

# Huaishu Peng

huaishu@cs.umd.edu  
www.huaishu.me  
412.916.7506

## E D U C A T I O N

- 2012 - 2019 **Cornell University, Ithaca**  
Ph.D. in Information Science  
Area of Study: Human-computer Interaction  
Thesis committee: Prof. François Guimbretière,  
Prof. Steve Marschner and Prof. Malte Jung
- 2010 - 2012 **Carnegie Mellon University, Pittsburgh**  
Master of Tangible Interaction Design  
Advisor: Prof. Mark D Gross
- 2006 - 2010 **Beihang University (BUAA), Beijing**  
B.E. Software Engineering (with Honors)

## E M P L O Y M E N T

- 2019 - Present **University of Maryland, College Park**  
Assistant Professor at the Department of Computer Science  
Faculty Member of HCIL and UMIACS

## P U B L I C A T I O N S

- CONFERENCE AND JOURNAL PAPER
- Liang He, **Huaishu Peng**, Michelle Lin, Ravikanth Konjeti, François Guimbretière, Jon E Froehlich. Ondulé: Designing and Controlling 3D Printable Springs. UIST 2019, [Full paper]
- Stefanie Mueller, Anna Seufert, **Huaishu Peng**, Robert Kovacs, Kevin Reuss, Francois Guimbretiere, Patrick Baudisch. FormFab: Towards Shape Exploration in Interactive Fabrication. TEI 2019, [Full paper, 33% acceptance rate]
- Huaishu Peng**, Jimmy Briggs, Cheng-Yao Wang, Kevin Guo, Joseph Kider, Stefanie Mueller, Patrick Baudish, François Guimbretière. RoMA: Interactive Fabrication with Augmented Reality and a Robotic 3D Printer. CHI 2018, [Full paper, 25.7% acceptance rate]

**Huaishu Peng**, François V. Guimbretière, James McCann, Scott E. Hudson. A 3D Printer for Interactive Electromagnetic Devices. UIST 2016, [Full paper, 20% acceptance rate]

**Huaishu Peng**, Rundong Wu, Steve Marschner, François V. Guimbretière. On-the-Fly Print: Incremental Printing while Modeling. CHI 2016, [Full paper, 23% acceptance rate]

Rundong Wu, **Huaishu Peng**, Steve Marschner, François V. Guimbretière. Printing Arbitrary Meshes with a 5DOF Wireframe Printer. SIGGRAPH 2016, [Full paper, 25% acceptance rate]

**Huaishu Peng**, Amit Zoran, François V. Guimbretière. D-Coil: A Hands-on Approach to Digital 3D Models Design. CHI 2015, [Full paper, 23% acceptance rate]



**Huaishu Peng**, Jennifer Mankoff, Scott E. Hudson, James McCann. A Layered Fabric 3D Printer for Soft Interactive Objects. CHI 2015, [Full paper, 23% acceptance rate | Best Paper Nominee | Top5%]

Tauhidur Rahman, Alexander T. Adams, Mi Zhang, Erin Cherry, Bobby Zhou, **Huaishu Peng**, and Tanzeem Choudhury. BodyBeat: A Mobile System for Sensing Non-speech Body Sounds. MOBISYS 2014, [Full paper, 14% acceptance rate]

#### MAGAZINE ARTICLE

**Huaishu Peng**, Scott E. Hudson, Jennifer Mankoff, James McCann. Soft Printing with Fabric, XRDS Spring 2016.

#### POSTER AND DEMOS

Liang He, **Huaishu Peng**, Joshua Land, Mark D. Fuge, and Jon E. Froehlich. Designing 3D-Printed Deformation Behaviors Using Spring-Based Structures: An Initial Investigation. UIST 2017.

Liang He, Joshua Land, **Huaishu Peng**, Mark D. Fuge, and Jon E. Froehlich. Early Explorations of Deformable Interactive Designs with 3D-Printed Springs. SCF 2017.

Dongwook Yoon, **Huaishu Peng**, and Bin Xu. Let me show you what I read: exploring referencing strategies for e-books. CHI 2013.

