LINING YAO

liningy@cs.cmu.edu | cell: 8572539354
http://morphingmatter.cs.cmu.edu/ (CMU Morphing Matter Lab)

EDUCATION

2012 - 2017
Massachusetts Institute of Technology, MIT Media Lab, Cambridge, MA, USA - PhD in Media Arts and Science
2010 - 2012
Massachusetts Institute of Technology, MIT Media Lab Cambridge, MA, USA - Master in Media Arts and Science
2007 - 2010
Zhejiang University, Computer Science Department, Zhejiang, China - Master in Digital Arts and Design
2005 - 2007
Zhejiang University, Computer Science Department, Zhejiang, China - Bachelor of Engineering in Industrial Design
2003 - 2005
Zhejiang University, Medical School, Zhejiang, China - Dropped out from the Medical School

WORK EXPERIENCE

2017 JUL - NOW
Assistant Professor, School of Computer Science, Human Computer Interaction Institute, CMU
_Founding director of Morphing Matter Lab
2017 FEB - 2017 JUNE
Researcher | Autodesk Pier 9, San Francisco, CA, US
_3D and 4D Printing; digital fabrication
2016 JUN - 2016 SEP
Researcher | University of Tokyo, Tokyo, Japan
_Research on surface tension based self-assembly; micro-fabricating bio-hybrid actuators
2010 SEP - 2017 FEB
Research Assistant | MIT Media Lab, Cambridge, MA, US
_Academic researcher, designer, lecturer and teaching assistant at Tangible Media Group, MIT Media Lab
2016 JUN - 2016 JUL
Research Intern | Intellectual Venture, Modernist Cuisine, Seattle, WA, US
_Creative technologist, material and food designer in a high tech molecular gastronomy kitchen, where digital fabrication, material science and design intersected.
2012 MAY - 2012 SEP
Research Intern | Think Tank Team, Samsung Research, USA, Mountain View, CA, US
_As the first employee, helping mentor Pranav Mistry to initiate the interdisciplinary research team at Samsung, which has developed into one of the most fast growing technology incubators in the bay area with more than 40 employees; initiating and patenting the product and interaction design around Samsung watch Gear S2.
2008 MAY - 2008 OCT
Research Intern | IBM Research, Beijing, China
_3D Educational Game designer, storyboarding, 3D modeling, UI and UX design
2007 MAY - 2009 SEP
Research Staff | Innovation and Engineering Center, Hangzhou, Zhejiang, China
_High-tech products and design consultancy for Chinese local industries

TEACHING EXPERIENCE

INSTRUCTOR

2016 JAN - 2016 JAN
Dept. of Chemical Engineering at MIT | MIT Media Lab
_Inflated Appetite: Pneumatic Shape Changing Food. MIT IAP winter course
2015 JAN - 2015 JAN
Dept. of Chemical Engineering at MIT | MIT Media Lab
_Biological Origami: Using Living Cells as Design Tools. MIT IAP winter course

2013 FEB - 2013 APR
MIT Media Laboratory, MA, US
_Special Topics: Fundamentals of Visual Communication, MAS S63.

TEACHING ASSISTANT

2014 SEP - 2014 DEC
MIT Media Laboratory, MA, US
_Tangible Interfaces, MAS 834. Instructor, Hiroshi Ishii
2012 FEB - 2011 JUN
MIT Media Laboratory, MA, US
_New Paradigms for HCI, MAS 963. Instructor, Pattie Maes and Hiroshi Ishii
2011 SEP - 2011 DEC
MIT Media Laboratory, MA, US
_Tangible Interfaces, MAS 834. Instructor, Hiroshi Ishii

SELECTED GUEST LECTURER

2015 DEC
University of California, Berkeley | Bird Lecture | hosted by Prof. Eric Paulos
_Transforming Materiality: Design Ochestrating between the Born and the Made
2015 OCT
Royal College of Art in London | Innovative Design and Engineering Department | hosted by Prof. Miles Pennington
_The Paradigm Shift in Design: From Building to Growing
2015 DEC
Autodesk Research| Programmable Material, Nano/Micro Research Group | hosted by Senior Researcher Kown An
_Programmable Materiality
2012 MAY
MIT Media Lab | Computational Photography Class | hosted by Prof. Ramesh Raskar
_Kinected Conference

SELECTED WORKSHOPS

2015 DEC
Royal College of Art | London | "Inflated Curiosity"
2014 DEC
Celebration Events for Japanese Summer National Award Winners | Tokyo | "Powering your Puppet"

