

Jas Brooks

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Education

Ph.D., Computer Science, University of Chicago, Chicago, IL.
Human Computer Integration Lab - Advisor: Assist. Prof. Pedro Lopes

Jan 2019 - Exp. 2024

B.Sc., Computer Science, University of Chicago, Chicago, IL.

2012 - 2016

Publications

Peer-Reviewed Conference Papers

ACM CHI and UIST are regarded as premiere venues for Human-Computer Interaction research with a 20-25% acceptance rate.

Brooks, J., Amin, N., Lopes, P. "Taste Retargeting via Chemical Taste Modulators." [C.7]
In Proc. UIST 2023. Forthcoming.

Brooks, J., Lopes, P. "Smell & Paste: Low-Fidelity Prototyping for Olfactory Experiences." [C.6]
In Proc. CHI 2023. [doi:10.1145/3544548.3580680](https://doi.org/10.1145/3544548.3580680).

Lu, J., Liu, Z., **Brooks, J.**, Lopes, P. "Chemical Haptics: Rendering Haptic Sensations via Topical Stimulants." [C.5]
In Proc. UIST 2021. [doi:10.1145/3472749.3474747](https://doi.org/10.1145/3472749.3474747).

Brooks, J., Teng, S., Wen, J., Nith, R., Nishida, J., Lopes, P. "Stereo-Smell via Electrical Trigeminal Stimulation." [C.4]
In Proc. CHI 2021. [doi:10.1145/3411764.3445300](https://doi.org/10.1145/3411764.3445300) 🏆

Fast Company Innovation by Design Honorable Mention in Experimental.

Takahashi, A., **Brooks, J.**, Kajimoto, H., Lopes, P. "Increasing Electrical Muscle Stimulation's Dexterity by means of Back of the Hand Actuation." [C.3]
In Proc. CHI 2021. [doi:10.1145/3411764.3445761](https://doi.org/10.1145/3411764.3445761). **Best Paper Award** (top 1%) 🏆

Je, S., Lim, H., Moon, K., Teng, S., **Brooks, J.**, Lopes, P., Bianchi, A. "Elevate: A Walkable Pin-Array for Large Shape-Changing Terrains." [C.2]
In Proc. CHI 2021. [doi:10.1145/3411764.3445454](https://doi.org/10.1145/3411764.3445454).

Brooks, J., Nagels, S., Lopes, P. "Trigeminal-Based Temperature Illusions." [C.1]
CHI 2020. [doi:10.1145/3313831.3376806](https://doi.org/10.1145/3313831.3376806). **Best Paper Award** (top 1%) 🏆

Magazine Publications

Lu, J., Liu, Z., **Brooks, J.**, Lopes, P. "Learning to work with chemicals as a haptic technology." [M.2]
ACM Interactions, Vol. 29, Iss. 4.

Brooks, J. "Promises of the virtual museum." [M.1]
ACM Crossroads Magazine for Students, January 2019. [doi:10.1145/3301483](https://doi.org/10.1145/3301483).

Posters

Lu, J., Liu, Z., **Brooks, J.**, Lopes, P. "Chemical Haptics: Rendering Haptic Sensations via Topical Stimulants." *UIST 2022*, November 2022. [P.2]

Brooks, J., Lopes, P. "HC²I: Human-Computer Chemosensory Interfaces." *Association for Chemoreception Sciences 2021 Virtual Meeting*, April 2021. [P.1]

Demos

Stereo-smell & Trigeminal-based Temperature Illusions, ACM SIGCHI 2021. [D.1]

Awards, Grants, Fellowships, & Residencies

Scientific Research

NSF Graduate Research Fellow, National Science Foundation 2018 - 2023

Scientific Award, Digital Olfaction Society for "Scent Tech at the Turn of the Century" talk with Prof. Simon Niedenthal (Malmö University). 2022

Snap Creative Challenge, Snap Inc. for "Re-Experiencing Moments via Smell." 2022

Innovation by Design Award Honorable Mention in Experimental Design, Fast Company for "Stereo-Smell". 2021

Best Paper Award, ACM CHI 2021 for "Increasing Electrical Muscle Stimulation's Dexterity by means of Back of the Hand Actuation". 2021

Best Paper Award, ACM CHI 2020 for "Trigeminal-based Temperature Illusions". 2020

NSF Travel Award to MoBI 2018. 2018

Arts & Culture

Graduate Fellow, Media Arts, Data, and Design Center, UChicago. 2022 - Present

Finalist for the Sadakichi Award (for Experimental Work with Scent), "Scent in Cinema" and "Twitch & Sniff Along" series, 8th Art and Olfaction Awards. 2022

Penny for your Thoughts, Mediamatic. 2021

Laboratory Residency, Spokane Interactive Arts. 2021

Art & Olfaction Accelerator Program, Institute for Art and Olfaction. 2021

Graduate Council Academic & Professional Funds, UChicago Graduate Council. 2020

UChicago Arts Grant, UChicago Arts. 2020

ASCI Graduate Collaboration Grant, UChicago Arts, Science, & Culture Initiative. 2019 - 2020

