



TANGIBLE INTERFACES

CLASS 03 - PROGRAMMABLE MATERIALS

SEPTEMBER 29

Please sit in your groups for todays class!

Project 1 will be handed out today

- **Lecture: Programmable Materials** (by Jifei Ou)
This lecture will explore the work of Jifei Ou and Lining Yao in programmable materials including pneumatic shape change, jamming and sensing of shape change.
- **Workshop: Pneuduino** (by Jifei Ou + Lining)
In this workshop, we will show you how to use Pneuduino (based on the arduino platform) to create pneumatic shape change for your first project.
- Any remaining time will be spent sharing ideas in groups

Read before next class (6th Oct):

- **A Resilient, Untethered Soft Robot** by Michael T. Tolley, Robert F. Shepherd, Bobak Mosadegh, Kevin C. Galloway, Michael Wehner, Michael Karpelson, Robert J. Wood, and George M. Whitesides - *SOFT ROBOTICS 2014*
- **Soft robotic glove for combined assistance and at-home rehabilitation** by Panagiotis Polygerinos, Zheng Wang, Kevin C. Galloway, Robert J. Wood, Conor J. Walsh - *ROBOTICS AND AUTONOMOUS SYSTEMS 2015*

SEE DROPBOX LINK FOR PAPERS:

https://www.dropbox.com/sh/l3yota2phdqysdv/AAC_Vzh8UxXza3sQ4DBOQk7ua?dl=0

Assignment:

- Work with your assigned group on **Project 1**
- Create a short **5 minute presentation** of one or two ideas you have for project 1 for feedback from the class, TA's and Hiroshi.