CONFERENCE ORGANIZATION

2016 OCT
Student Competition Co-chair, UIST 2016 | Tokyo

PATENT

US20140314976, Methods and Apparatus for Shape Control
US20140139454, User Gesture Input to Wearable Electronic Device Involving Movement of Device
US20140139422, User Gesture Input to Wearable Electronic Device Involving Outward-Facing Sensor of Device
Filed, Methods and apparatus for layer jamming
Filed, Methods and apparatus for hygromorphic shape control

EXHIBITIONS

Museum of Fine Art, Fashion Tech Styles | bioLogic | Boston, MA, USA | In preparation, 2016
MIT Media Lab, 30's Anniversary | bioLogic, "Second Skin" | Cambridge, MA, USA | Oct 26- Dec 28, 2015
Dubai Design Week | bioLogic, "Second Skin" | Abu Dhabi | Oct 24 - Dec 1, 2015
Museum of Fine Art, Fashion4ward | bioLogic | Cambridge, MA, USA | Oct 12, 2015
Red Dot Design museum | Essen, Germany | 2010 - 2012

HONORS and AWARDS

FELLOWSHIPS

Wired UK Innovation Fellow | 2015

New Balance Research Grant | 2014 - 2015
MIT Art Council Grant | 2014 - 2015
NEC Research Fellow | 2013 - 2014
Cisco Research Fellow | 2012 - 2013

SELECTED DESIGN AWARDS

IXDA Design award | 2015
Core 77 Interaction Student Notable award | 2015
iF Student Design Awards | 2015, 2010
Red Dot "Best of the Best" Design Award | 2010
Red Dot Student Design Award | 2009

ACADEMIC CONFERENCE AWARDS

Best Paper Talk Award | CHI 2015
Paper Honorable Mention Award | CHI 2015
Best Paper Award | UIST 2013
Nominated Best Demo Award | UIST 2013
1st Prize in Student Innovation Design Competition | UIST 2012

PUBLIC SPEECH

Wired UK Annual Conference | London, UK | 2015
Aspen Ideas Festival | Aspen, Colorado, USA | 2013
Tokyo Designers' Week | Tokyo, Japan | 2014
MIT Museum | Cambridge, MA, USA | 2014

PUBLICATIONS

PAPERS IN TOP TIER CONFERENCES IN HCI FIELD

CHI 2016 (to appear) | xPrint: A Modularized Liquid Printer for Smart Materials Deposition
Wang, G., Yao, L., Ou, J., Cheng, C., Wang, W. and Ishii, H. To appear in Proceedings of CHI 2016

CHI 2015 | bioLogic: Natto Cells as Nanoactuators for Shape Changing Interfaces
Best Talk award; Honorable Mentions award.
Lining Yao, Jifei Ou, Chin-Yi Cheng, Helene Steiner, Wen Wang, Guanyun Wang, and Hiroshi Ishii. 2015. Proc. of CHI '15. ACM, New York, NY, USA, 1-10.

UIST 2013 | PneUI: Pneumatically Actuated Soft Composite Materials for Shape Changing Interfaces
Best paper award; Nominated Best Demo award.
Lining Yao, Ryuma Niiyama, Jifei Ou, Sean Follmer, Clark Della Silva, and Hiroshi Ishii. 2013. Proc. of UIST '13. ACM, New York, NY, USA, 13-22.

TEI 2015 | Sticky Actuator: Free-Form Planar Actuators for Animated Objects
Ryuma Niiyama, Xu Sun, Lining Yao, Hiroshi Ishii, Daniela Rus, and Sangbae Kim. 2015. Proc. of TEI '15. ACM, New York, NY, USA, 77-84.

TEI 2014 | jamSheets: thin interfaces with tunable stiffness enabled by layer jamming
Jifei Ou, Lining Yao, Daniel Tauber, Jürgen Steimle, Ryuma Niiyama, and Hiroshi Ishii. 2014. Proc. of TEI '14. ACM, New York, NY, USA, 65-72.

TEI 2014 | Weight and Volume Changing Device with Liquid Metal Transfer
Ryuma Niiyama, Lining Yao, and Hiroshi Ishii. 2014. Proc. of TEI '14. ACM, New York, NY, USA, 49-52.

