Beyond Interfaces: the Future of Edible Interactions

Hongyue Wang
Exertion Games Lab
Monash University
Melbourne, Victoria, Australia
hongyue.wang@monash.edu

Jialin Deng
Diverse-ability Interaction Lab,
School of Computer Science,
University of Bristol
Bristol, United Kingdom
jialin.deng@bristol.ac.uk

Yuchen Zheng
Exertion Games Lab
Monash University
Melbourne, Australia
yuchen.zheng@monash.edu

Ziqi Fang
Exertion Games Lab
Monash University
Melbourne, Australia
ziqi@exertiongameslab.org

Charles Spence
Crossmodal Research Laboratory,
University of Oxford
Oxford, United Kingdom
charles.spence@psy.ox.ac.uk

Ferran Altarriba Bertran
Playful Living Lab, Escola
Universitària ERAM
Salt, Girona, Spain
ferran.altarriba.bertran@eram.cat

Koya Narumi
Keio University
Kanagawa, Japan
narumi@keio.jp

Lei Gao
Department of Computer Science
University College London
London, United Kingdom
lei.gao.20@ucl.ac.uk

Weijen Chen
Keio University, Graduate School of
Media Design
Yokohama, Japan
weijen@kmd.keio.ac.jp

Lining Yao
Mechanical Engineering, Morphing
Matter Lab
University of California, Berkeley
Berkeley, California, USA
liningy@berkeley.edu

Mako Miyatake
Mechanical Engineering, Morphing
Matter Lab
University of California, Berkeley
Berkeley, California, USA
mako_miyatake@berkeley.edu

Marianna Obrist
Department of Computer Science,
University College London
London, United Kingdom
obristmarianna@gmail.com

Homei Miyashita
Meiji University
Tokyo, Japan
homei@homei.com

Chi Thanh Vi
Thu Dau Mot University
Thu Dau Mot City, Vietnam
vcthanh@hcmiu.edu.vn

Oussama Metatla
Diverse-ability Interaction Lab,
School of Computer Science,
University of Bristol
Bristol, United Kingdom
o.metatla@bristol.ac.uk

Florian 'Floyd' Mueller
Exertion Games Lab, Department of
Human-Centred Computing
Monash University
Melbourne, VIC, Australia
floyd@exertiongameslab.org

Figure 1: A collage showcasing emerging works on edible interaction.

Abstract

Recent HCI research increasingly incorporates edible interfaces into system design, moving beyond conventional user interface paradigms. Within this trajectory, edible interaction designers treat food materials as interactive media that can be sensed and actuated across multiple sensory modalities. This workshop convenes perspectives from HCI, fabrication, perceptual science, and materials science to build community, align knowledge, and articulate future directions for the field. Through multisensory demonstrations and hands-on activities in an **one-day** workshop, we aim to balance technological interventions with human factors to chart the future of edible interactions.

CCS Concepts

• **Human-centered computing → Interaction design**.

Keywords

edible interactions

ACM Reference Format:

Hongyue Wang, Jialin Deng, Yuchen Zheng, Ziqi Fang, Charles Spence, Ferran Altarriba Bertran, Koya Narumi, Lei Gao, Weijen Chen, Lining Yao, Mako Miyatake, Marianna Obrist, Homei Miyashita, Chi Thanh Vi, Oussama Metatla, and Florian 'Floyd' Mueller. 2026. Beyond Interfaces: the Future of Edible Interactions. In *Designing Interactive Systems Conference (DIS Companion '26), June 13–17, 2026, Singapore, Singapore.* ACM, New York, NY, USA, 5 pages. https://doi.org/10.1145/3802974.3807999

1 Background and Motivation

Edible interactions are gaining momentum as a growing area of HCI research that pushes beyond interfaces as traditionally understood. Rooted in Human-Food Interaction (HFI) [23] while extending beyond it, we aim to move away from treating foodstuffs as content delivered through screens or devices, and instead position edible materials themselves as interface, material, and interactive medium. In line with the innovative and cross-disciplinary tradition of the DIS conference, we aim to establish a platform that brings together researchers working on edible fabrication, multisensory and cross-modal design [27, 28], perceptual science, and material-centred user experience[9]. Across these efforts, food becomes a substrate that can be sensed, actuated, transformed, and experienced through multiple sensory channels, blurring distinctions between system and substance, interaction and ingestion, and technology and embodiment.

However, knowledge and practices in this area remain dispersed across disciplines, resulting in fragmented vocabularies, methods, and conceptual frames. Moving beyond interfaces therefore also implies a broader paradigm shift: from designing interactions around food to designing interactions through food. This shift calls for stronger community connections, shared foundations, and a collective reframing of how edible interactions are designed, studied, and positioned within the future of interactive systems.

To address this need, we will first reach out to researchers and practitioners from our core communities (e.g., HFI, design research, engineering, and computer science, as well as psychophysics, multisensory research, and perception science) to form the organizing team and establish a shared framework for the workshop discussions.