Chicago Awesome Foundation Grant, Chicago Awesome Foundation. 2019

Graduate Council Academic & Professional Funds , UChicago Graduate Council.	2018
Dean's Fund , UChicago College.	2016
Undergraduate Fellow , UChicago Game Changer Chicago Design Lab.	2015 - 2016

Selected Talks

Panels

Panelist and lead co-organizer, "Third Wave or Winter? The Past and Future of Smell in HCI" at ACM CHI 2023, alongside Dr. Jofish Kaye (Elevance Health), Prof. Marianna Obrist (UCL), Dr. Judith Amores (Microsoft Research), and Prof. Pedro Lopes (UChicago).	2023 [Pa. 1]
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Invited Talks

MO.CA Centro per le Nuove Culture (IT), hosted by curator Elena Giulia Abbiatici	2023 [T.19]
Anglia Ruskin University & University of Cambridge (UK), hosted by Prof. William Tullett (ARU) and Ally Louks (University of Cambridge)	2022 [T.17]
School of the Art Institute of Chicago (US), hosted by Prof. Tedd Neenan	2021 [T.13]
MIT Media Lab (US), hosted by Prof. Pattie Maes	2021 [T.12]
Northwestern University (US), hosted by Prof. Nabil Alshurafa	2021 [T.10]
Dagstuhl Seminar (DE) on "Physiological Interfaces" (Canceled due to COVID-19)	2020 [T.06]
University of Sussex (UK), hosted by Prof. Marianna Obrist	2018 [T.03]

Service & Outreach

Organizing Committee

SIGCHI Operations Committee	2021
Augmented Humans Social Media Chair	2021
ACM UIST Video Chair	2019

Program Committee

ACM UIST Papers ('22).

ACM CHI Papers ('24); Late-Breaking Work ('23-'20).

ACM TEI Pictorials ('24); Papers ('23); Work In Progress ('22-'21).

ACM DIS Papers ('23).

MUM Technical Papers ('24).

Session Chair

ACM CHI "VR/AR/XR Play Experiences" ('23), "Mouth-based Interaction" ('22). 2022 - 2023

ACM UIST "Mind and Body" ('22), "Illustration and Information Management" ('21). 2021 - 2022

European Chemoreception Research Organization (**ECRO**): "Chemosenses beyond science: How the humanities and social sciences can inform science" ('21). 2021

Peer Reviewing

I regularly review for conferences and journals (over 110 reviews since 2018). I received two special recognitions for outstanding reviews (formal distinction) from ACM CHI and four from ACM UIST. This includes: CHI ('19-'23), UIST ('18-'23), IEEE VR ('20), IEEE WHC ('21, '23), IMMUT ('22), CSCW ('22), AHs ('19), DIS ('19, '21, '23), Frontiers in VR ('20), IUI ('20-'21), SIGGRAPH Asia ('21, '23), TEI ('21-'23), VRST ('20), IMX ('23).

Academic Workshops & Symposia Organized

Lead Co-organizer, ACM CHI [Smell, Taste, & Temperature Interfaces Workshop](#) 2023

Co-organizer, ACM UIST Haptics Social Meetup 2021

Lead Co-organizer, ACM CHI [Smell, Taste, & Temperature Interfaces Workshop](#) 2021

Lead Co-organizer, Independent [Smell, Taste, & Temperature Symposium](#) 2020

Selected Outreach

Committee member, Humanities UX Program, University of Chicago. 2022

Invited speaker, Rewriting the Code, University of Illinois at Chicago. 2021

Co-organizer, [Ada Lovelace Week](#), University of Chicago (4-day symposium celebrating minority-gender technologists in art, industry, and academia). 2020

Membership Engagement Committee ('21) and Non-Affiliated Members Committee ('20) member, Institute of Food Technologists Student Association. 2020 - 2021

Experience

Research

Graduate Research Assistant, Human-Computer Integration Lab, Department of Computer Science, University of Chicago. 2018 - Present

Advisor: Assist. Prof. Pedro Lopes

Researcher, STAGE Lab, University of Chicago. 2017 - 2020

With: Prof. Nancy Kawalek

Teaching & Mentoring

Teaching Assistant, Introduction to Human-Computer Interaction (CMSC 20300), Department of Computer Science, University of Chicago. Fall 2020 - Present

Instructor of Record: Pedro Lopes

Responsibilities: Designed major project assignment and Unity template for HCI design. Adapted to work both on laptops and port to the Oculus Quest 2. Had 100+ students develop user interfaces for a VR diving simulation. Designed an optional assignment and Unity template for interactive haptic design with Oculus Quest 2.

Teaching Assistant, Inventing, Engineering and Understanding Interactive Devices (CMSC 23220), Department of Computer Science, University of Chicago. Spring 2019

Instructor of Record: Pedro Lopes

Responsibilities: Assisted with assignment grading and office hours. Designed lecture and problem set introducing students to Unity for VR. Had 35 students successfully create a VR experience including visuals, haptics, and wireless communication to a microcontroller in under one week.

