

Michael Wessely

Tenure-Track Assistant Professor
Aarhus University, Department of Computer Science
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Employment

Since Oct. 2022 **Aarhus University, Denmark**
Tenure-Track Assistant Professor, Department of Computer Science

Jan. 2019 – Sept. 2022 **MIT CSAIL, USA**
Postdoctoral Associate, Electrical Engineering and Computer Science
Advisor: **Prof. Stefanie Mueller**

Education

Nov. 2015 – Dec. 2018 **Inria, Université Paris-Saclay, France**
PhD in Computer Science
Advisor: **Prof. Theophanis Tsandilas, Prof. Wendy Mackay**
Topic: Fabricating Malleable Interaction-Aware Materials

Nov. 2012 – Apr. 2015 **Saarland University, Germany**
M.Sc in Visual Computing and Computer Science
Advisor: **Dr. Simon Olberding, Prof. Juergen Steimle**
Topic: Fabricating Highly Customizable Thin Film Touch Displays

Research Internships

Jun. 2017 **UC Berkeley, USA**
Advisor: **Prof. Eric Paulos**
Topic: 3D printing interactive materials

Jan. 2015 – Oct. 2015 **Max Planck Institute and Saarland University, Germany**
Advisor: **Prof. Piotr Didyk**
Topic: Computation and fabrication of a directional screens

Mar. 2015 – Apr. 2015 **Max Planck Institute and Saarland University, Germany**
Advisor: **Prof. Juergen Steimle**
Topic: Foldable printed electronics

Publications

ACM CHI and ACM UIST are the top venues in Human-Computer Interaction.

- [P12] Yoonji Kim, Junyi Zhu, Mihir Trivedi, Dishita G. Turakhia, Ngai Hang Wu, Donghyeon Ko, **Michael Wessely**, Stefanie Mueller.
SensorViz: Visualizing Sensor Data Across Different Stages of Prototyping Interactive Objects
In *Proceedings of ACM Designing Interactive Systems (DIS'21)*, 13 pages.
- [P11] Jiani Zeng, Honghao Deng, Yunyi Zhu, **Michael Wessely**, Axel Kilian, Stefanie Mueller.
LenticleObject: 3D Printed Objects with Lenticular Lens Surfaces that Can Change their Appearance Depending on the Viewpoint
In *Proceedings of ACM Symposium on User Interface Software and Technology (UIST'21)*, 19 pages.
- [P10] **Michael Wessely**, Yuhua Jin, Cattalyya Nuengsigkapijan, Aleksei Kashapov, Isabel Qamar, Dzimitry Tsetserukou, Stefanie Mueller.
ChromoUpdate: Fast Design Iterations of Photochromic Color Textures Using Grayscale Previews and Local Color Updates
In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI'21)*, 18 pages.
- [P9] Junyi Zhu, Yunyi Zhu, Jiaming Cui, Leon Cheng, Jackson C Snowden, Mark Chounlakone, **Michael Wessely**, Stefanie Mueller.
MorphSensor: A 3D Electronic Design Tool for Reforming Sensor Modules.
In *Proceedings of ACM Symposium on User Interface Software and Technology (UIST'20)*, 11 pages.
- [P8] **Michael Wessely**, Ticha Sethapakdi, Carlos Castillo, Jackson C Snowden, Ollie Hanton, Isabel Qamar, Mike Fraser, Anne Roudaut, Stefanie Mueller.

Sprayable User Interfaces: Prototyping Large-Scale Interactive Surfaces with Sensors and Displays.
In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI'20)*, 10 pages.

- [P7]  Ollie Hanton, **Michael Wessely**, Stefanie Mueller, Mike Fraser, Anne Roudaut
ProtoSpray: Combining 3D Printing and Spraying to Create Objects with Interactive Displays.
In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI'20)*, 10 pages.
Best Paper Honorable Mention Award (top 5% of submissions)
- [P6]  Yuhua Jin*, Isabel Qamar*, **Michael Wessely***, Aradhana Adhikari, Katarina Bulovic, Parinya Punpongsanon, Stefanie Mueller [***shared first authorship**].
Photo-Chromeleon: Re-Programmable Multi-Color Textures Using Photochromic Dyes.
In *Proceedings of ACM Symposium on User Interface Software and Technology (UIST'19)*, 11 pages.
Best Paper Award (top 1% of submissions), Best Talk Award
- [P5] **Michael Wessely**, Theophanis Tsandilas, and Wendy E. Mackay.
Shape-Aware Material: Interactive Fabrication with ShapeMe.
In *Proceedings of ACM Symposium on User Interface Software and Technology (UIST'18)*, 10 pages.
- [P4] Michal Piovarči, **Michael Wessely**, Michał Jagielski, Marc Alexa, Wojciech Matusik, and Piotr Didyk.
Design and Analysis of Directional Front Projection Screens.
In *Journal 'Computers and Graphics'*, 2018, 12 pages.
- [P3] Michal Piovarči, **Michael Wessely**, Michał Jagielski, Marc Alexa, Wojciech Matusik, and Piotr Didyk.
Directional Screens.
In *Proceedings of ACM Symposium on Computation Fabrication (SCF'17)*, 10 pages.
- [P2] **Michael Wessely**, Theophanis Tsandilas, and Wendy E. Mackay.
Stretchis: Fabricating Highly Stretchable User Interfaces.
In *Proceedings of ACM Symposium on User Interface Software and Technology (UIST'16)*, 2016, 7 pages.
- [P1]  Simon Oberding, **Michael Wessely**, Jürgen Steimle.
PrintScreen: Fabricating Highly Customizable Thin-Film Touch-Displays.
In *Proceedings of ACM Symposium on User Interface Software and Technology (UIST'14)*, 2014, 10 pages.
Best Paper Award (top 1% of submissions)

