

# Christine Dierk

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I specialize in **Human-Computer Interaction (HCI)** with interests in wearable technology, ambient displays, fabrication, and interaction design.

## Education

2020 **Ph.D., Computer Science, Human-Computer Interaction**

Designated Emphasis in New Media

*University of California, Berkeley, Berkeley, CA*

**Thesis:** Heirloom Wearables: A Hybrid Approach to the Design of Embodied Wearable Technologies

*Advisor:* Eric Paulos (EECS)

*Readers:* Björn Hartmann (EECS), Kimiko Ryokai (iSchool)

2014 **Bachelors of Science, Computer Science and Math**

Minor in Psychology

*Elon University, Elon, NC*

**Thesis:** Real-Life Musical Composition through Virtual Means: a Mobile Application Controlled Ukulele-Playing Robot

*Advisor:* Joel Hollingsworth

## Research Experience

2020 — **Adobe Research, San Jose, CA**

*Research Scientist*

2014 — 2020 **University of California, Berkeley, Berkeley, CA**

*Graduate Student Researcher*

Hybrid Ecologies Lab - Advisor: Eric Paulos

## Internships

2019 **Adobe Research, San Jose, CA**

*Research Intern*

Creative Intelligence Lab - Mentors: Gavin Miller, TJ Rhodes

2018 **FX Palo Alto Laboratory, Palo Alto, CA**

*Research Intern*

Mentors: Scott Carter, Patrick Chiu, Tony Dunnigan, Don Kimber

## Undergraduate Research

- 2013 — 2014 **Elon University**, Elon, NC  
*Undergraduate Researcher*  
Advisor: Joel Hollingsworth
- 2013 **University of California, Berkeley**, Berkeley, CA  
*Undergraduate Researcher*  
Berkeley Institute of Design - Advisor: Björn Hartmann
- 2012 **University of Notre Dame**, Notre Dame, IN  
*Undergraduate Researcher*  
Distributed and Adaptive Real-Time Systems Lab - Advisor: Christian Poellabauer

## Peer-Reviewed Publications

- 2023 **Lotio: Lotion-Mediated Interaction with an Electronic Skin-Worn Display**  
*Christine Dierk\**, Katherine W Song\*, Szu Ting Tung, and Eric Paulos  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems
- 2022 **Project Primrose: Reflective Light Diffuser Modules for Non-Emissive Flexible Display Systems**  
*Christine Dierk*, TJ Rhodes, and Gavin Miller  
UIST: ACM Symposium on User Interface Software and Technology
- 2019 **Use Your Head! Exploring Interaction Modalities for Hat Technologies**  
*Christine Dierk*, Scott Carter, Patrick Chiu, Tony Dunnigan, and Don Kimber  
DIS: ACM SIGCHI Conference on Designing Interactive Systems
- 2018 **AlterWear: Battery-Free Wearable Displays for Opportunistic Interactions**  
*Christine Dierk*, Molly Jane Pearce Nicholas, and Eric Paulos  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems
- HäirlÖ: Human Hair as Interactive Material**  
*Christine Dierk*, Sarah Serman, Molly Jane Pearce Nicholas, and Eric Paulos  
TEI: ACM SIGCHI Conference on Tangible, Embedded and Embodied Interaction
- 2017 **AlterNail: Ambient, Batteryless, Stateful, Dynamic Displays at your Fingertips**  
*Christine Dierk*, Tomas Vega Gálvez, and Eric Paulos  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems
- 2016 **MyPart: Personal, Portable, Accurate, Airborne Particle Counting**  
Rundong Tian, *Christine Dierk*, Christopher Myers, and Eric Paulos  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems

## Patents Issued

- 2023 **Control Techniques for Multiple Alternating-Input Devices**  
Tenell Rhodes, Gavin SP Miller, *Christine Dierk*  
US Patent No. 11,829,020 - Issued November 28, 2023
- 2021 **Smart Hat Device for Interacting with Remote Devices and Displays**  
*Christine Dierk*, Scott Carter, Patrick Chiu, Anthony Dunnigan, Chelhwon Kim,  
Donald Kimber, Nami Tokunaga, Hajime Ueno  
US Patent No. 10,990,185 - Issued April 27, 2021
- Modular Reflective Light-Diffuser Devices**  
Tenell Rhodes, Gavin SP Miller, *Christine Dierk*  
US Patent No. 10,935,861 - Issued March 2, 2021
- 2020 **Low-Power, Personalized Smart Grips for VR/AR interaction**  
Daniel Avrahami, *Christine Dierk*, Scott Carter  
US Patent No. 10,867,448 - Issued December 15, 2020
- 2016 **Portable Airborne Particle Counting Systems and Methods**  
Eric Paulos, Rundong Tian, *Christie Dierk*, and Chris Myers  
US Patent No. 62/096,371 and WIPO 2016/105555 - Issued June 30, 2016