Our workshop's value lies in enabling live demonstrations, hands-on activities, and context-specific case discussions that help align concepts, connect technologies with theory, and surface collaboration opportunities and future application scenarios. The workshop will take the form of a guided interactive session with structured discussions. We expect 6–8 demos from the organizing team and invite attendees to contribute their own demos or artifacts, such as interactive systems, tangible prototypes, posters, design concepts, or early-stage ideas. In total, we anticipate no more than 12 demos, organized into 2–3 thematic groups, where each demo will be briefly presented and then discussed within its group. The

DIS Companion '26, Singapore, Singapore

ACM ISBN 979-8-4007-2632-3/26/06
https://doi.org/10.1145/3802974.3807999

session will conclude with an open "walk-and-talk" period and brainstorming on the future of edible interactions, supported by a guiding worksheet for participants to capture ideas, critiques, and connections.

Finally, beyond the workshop itself, we aim to cultivate a social and collaborative network that can evolve into a sustainable, interconnected community, supporting resource sharing, collaboration matchmaking, and the co-development of standards and ethical guidelines, thereby extending the workshop's impact and providing lasting support for this emerging field.

2 Main goals of the Workshop

In this workshop, we pursue three goals: (1) community building: connecting researchers from HCI, fabrication, perceptual science, and materials science to increase mutual awareness, help participants situate their work relative to others, and seed collaborations [2, 4]; (2) knowledge consolidation: through live demonstrations and shared methods, synthesizing current definitions, frameworks, and exemplars to establish a common foundation for the field; and (3) future agenda setting: co-creating a near-term roadmap that specifies methodological, ethical, and design priorities, including guidelines for creating meaningful edible interactions for particular target groups [8, 12, 20].

3 Brief Overview of the Activities

This one-day workshop foregrounds interaction, live demonstration, and embodied engagement with edible materials. Discussions are intentionally situated close to the act of eating, enabling participants to ground beyond-the-interface concepts in the immediacy of taste, texture, and multisensory experience. We begin with a brief welcome (5 minutes) outlining the workshop goals and format, followed by a short conceptual framing that revisits definitions of edible interfaces and introduces emerging frameworks to guide discussion. Participants then give concise self-introductions to share their perspectives and expertise related to edible interaction. The core of the workshop centers on hands-on demos and live experiential exchange. Subject to health and safety approval, we will coordinate with the DIS organizers to bring edible materials into the venue. Demos serve as interactive probes around which facilitated discussions examine materials, fabrication, enabling technologies, perception, user experience, and application contexts. By combining dialogue with tasting, touching, and observing edible artifacts, we connect prototypes to real-world challenges and establish shared conceptual ground. Participants may be split into small groups for the demo sessions and rotate across setups. The workshop concludes with an open walkthrough and Q&A, supporting informal exchange and networking. Overall, the format balances short framing segments with extended collaborative exploration, reflecting the interactive and interdisciplinary spirit of DIS while advancing food as an interactive, multisensory medium.

4 Topics of interest and Anticipated Outcomes

The topics of interest for the workshop include theories, methods, technologies, and application domains related to the design and study of edible interactions, organized through the following dimensions: 1) Design: design thinking, participatory and speculative approaches, and design methodologies for developing edible interfaces. 2) Materials and Fabrication: the current repertoire of edible materials; material properties and functionalities; interaction mechanisms; fabrication and prototyping approaches. 3) Interactive Technologies: enabling technologies for edible interactions, including wearable systems, and computational techniques, shape-changing interfaces. 4) User Experiences: multisensory interaction and augmentation, including crossmodal perception, sensation, and embodied eating experiences. 5) Evaluative Frames: methods of knowing and validation for edible interactions, such as qualitative and quantitative evaluation strategies, psychophysics measures. 6) Application Scenarios: i) Health and well-being: health, accessibility, inclusiveness, dietary needs, and supportive interventions; ii) Consumption and culture: dietary practices, perception, sociality, commensality, and cultural/ethical considerations; iii) Engagement and futures: entertainment, play, telepresence, and real-world deployment contexts.

Through this workshop, we will offer participants the opportunity to co-author a post-workshop article that communicates the key insights, tensions, and emerging directions surfaced during the workshop. Depending on the nature of the outputs, we will consider multiple publication pathways. For example, a DIS paper that formalizes the workshop discussions into a research agenda for edible interactions. In addition, we will share the workshop outcomes with a broader audience via the workshop website, including a summary of themes, curated demo highlights, and links to participant projects and resources (with permission). Beyond publications, we will translate the activities and collective insights into a lightweight toolkit for designing and evaluating edible interactions.

5 Organizers

Hongyue Wang is a Ph.D. candidate at the Exertion Games Lab at Monash University, investigating how technologies can enrich culinary practitioners' creativity through auditory interaction [34, 35] and food fabrication [36].

Jialin Deng is an HCI researcher and designer at the University of Bristol, exploring interfaces merging computational and edible materials to reimagine interaction design, assistive technology, and cross-sensory experiences [9–11].

Yuchen Zheng is a Ph.D. candidate at the Exertion Games Lab at Monash University, investigating Human-Food Interaction via extended reality systems that augment eating and drinking [39, 40].

