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. In contrast to other fields, conferences are more prestigious than journals in HCI.

[P14]   Donghyeon Ko, Yoonji Kim, Junyi Zhu, **Michael Wessely**, Stefanie Mueller.
FlexBoard: A Flexible Breadboard for Interaction Prototyping on Curved and Deformable Surfaces
In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI'23)*, 11 pages.

[P13]   Marwa AlAlawi, Noah Pacik-Nelson, Junyi Zhu, Ben Greenspan, Andrew Doan, Brandon Wong, Benjamin Owen-Block, Shanti Mickens, Wilhelm Schoeman, **Michael Wessely**, Andreea Danielescu, Stefanie Mueller.
MechSense: A Design and Fabrication Pipeline for Integrating Rotary Encoders into 3D Printed Mechanisms
In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI'23)*, 13 pages.

[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'22)*, 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 Nuengsigkapian, 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

[NP6] Magnus Frisk, Mads Vejrup, Frederik Kjaer Soerensen, **Michael Wessely**. ChromaNails: Re-Programmable Multi-Colored High-Resolution On-Body Interfaces using Photochromic Nail Polish.
In Adjunct Proceedings of UIST '23.
Best Demo Award (top 1% of submissions)

[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

[D12]   FlexBoard: A Flexible Breadboard for Interaction Prototyping on Curved and Deformable Surfaces
          ACM CHI 2023

[D11]   LenticleObject: 3D Printed Objects with Lenticular Lens Surfaces that Can Change their Appearance
          Depending on the Viewpoint
          ACM UIST 2021

[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-ColorTextures Using Photochromic Dyes
          ACM UIST 2019

[D6]   Interactive Tangrami: Rapid Protoyping 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

2023   **Best Demo Award** for ChromoNails [NP6] at UIST '23

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 - ’23)
	ACM CHI’20,‘22
Organizing Committee	ACM SCF’24: General Chair
	ACM UIST(’22’23): Demo Chair
	ACM UIST ‘21: Social Events Chair
	ACM UIST(‘18,’19): Publicity Chair
Session Chair	ACM UIST(’20 - ’23)
Reviewing	ACM CHI ('17 - ’23)
(100+ total)	ACM UIST ('17 - ‘23)

ACM TEI ('18 - '20)
ACM DIS'19,'21
ACM NordiCHI'18
ACM SUI'18
ACM SIGGRAPH ASIA'18
ACM SIGGRAPH'21-'23

Student Volunteer   ACM UIST ('17,'18)
ACM SCF'17

Funding

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

2023	Digital Tech Summit, Copenhagen
2023	Saarland University, Host: Prof. Juergen Steimle
2022	Indiana University
2022	Aarhus University
2022	Aalto University
2021	22nd Advanced Imaging International Festival, South Korea
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

2023 **Engineering Interactive Technologies**, Aarhus University
Lecturer
34 students
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.

2023 **IT Product Design Project**, Aarhus University
Co-Lecturer with Prof. Clemens Klookmoose, Prof. Minna Pakkannen, Simon Christensen
40 students

Introductory lecture for 2nd year bachelor students on the fundamentals of product design and user understanding that includes theoretical lectures and a practical group project.

2021/ **Engineering Interactive Technologies**, MIT CSAIL
2020 Co-Lecturer with Prof. Stefanie Mueller & Course Developer
ca. 30 students (undergrad)

Personal Rating from Students: 6.3 / 7

2017 **Digital Fabrication**, Université Paris-Sud
Co-Lecturer with Prof. Sarah Fdili
ca. 25 students (undergrad)

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 stundents (undergrad)

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

2023 Carlos Tejada, Postdoctoral Researcher
Doga Ozbek, PhD students
Yijing Yang, PhD student
Thorben Christopher Schmidt, undergrad
Jacob Jensen, undergrad
Mads Vejrup (advised paper: ChromaNails[NP6]), **Best Demo Award**
Frederik Soerensen, (advised paper: ChromaNails[NP6]), **Best Demo Award**
Magnus Frisk, (advised paper: ChromaNails[NP6]), **Best Demo Award**
Matilde Stenderup-Jensen, undergrad
Magnus Poulsen, undergrad

2021 Marwa AlAlawi, PhD student (advised paper: MechSense [P13])
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**
Cattalyya Neungsigkapian, master's thesis (advised paper: ChromoUpdate [P10])
Aleksey 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.