## Selected Talks, Posters, and Demos

- Talks **The Body as a Medium: Designing Digital Content for On-Body Displays**  
Adobe Tech Summit (2022)
- Cosmetic Computing**  
*Christine Dierk*, Molly Nicholas  
SWARM Lab Fall Retreat (2017)
- Real-Life Musical Composition through Virtual Means: a Mobile Application  
Controlled Ukulele-Playing Robot**  
*Christine Dierk*, Joel Hollingsworth  
National Conference on Undergraduate Research (2014)
- A Recursive Solution to Enumerating Directed Graphs**  
*Christine Dierk*, Todd Lee  
UNCG Regional Mathematics and Statistics Conference (2013)
- Posters **Determining Proximity through High Frequency Emission and Detection**  
*Christine Dierk*, Kurtis Heimerl, Björn Hartmann  
National Conference on Undergraduate Research (2014)
- Controlling an OSX Application through iOS and Kinect Input**  
*Christine Dierk*, Christian Poellabauer  
Experimental Research on Wireless Networking Poster Session (2012)

Demos **MAX Sneaks: Project Primrose**  
*Christine Dierk*, TJ Rhodes, Gavin Miller  
Adobe MAX 2023 | The Creativity Conference  
Adobe MAX Japan 2023 | The Creativity Conference

**Project Primrose: Reflective Light Diffuser Modules for Non-Emissive Flexible Display Systems**

*Christine Dierk*, TJ Rhodes, Gavin Miller  
UIST: ACM Symposium on User Interface Software and Technology (2022)

**AlterWear: Battery-Free Wearable Displays for Opportunistic Interactions**

*Christine Dierk*, Molly Jane Pearce Nicholas, Eric Paulos  
Berkeley Center for New Media Fall Open House (2018)

**HäirLÖ: Human Hair as Interactive Material**

*Christine Dierk*, Sarah Sterman, Molly Jane Pearce Nicholas, Eric Paulos  
TEI: ACM Conference on Tangible, Embedded and Embodied Interaction (2018)  
Berkeley Center for New Media Fall Open House (2017 & 2018)

**AlterNail: Ambient, Batteryless, Stateful, Dynamic Displays at your Fingertips**

*Christine Dierk*, Tomas Vega Gálvez, Eric Paulos  
Berkeley Center for New Media Fall Open House (2016 & 2017)  
SWARM Lab Fall Retreat (2016)

**MyPart: Personal, Portable, Accurate, Airborne Particle Counting**

Rundong Tian, *Christine Dierk*, Christopher Myers, Eric Paulos  
Berkeley EECS Annual Research Symposium (2015)

Workshop **Wearables Should Transcend Cultural Norms and Practices**

*Christine Dierk*, Eric Paulos  
(Un)Acceptable!?! -- Re-thinking the Social Acceptability of Emerging Technologies  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems (2018)

In the Press **Project Primrose**

“Talk About a Quick Change! Adobe Unveils a Futuristic Dress that Changes Design Every Second”. Sam Tonkin, **Daily Mail**. October 16, 2023.

“Adobe shows off digital dress made with interactive textiles during live presentation”. Cody Godwin, **USA Today**. October 17, 2023.

“Adobe's Wild Interactive Dress Changes Patterns When You Want It To”. Leslie Katz, **Forbes**. October 16, 2023.

“Adobe Introduces Project Primrose, a Digital Animated Dress That Can Change Patterns”. Bailey Richards, **People Magazine**. October 14, 2023.

“Adobe's high-tech fashion Project Primrose: A dress that changes designs”. **Times of India**. October 17, 2023.

Press cont. "Project Primrose: Look at Adobe's mind-blowing digital dress which can change patterns". Theo Farrant, **EuroNews**. October 18, 2023.

"Adobe made an animated dress and a bunch of wild AI editing tools".  
Jess Weatherbed, **The Verge**. October 11, 2023.

"Adobe reimagines fashion with a digital dress".  
Taylor O'Bier, **AOL**. October 16, 2023.

"Adobe unveils interactive, digital dress in Los Angeles".  
Josh DuBose, **KTLA**. October 15, 2023.