Non-Peer-Reviewed or Juried Publications

- [NP5] Isabel P. S. Qamar, Sabina W.Chen, Dimitri Tskhovrebadze, Paolo Boni, **Michael Wessely**, Stefanie Mueller.
ChromoPrint: A Multi-Color 3D Printer Based on Reprogrammable Photochromic Resin
In *Adjunct Proceedings of CHI 2022 Late Breaking Work*
- [NP4] Faraz Faruqi, Kenneth Friedman, Leon Cheng, Michael Wessely, Sriram Subramanian, Stefanie Mueller.
SliceHub: Augmenting Shared 3D Model Repositories with Slicing Results for 3D Printing
arXiv:2109.14722
- [NP3] Yuhua Jin, Isabel Qamar, Michael Wessely, Stefanie Mueller.
Photo-Chromeleon: Re-Programmable Multi-Color Textures Using Photochromic Dyes.
In *ACM SIGGRAPH 2020 Emerging Technologies (SIGGRAPH '20)*.
- [NP2] Jingy Li, Michael Wessely, Sean Follmer, Stefanie Mueller.
Summer School for Computational Fabrication and Smart Matter.
IEEE Pervasive Computing 2017.
- [NP1] Simon Olberding, Juergen Steimle, Michael Wessely.
Digital Fabrication of flexible Touch-Displays.
Mensch&Computer Workshopband 2014.

Demonstrations

... of physical prototypes during hands-on sessions

- [D10] MorphSensor: A 3D Electronic Design Tool for Reforming Sensor Modules
ACM UIST 2020
- [D9] ProtoSpray: Combining 3D Printing and Spraying to Create Objects with Interactive Displays
ACM CHI 2020
- [D7] Photo-Chromeleon: Re-Programmable Multi-Color Textures Using Photochromic Dyes

- ACM UIST 2019
- [D6] Interactive Tangrami: Rapid Prototyping with Modular Paper-folded Electronics
ACM UIST 2018
- [D5] Shape-Aware Material: Interactive Fabrication with ShapeMe
ACM UIST 2018
- [D4] Stretchis: Fabricating Highly Stretchable User Interfaces
ACM SCF 2017
- [D3] Stretchis: Fabricating Highly Stretchable User Interfaces
ACM UIST 2016
- [D2] PrintScreen: Fabricating Highly Customizable Thin-Film Touch-Displays
ACM Symposium on Pervasive Displays 2015
- [D1] PrintScreen: Fabricating Highly Customizable Thin-Film Touch-Displays
CeBIT 2015, One-week exhibition

Awards

- 2020 **Best Paper Honorable Mention** for ProtoSpray [7] at CHI '20
- 2019 **Best Talk Award** for Photo-Chromeleon [6] at UIST '19
- 2019 **Best Paper Award** for Photo-Chromeleon [6] at UIST '19
- 2014 **Best Paper Award** for PrintScreen [1] at UIST '14

Conference Service

- Program Committee ACM UIST'20,'21,'22
ACM CHI'20,'22
- Organizing Committee ACM UIST'22: Demo Chair
ACM UIST '21: Social Events Chair
ACM UIST('18,'19): Publicity Chair
- Session Chair ACM UIST'20,'21
- Reviewing ACM CHI ('17 - '22)
(82 total) ACM UIST ('17 - '21)
ACM TEI ('18 - '20)
ACM DIS'19,'21
ACM NordiCHI'18
ACM SUI'18
ACM SIGGRAPH ASIA'18
ACM SIGGRAPH'21
- Student Volunteer ACM UIST ('17,'18)
ACM SCF'17