**Huaishu Peng**. Algo.Rhythm: Computational Thinking through tangible music device. TEI 2012. [Graduate Student Consortium]

**Huaishu Peng**. TouchSound: Making Sounds with Everyday Objects. TEI 2011. [Graduate Student Consortium]

- PATENT James McCann, **Huaishu Peng**, Scott E. Hudson, Jen Mankoff. Three-Dimensional Printer with an Inverted Cutting Surface and a Movable Platform for Creating Layered Objects. US Patent App. 14/679,794
- Francois Guimbretiere, **Huaishu Peng**, Stephen Marschner, Rundong Wu. Methods for Incremental 3D Printing and 3D Printing Arbitrary Wireframe Meshes. US Patent App. 16/093,885

## P R E V I O U S R E S E A R C H E X P E R I E N C E

- OCT 2015 – DEC 2015 **Disney Research**, Pittsburgh, PA  
Research Associates, advised by Scott Hudson & James McCann. 5DOF 3D printer for interactive devices.
- JUN 2015 – AUG 2015 **Hasso-Plattner-Institut**, Potsdam, Germany  
Visiting Researcher, advised by Patrick Baudisch. Robotic arm based interactive fabrication tool.
- MAY 2014 – AUG 2014 **Disney Research**, Pittsburgh, PA  
Research Associates, advised by Scott Hudson & James McCann. 3D printer using fabric sheets as building material.
- SEP 2011 – MAY 2012 **Computational Design Lab@CMU**, Pittsburgh, PA  
Graduate Researcher, advised by Mark Gross. Novel interaction for pervasive computing and tangible interface.
- JUN 2011 – AUG 2011 **Microsoft Research Asia**, Beijing, China  
HCI Group Intern, advised by Darren Edge. Emotional IO through physical prototypes.
- DEC 2010 – DEC 2011 **BirdBrain Technologies LCC**, Pittsburgh, PA  
Mobile Designer and Developer. Mobile interaction methods for consumer robots.
- NOV 2009 – MAY 2010 **Chinese Academy of Sciences**, Beijing, China.  
HCI Lab Research Assistant, advised by Danli Wang. Tangible interface for kids.

## I V I T A T E D T A L K S A N D G U E S T L E C T U R E S

- 2019 **American University**. Hosted by Prof. Bei Xiao. Computer Science Seminar.
- 2018 **University of Minnesota**. Hosted by

Prof. Lana Yarosh. Computer Science Colloquia.

**Clemson University.** Hosted by  
Prof. Brygg Ullmer. School of Computing Seminar.

**University of Wisconsin–Madison.** Hosted by  
Prof. Bilge Mutlu. Computer Science Seminar.

**University of Maryland, College Park.** Hosted by  
Prof. Michelle Mazurek. Computer Science Seminar.

**Pennsylvania State University.** Hosted by  
Prof. Dinghao Wu. IST Seminar.

**Virginia Tech.** Hosted by  
Prof. Douglas Bowman. Computer Science Seminar.

**University of Utah.** Hosted by  
Prof. Erik Brunvand. Computer Science Seminar.

**University of California, Irvine.** Hosted by  
Prof. Yunan Chen. Information and Computer Sciences Seminar.

**University of California, Santa Barbara.** Hosted by  
Prof. Marko Peljhan. MAT Seminar Series.

**Cornell University**  
Future User Interfaces Guest Lecture.

**Chinese Academy of Science.** Hosted by  
Prof. Guozhong Dai and Prof. Xiangmin Fan. HCI Seminar.

2017 **MIT CSAIL.** Hosted by  
Prof. Wojciech Matusik. Graphic Seminar.

**Columbia University.** Hosted by  
Prof. Changxi Zheng. Vision and Graphics Seminar.

**McGill University.** Hosted by  
Prof. Jeremy R. Cooperstock. Graduate Seminar.

**University of Maryland, College Park.** Hosted by  
Prof. Jon Froehlich. Makebility Lab.

**Cornell Tech.** Hosted by  
Prof. Shiri Azenkot. HCI Lab.

**Rochester Institute of Technology.** Hosted by  
Prof. Daniel Ashbrook. FET Lab.

**Zhejiang University.** Hosted by

- Prof. Lingyun Sun. International Design Institute.
- 2016 **Osaka University.** Hosted by Prof. Hideyuki Nakanishi. Symbiotic Media Group.
- 2015 **Carnegie Mellon University** Programming Usable Interface Guest Lecture.
- 2014 **Disney Research Pittsburgh** HCI Seminar.
- 2012 **Microsoft Research Asia.** Hosted by Dr. Darren Edge. Human-Computer Interaction Group.

