggang Huang * L. Mahadevan * Alshakim Nelson * Vicky Nguyen * Kit Parker * Orit Peleg * Zeb Rocklin * Emily Sanders * Chris Santagelo * Martin Van Hecke * Kon-Well Wang * Shu Yang * Lining Yao

Sponsored in part by: *Chemical and Biological Engineers (CBE) * Mechanical and Aerospace Engineering (MAE) * Princeton Institute of Materials (PRISM) * School of Engineering and Applied Science (SEAS)

More information is on the PCTS website at pcts.princeton.edu