Lecturer, Virtual Reality (ATS 4135), Department of Arts & Technology Studies, School of the Art Institute of Chicago. Fall 2018

Teaching Assistant: Zhong Ren

Responsibilities: Designed and taught masters art course on VR (14 students; 6 hours per week). Offered optional, weekly introduction to programming concepts.

Mentoring during Ph.D. at UChicago

Undergraduate students: Noor Amin (UChicago, '21-'23); Eva McCord (UChicago, '22); Oishee Chakrabarti (UChicago, '21); Daniel Steinberg (UChicago, '19).

Master's students: Jinxuan Wen (UChicago, '19-'20); Nitesh Nath (UChicago, '19). 2021 - 2022

Professional

Guest Artist Guide, Wrightwood 659, Chicago, IL, USA. 2020

Responsibilities: Co-led tour (with Elenora Edreva) for Wrightwood 659's "Allure of Matter" exhibition, focusing on engaging visitors with the exhibition through olfaction, sniffing, and discussion of materials.

Associate Software Developer, Argonne Leadership Computing Facility, Argonne National Laboratory, Lemont, IL, USA. 2016 - 2018

Advisors: Joseph Insley, Silvio Rizzi

Responsibilities: Co-advised undergraduate interns. Explored immersive visualizations and simulations primarily using Kasthuri Lab's electron microscopy imaging of a mouse's brain. Represented Argonne at a military conference on VR amongst national laboratories.

Selected Press & Exhibitions

Press

"Finally, the Scratch-and-Sniff Cassette Tapes You Crave Are Here", *hackster.io*. 2023 [Pr. 20]

“VR Still Stinks Because It Doesn’t Smell”, <i>WIRED</i> .	2022 [Pr. 19]
“The Metaverse, in Glorious Smell-O-Vision!”, <i>Built In</i> .	2022 [Pr. 17]
“Smell-O-Vision: This nose-zapping wearable simulates smell using electricity.” <i>Digital Trends</i> .	2021 [Pr. 14]
“Self-Contained Device Lets Users Smell in Stereo.” <i>Hackster.IO</i> .	2021 [Pr. 13]
“Digital Nose Stimulation Enables Smelling in Stereo.” <i>IEEE Spectrum</i> .	2021 [Pr. 12]
“VR wearable can simulate temperature changes using odorless chemicals.” <i>Digital Trends</i> .	2020 [Pr. 8]
“VR System Hacks Your Nose to Turn Smells Into Temperatures.” <i>IEEE Spectrum</i> .	2020 [Pr. 7]

Exhibitions

Stereo-smell in De geur van kleur (The color of smell). Online exhibition curated by the Smell Yourself Healthy student group at Wageningen University.	2022 [Ex. 3]
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Curation & Media Archaeological Research

In their spare time, they independently explore media archaeology, focusing on historical scent technologies and associated media from the 20th century onwards. These endeavors are not part of my dissertation work and form my extracurricular projects.

Scent Tech Histories

2021 - Present

Collaboration with: Prof Simon Niedenthal (Malmö University).

Conduct oral history research and media archaeology on scent technologies and their companies from the turn of the 21st century. Presentation at Digital Olfaction Society 2022 received “Scientific Award”.

Smell-O-Vision Restoration

2020 - Present

Collaboration with: Tammy Burnstock, Olivia Jezler, MANE.

Lead conservation of the last existing Smell-O-Vision system from the 1960s as well as the titular *Scent of Mystery* fragrance worn by Elizabeth Taylor.

AromaRama Media Archaeology

2020 - Present

Conduct original research on the history of AromaRama, Smell-O-Vision’s competitor, and its sole film, *Behind the Great Wall*. Most recently presented this work at Uncommon Senses IV, a premiere conference for Sensory Studies.

Timeless Smell Archive

2021 - Present

Manage the [Timeless Smell Archive](#), a digital archive of scratch-and-sniff cards and scent-media related documents.

Twitch and Sniff Along series

2021 - Present

Produced and curated the [“Twitch and Sniff Along” series](#) for the Weston Game Lab at the University of Chicago, featuring playthroughs (with scratch and sniff) and discussions of smell-based video games such as *Leather Goddesses of Phobos* (1986) and *Leisure Suit Larry: Love for Sail!* (1996). Recognized as a Finalist for the Sadakichi Award (for Experimental Work with Scent) at the 8th Art and Olfaction Awards.

Scent in Cinema series

2020 - Present

Produced and co-curated the ["Scent in Cinema" series](#) with [Tammy Burnstock](#), featuring screenings (with scratch and sniff) and discussions of scented cinema such as [A Tale of Old Whiff \(1960\)](#). Recognized as a Finalist for the Sadakichi Award (for Experimental Work with Scent) at the 8th Art and Olfaction Awards.

Commiserate Chicago

2020

Organized media arts festival, which took place at the University of Chicago.