SUI 2013 | FocalSpace: multimodal activity tracking, synthetic blur and adaptive presentation for video conferencing
Lining Yao, Anthony DeVincenzi, Anna Pereira, and Hiroshi Ishii. 2013. Proc. of SUI '13. ACM, New York, NY, USA, 73-76.

ACE 2013 | Rope Revolution: tangible and gestural rope interface for collaborative play
Lining Yao, Sayamindu Dasgupta, Nadia Cheng, Jason Spingarn-Koff, Ostap Rudakevych, and Hiroshi Ishii. 2011. Proc. of ACE '11, Teresa Romão, Nuno Correia, Masahiko Inami, Hirokasu Kato, Rui Prada, Tsutomu Terada, Eduardo Dias, and Teresa Chambel (Eds.). ACM, New York, NY, USA, , Article 11 , 8 pages.

ACE 2013 | PingPong++: community customization in games and entertainment
Xiao Xiao, Michael S. Bernstein, Lining Yao, David Lakatos, Lauren Gust, Kojo Acquah, and Hiroshi Ishii. 2011. Proc. of ACE '11, Teresa Romão, Nuno Correia, Masahiko Inami, Hirokasu Kato, Rui Prada, Tsutomu Terada, Eduardo Dias, and Teresa Chambel (Eds.). ACM, New York, NY, USA, , Article 24 , 6 pages.

PAPERS IN JOURNALS

Science Advances. 3, e1601984 (2017) | Wang, W. , Yao, L., et al. Harnessing the hygroscopic and biofluorescent behaviors of genetically tractable microbial cells to design biohybrid wearables.

3D Printing and Additive Manufacturing. December 2015, 2(4): 168-179. | bioPrint: An Open Liquid Deposition Printer for Natural Actuators
Journal cover story
Lining Yao, Jifei Ou, Guanyun Wang, Chin-Yi Cheng, Wen Wang, Helene Steiner and Hiroshi Ishii

ARTICLES IN REFEREED MAGAZINES

ACM Interactions | PneUI, How was it Made.
Lining Yao. 2014. PneUI. interactions 21, 4 (July 2014), 14-15. DOI=http://dx.doi.org/10.1145/2626273

PHD SYMPOSIUM

UIST 2014 | Matter matters: offloading machine computation to material computation for shape changing interfaces.
Lining Yao. 2014. Proc. of UIST'14 Adjunct. ACM, New York, NY, USA, 29-32.

PAPERS IN ADJUNCT CONFERENCE PROCEEDINGS

SIGGRAPH ASIA 2015 | xPrint: from design to fabrication for shape changing interfaces by printing solution materials.
Guanyun Wang, Lining Yao, Wen Wang, Jifei Ou, Chin-Yi Cheng, and Hiroshi Ishii. 2015. In SIGGRAPH Asia 2015 Posters (SA '15). ACM, New York, NY, USA, , Article 7 , 1 pages.

UIST 2014 | bioPrint: an automatic deposition system for bacteria spore actuators
Jifei Ou, Lining Yao, Clark Della Silva, Wen Wang, and Hiroshi Ishii. 2014. Proc. of UIST'14 Adjunct. ACM, New York, NY, USA, 121-122.

UIST 2014 | Integrating Optical Waveguides for Display and Sensing on Pneumatic Soft Shape Changing Interfaces
Lining Yao, Jifei Ou, Daniel Tauber, and Hiroshi Ishii. 2014. Proc. of UIST'14 Adjunct. ACM, New York, NY, USA, 117-118.

CHI 2011 | Multi-Jump: Jump Roping Over Distances
Lining Yao, Sayamindu Dasgupta, Nadia Cheng, Jason Spingarn-Koff, Ostap Rudakevych, and Hiroshi Ishii. 2011. Multi-jump: jump roping over distances. Proc. of CHI EA '11. ACM, New York, NY, USA, 1729-1734.

CHI 2011 | RopePlus: Bridging Distances with Social and Kinesthetic Rope Games
Lining Yao, Sayamindu Dasgupta, Nadia Cheng, Jason Spingarn-Koff, Ostap Rudakevych, and Hiroshi Ishii. 2011. RopePlus: bridging distances with social and kinesthetic rope games. Proc. of CHI EA '11. ACM, New York, NY, USA, 223-232.

CSCW 2011 | Kinected Conference: Augmenting Video Imaging with Calibrated Depth and Audio Anthony DeVincenzi, Lining Yao, Hiroshi Ishii, and Ramesh Raskar. 2011. Proc. of CSCW '11. ACM, New York, NY, USA, 621-624.