## SELECTED MEDIA PRESS

- 2018 **Cornell.** Augmented Reality Takes 3-D Printing to Next Level.  
**TechCrunch.** Combining Augmented Reality 3D Printing and a Robotic Arm to Prototype in Real Time.  
**Fastcompany.** This Designer And Robot Working In Perfect Unison Is The Future Of Making.  
**Wired Italy.** Stampa 3d, come saltare la progettazione usando la realtà aumentata.  
**Designboom.** Design in 3D Augmented Reality and This Robotic Arm Physically Prototypes it.  
**Gizmodo Japan.** AR越しにプロトタイプを3Dプリントさせるロボット・アーム「RoMA」.
- 2016 **Engadget.** Cornell Researchers Create 3D printer that Builds as You Work.  
**Hackaday.com.** 3D Printing and Modelling on the Fly.  
**MAKE Magazine.** New 5-Axis 3D Printer Creates Simple Wire Frame Models in Real Time.  
**Futurism.** New 3D Printer Lets You Make Changes “On-The-Fly”.
- 2015 **TechCrunch.** Disney’s New 3D Printer Prototype Makes Huggable Things Out Of Fabric Instead Of Hard Plastic.  
**Gizmodo.** Disney Made a 3D Printer That Creates Soft Objects Using Fabric.  
**NBC News.** This Disney 3-D Printer Uses Fabric to Create Soft Objects.  
**Engadget.** Disney Research Has a 3D Printer that Can Sew Bunnies for You.

- CNET.** Disney Research's New 3D Printer Can Print in Fabric.
- 3dprint.com.** D-Coil — A 3D Wax Printing Pen That Also Builds Digital Models on the Fly.
- 3ders.** Researchers Develop D-Coil Handheld Wax Extruder That Makes 3D Modeling Easier than Ever Before.
- 2014 **MIT Technology Review.** Wearable Self-Tracking Tool Listens for Yawns, Coughs, and Munches.
- New Scientist.** Listen to Sounds Inside the Body to Monitor Health.
- 2012 **Core77.** Honey, I Shrunk the CNC Machine: "Piccolo" Is the World's Smallest CNC Platform.
- Wired Design.** Fetish: Transparent technology and see-through kit that reveal their inner workings.
- Fastcodesign.** Pocket-Sized Drawing Robot Costs Less Than 70.
- Designboom.** Diatom studio: piccolo drawing bot.
- MAKE Magazine.** Piccolo, a Mini CNC Artbot.

## A C A D E M I C S E R V I C E S

- CHAIRING ACM UIST 2018-2019, Poster Co-Chair  
ACM SCF 2017, Web Chair  
ACM CHI 2017, Presentation Section Chair
- PROGRAM COMMITTEE ACM CHI 2019-2020, Program Committee Member  
ACM CHI 2018, LBW Program Committee Member  
CHINESE CHI 2018 Program Committee Member  
ACM CHI 2017, LBW Program Committee Member
- REVIEWING CHI Paper Proceedings, 2014 – 2019  
UIST Paper Proceedings, 2014 – 2018  
TEI Paper Proceedings, 2013, 2014, 2018, 2019
- WORKSHOP HOST Make Your Own Piccolo, TEI 2013, Spain
- STUDENT VOLUNTEER TEI 2012
- UNIVERSITY SERVICE Hiring Representative, Information Science, 2016 - 2017

## A W A R D S

- 2019 Finalist, 3D Pioneers Challenge. International competition for additive manufacturing technologies
- 2014 - 2017 Cornell Graduate Student Travel Grant
- 2015 CHI Best Paper Honorable Mentions Award
- 2013 No 1 Winner of Student Design Competition TEI
- 2012 TEI Doctoral Symposium Travel Grant
- 2012 Education Award at Maker Faire
- 2011 TEI Doctoral Symposium Travel Grant
- 2011 Finalist of Student Design Competition TEI
- 2016 - 2010 Beihang Academic Scholarship

## T E A C H I N G

- Fall 2019 **CMSC434: Introduction to Human-Computer Interaction**
- SPRING 2019 **CMSC838J: Interactive Technology for HCI**
- SPRING 2013-14 **INFO 4320: Rapid Prototyping and Physical Computing**  
Graduate Teaching Assistant for Prof. François Guimbretière
- FALL 2013 **CS 1110: Introduction to Computing Using Python**  
Graduate Teaching Assistant for Walker White
- FALL 2012 **CS 4300: Information Retrieval**  
Graduate Teaching Assistant for Prof. William Y. Arms

## M E N T O R I N G

- 2019 Zeyu Yan, Ph.D. at University of Maryland, College Park.  
Annan Li. Summer intern. Tsinghua University.  
Tanaya Jha. Highschool summer intern. Poolesville High School.
- 2016 NOV - 2018 Cheng-Yao Wang, Ph.D. at Cornell University.  
James Briggs, M.Sc. at Cornell University.  
AR interface for interactive fabrication. CHI 18.  
Co-mentoring with François Guimbretière.
- UNDERGRADUATES Christine Geeng, Nathaniel Kwok,  
Kevin Guo, Xinyi Wang,  
Anita Wu, Maggie Zhe,  
Kevin Ma, Xiaoyan Wu