"Adobe Debuts Digital, Interactive Strapless Dress".  
Tara Mahadevan, **Complex**. October 17, 2023.

"Adobe Shows Off Dress That Can Change Its Pattern on the Fly".  
Noor Al-Sibai, **Futurism**. October 16, 2023.

"Engineers Behind Adobe's Interactive Dress Explain How It Changes Patterns Within Seconds". Hannah Malach, **WWD**. November 13, 2023.

"Meet Project Primrose, Adobe's Real-life Interactive Dress that Changes Design Every Second". Matthew Burgos, **Design Boom**. October 13, 2023.

"Project Primrose: The Fabric of the Future".  
Tomiwa Olubiire, **Medium**. October 20, 2023.

"Adobe's AI-enhanced dress speaks to 'smart' fashion's bigger problem".  
Madeleine Schulz, **Vogue Business**. October 18, 2023.

"Adobe Previews Dress Design You Can Change on a Dime".  
Meghan Hall, **Sourcing Journal**. October 17, 2023.

HäiriÖ

"Interactive Human Hair is the Latest in Wearable Tech".  
Matthew Hart, **Nerdist**. April 25, 2018.

"Human hair as a computer interface".  
David Pescovitz, **Boing Boing**. April 23, 2018.

"HairIO: an Interactive Extension of the Self".  
Kristina Panos, **Hackaday**. March 29, 2018.

"These interactive hair extensions can communicate over Bluetooth".  
Arduino Team, **Arduino Blog**. March 20, 2018.

"HäiriÖ Turns Hair Extensions into an Interactive Medium".  
Jeremy Cook, **Hackster.io**. March 20, 2018.

## Teaching

- 2020 **UC Berkeley CS160** - User Interface Design and Development  
*Graduate Student Instructor*
- 2018 **UC Berkeley NWMEDIA C203** - Critical Making  
*Graduate Student Instructor*
- 2017 **UC Berkeley DESINV 22** - Prototyping and Fabrication  
*Graduate Student Instructor*
- 2014 **Elon University** - Introduction to Electronics  
*Teaching Assistant*

## Interns Mentored

- 2023 **Shreyosi Endow** — PhD Student, University of Texas at Arlington
- 2022 **Ningjing Chen** — MFA Student, School of Visual Arts
- 2021 **Levi Kapllani** — PhD Student, Drexel University
- Annie Liu** — WiT Scholarship Recipient, University of Washington
- Agnes Nantista** — BFA Student, San Jose State University

## Academic Service

- 2015 — **ACM Reviewer**  
109 reviews total; 9 Special Recognitions for Outstanding Reviews  
*Special Recognition Reviews*: UIST, CHI, DIS, MobileHCI, C&C, CHI PLAY
- 2021 — 2022 **Associate Chair**  
MobileHCI: ACM International Conference on Mobile Human-Computer Interaction
- 2021 **Associate Chair**  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems
- Associate Chair, Pictorials Track**  
TEI: ACM SIGCHI Conference on Tangible, Embedded and Embodied Interaction
- 2019 — 2020 **PhD Admissions Committee, Computer Science Division**  
Human-Computer Interaction [HCI]  
University of California, Berkeley
- 2019 **MEng Admissions Committee, Computer Science Division**  
Visual Computing & Computer Graphics [VCCG]; Data Science & Systems [DSS]  
University of California, Berkeley
- 2015 **Student Volunteer**  
UIST: ACM Symposium on User Interface Software and Technology

## Industry Service

- 2022 — **Co-Chair, Intern Core Team**  
Adobe Research
- 2021 — **Code Quality Jam Planning Committee**  
Adobe Research
- 2022 **Co-Chair, Code Quality Jam Intern Event**  
Adobe Research
- 2021 — 2022 **Research Fellowship Selection Committee**  
Adobe Research
- 2021 **Women in Technology Scholarship Selection Committee**  
Adobe Research

## Awards & Fellowships

- 2015 **National Science Foundation (NSF) Graduate Research Fellow**  
*“Cosmetic Computing: Epidermal Interfaces and Interactive Electro Chemical Materials”*
- 2014 **EECS Departmental Excellence Award**  
University of California, Berkeley
- Computer Science Academic Achievement Award**  
Elon University
- Janie Crumpton Evans Reece Mathematics Scholar**  
Elon University
- 2013 **J. Albert Carpenter Computing Sciences Scholar**  
Elon University
- 2012 **Richard Carlisle Haworth Mathematics Scholar**  
Elon University
- 2010 **Presidential Scholar & Honors Fellow**  
Elon University