

Beyond the Screen: Taste, Smell, and the Untapped Sensorium of Human-Computer Interaction

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Keynote abstract

For decades, the psychology of programming has largely taken for granted the sensory channels through which humans and computers communicate, including visual displays, auditory feedback, and haptic responses. But what if we have been working with only a fraction of the human sensorium? This talk ventures beyond the familiar into the largely uncharted territory of the chemical senses, (taste and smell) as viable, meaningful modalities for interaction design. It presents examples of research exploring interaction modalities beyond the screen, with a particular focus on the chemical senses. I will walk through studies and prototypes that bring smell into computing contexts, and share findings on why taste is an exciting, worthwhile interaction modality in Human-Computer Interaction (HCI). I will discuss what makes the chemical senses both compelling and scientifically demanding: their deep ties to memory and emotion, their hedonic immediacy, and the significant technical and methodological challenges that come with integrating them into interactive systems. This talk offers a research perspective on what the field has achieved, where the hard problems lie, and why the psychology of programming community is uniquely well placed to advance this work, as part of a broader cross-disciplinary effort spanning cognition, interaction design, and multisensory hardware development.

Speaker bio

Marianna Obrist is Professor of Multisensory Interfaces in the Department of Computer Science at University College London (UCL). She pioneers research on touch, taste, and smell in human-computer interaction (HCI), with applications spanning virtual reality, healthcare, and wellbeing. Her recent projects include the EPSRC/NIHR Smell Care initiative on digital smell training and testing, the EU FET Touchless.AI project on touchless social interaction, and the UKRI Textile Circularity Centre on immersive textile experiences. She is also co-founder and Chief Scientific Officer of Hynt Labs Limited, a spin-out developing digital scent technologies for personalised sleep solutions. Marianna has authored over 100 publications in leading journals and conferences and co-wrote *Multisensory Experiences: Where the Senses Meet Technology* (Oxford University Press). See her website for further information, examples, and xSense design cards: multisensoryexperiences.co.uk.