Funding

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| 4,000,000 kr. | Novo Nordisk Starter Grant | 2022 |
| \$130,000 | MIT Accenture Initiative (Tools for Designing with Smart Materials) | 2021 |
| \$120,000 | MIT Accenture Initiative (Soft Connectors for E-Textiles) | 2021 |
| \$300,000 | MIT-Ford Initiative (Re-Programmable Multi-Color Textures using Photochromic Dyes) | 2019 |
| 8000€ | STIC Grant: Augmented Reality for Collaborative Physical Modeling and Design | 2018 |

Invited Talks

- 2022 Indiana University

2022	Aarhus University
2022	Aalto University
2021	22 nd Advanced Imaging International Festival, South Korea
2021	University of Chicago, Host: Prof. Pedro Lopes
2021	TU Dresden, Host: Prof. Ercan Altinsoy
2021	Stanford University, Host: Prof. Sean Follmer
2021	Carnegie Mellon University, Host: Prof. Alexandra Ion
2021	IST Austria, Host: Prof. Bernd Bickel
2021	ETH Zurich, Host: Prof. Matthias Kohler & Prof. Fabio Gramazio
2021	Functional Fabrics, MIT and AFFOA
2020	ACM ISS'20
2020	EmTech, MIT Technology Review
2020	ACM SIGGRAPH, Emerging Technologies
2019	Harvard University, Host: Prof Robert D. Howe
2019	MIT Nano Symposium
2018	Fab14, Science and Research Panel "Fab" is the major conference of the maker community

Workshops

2018	Workshop on Print Technologies with Interactive Materials Ruhr-West University, Germany
2018	Workshop on Rapid Prototyping with Interactive Materials Fab14, Toulouse, France
2015	Inventor's Workshop on Printed Electronics, Saarland University, Germany

Teaching

2021/ 2020	Engineering Interactive Technologies , MIT CSAIL Co-Lecturer with Prof. Stefanie Mueller & Course Developer ca. 30 students (undergrad)
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The lecture covers practical and theoretical foundations of engineering interactive technologies. I developed practical labs that cover cutting edge fabrication technologies around printed electronics. The lectures introduce engineering related topics in HCI like sensing technologies, haptics, brain-computer interfaces, AR/VR, wearables, and tangibles.

Personal Rating from Students: 6.3 / 7

2017	Digital Fabrication , Université Paris-Sud Co-Lecturer with Prof. Sarah Fdili ca. 25 students (undergrad)
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This course gives an introduction to prototyping techniques like 3D printing, laser cutting, soldering, and engineering interactive objects with an Arduino and breadboards.

2017	Computer Graphics , Ecole Polytechnique Paris-Saclay Teaching Assistant with Prof. Tobias Isenberg ca. 40 students (undergrad)
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Covers fundamentals in computer graphics and OpenGL programming. I developed the programming labs and introduced a rendering competition at the end of the course.

Mentoring

2021	Marwa AlAlawi, PhD student (paper in preparation) Faraz Faruqi, PhD student (advised paper: SliceHub [NP4])
2020	Diego Pinochet, PhD student Junyi Zhu, PhD student (advised paper: MorphSensor [P9]) Yunyi Zhu, PhD student (advised paper: LenticleObjects [P11]) Paolo Boni, undergrad (advised paper: ChromoPrint [NP5]) Sabina Chen, master's thesis, (advised paper: ChromoPrint [NP5]) Daniela Zaidenberg, undergrad
2019	Aradhana Adhikari, undergrad (advised paper: Photo-Chromeleon [P7]), Best Undergrad Research Award Jackson Snowden, undergrad (advised paper: Sprayable User Interfaces [P9]) Carlos Lozada, master's thesis (advised paper: Sprayable UIs [P9]), Best Undergrad Research Award Cattalya Neungsigkapien, master's thesis (advised paper: ChromoUpdate [P10]) Aleksy Kashapov, undergrad (advised paper: ChromoUpdate [P10])
2016	Niels Mourette, master thesis, (advised paper: Stretchis [P2])

Selected Press

2021	MIT News. With a zapp of light, system switches objects' colors and patterns
2021	New Atlas. MIT tech allows a single object to be "tried out" in different colors.
2020	ACM Tech News. Integrating Electronics Onto Physical Prototypes.
2020	MIT News. 3D-printed CurveBoards enable easier testing of circuit design on products.
2020	Engadget. MIT project turns spray paint into a functional user interfaces.
2020	MIT News. Sprayable User Interfaces.
2019	BBC. Colour-changing ink allows objects to swap design.
2019	MIT News. Objects can now change colors like a chameleon.
2019	Business Insider. Scientists have invented an unbelievable 'reprogrammable' ink.
2019	Fast Company. MIT's new color-changing ink lets you customize your stuff.
2014	Heise. Displays aus dem Laserdrucker.
2014	Engineering. Printable, Interactive Displays on their way to the market.