Ziqi Fang is a Ph.D. candidate at the Exertion Games Lab at Monash University. She is a transdisciplinary designer and researcher, focusing on leveraging technology to redefine the future of human eating experiences [17].

Charles Spence is an Oxford experimental psychologist and head of the Crossmodal Research Lab. He applies neuroscience to multisensory design in food and drink [27, 28]. His recent work explores how technology will shape future dining experiences [29].

Ferran Altarriba Bertran is an Associate Professor at Escola Universitària ERAM, where he leads the Playful Living Lab. His work explores how technology design can highlight the inherent joy of food and foster more meaningful human–food entanglements

[1, 3]. Ferran has ample experience organizing workshops/SIGs at CHI, DIS, CHI Play, etc.

Koya Narumi is an Associate Professor at Keio University. His research spans HCI and computational fabrication, designing everyday objects with distributed materials/structures and fabricating them via inkjet/3D printing [19, 21, 22].

Lei Gao is a Research Fellow at UCL spanning HCI, acoustic levitation, and multisensory tangibles. She builds ultrasonic interfaces and fabrication workflows [13, 14], and co-led a workshop on emerging 3D-printing directions [15].

Weijen Chen is a Ph.D. candidate at Keio University. Trained in food design and visual communication, she explores how technology can enhance taste perception [7] and overall dining experiences [5, 6] via food interfaces.

Lining Yao is an Assistant Professor at UC Berkeley, where she directs the Morphing Matter Lab. She investigates mechanisms of morphing materials, computational design algorithms, and fabrication pipelines [37, 38].

Mako Miyatake is a Ph.D. student at UC Berkeley researching food-engineering interfaces and developing digital fabrication systems to support chefs' creativity [19, 26]. She trained in professional culinary arts and got a chef's license.

Marianna Obrist is Professor of Multisensory Interfaces at UCL and CSO of Hynt Labs, pioneering scent tech for sleep. Her research explores touch, taste, and smell in HCI, applied to VR/AR, automotive, and health [24, 25].

Homei Miyashita is a Professor at Meiji University, Tokyo. He is known for innovations such as the *Taste Display* and *Electric Salt*, and has received awards including the Ig Nobel Prize in Nutrition and the Lasting Impact Award [16, 18].

Chi Thanh Vi is a lecturer at the International University researching HCI, brain–computer interfaces, multisensory experience (taste, smell, touch) [30], and experimental psychology to build immersive, effective user interfaces [31–33].

Oussama Metatla is a Bristol Associate Professor, co-heading the Bristol Interaction Group and leading the Diverse-Ability Interaction Lab, designing inclusive interactions through multisensory, crossmodal, and embodied approaches.

Florian 'Floyd' Mueller is Professor of Future Interfaces at Monash University, directing the Exertion Games Lab. His research sits at the intersection of body, technology, and play to support more fulfilling lives.

References

[1] Ferran Altarriba Bertran, Jared Duval, Elena Márquez Segura, Laia Turmo Vidal, Yoram Chisik, Marina Juanet Casulleras, Oscar Garcia Pañella, Katherine Isbister, and Danielle Wilde. 2020. Chasing Play Potentials in Food Culture: Learning from Traditions to Inspire Future Human-Food Interaction Design. In *Proceedings of the 2020 ACM Designing Interactive Systems Conference* (Eindhoven, Netherlands) *(DIS '20)*. Association for Computing Machinery, New York, NY, USA, 979–991. doi:10.1145/3357236.3395575

[2] Ferran Altarriba Bertran, Samvid Jhaveri, Rosa Lutz, Katherine Isbister, and Danielle Wilde. 2019. Making Sense of Human-Food Interaction. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (Glasgow, Scotland Uk) *(CHI '19)*. Association for Computing Machinery, New York, NY, USA, 1–13. doi:10.1145/3290605.3300908

[3] Ferran Altarriba Bertran, Alexandra Pometko, Muskan Gupta, Lauren Wilcox, Reeta Banerjee, and Katherine Isbister. 2021. The Playful Potential of Shared Mealtime: A Speculative Catalog of Playful Technologies for Day-to-day Social Eating Experiences. *Proc. ACM Hum.-Comput. Interact.* 5, CHI PLAY, Article 267 (Oct. 2021), 26 pages. doi:10.1145/3474694

[4] Ferran Altarriba Bertran, Danielle Wilde, Ernő Berezvay, and Katherine Isbister. 2019. Playful Human-Food Interaction Research: State of the Art and Future Directions. In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play* (Barcelona, Spain) *(CHI PLAY '19)*. Association for Computing Machinery, New York, NY, USA, 225–237. doi:10.1145/3311350.3347155

[5] Weijen Chen, Qingyuan Gao, Zheng Hu, Kouta Minamizawa, and Yun Suen Pai. 2025. Living Bento: Heartbeat-Driven Noodles for Enriched Dining Dynamics. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. Association for Computing Machinery, New York, NY, USA, Article 353, 18 pages. doi:10.1145/3706598.3713108

[6] Weijen Chen, Kao-Hua Liu, Jiashuo Cao, Youichi Kamiyama, Sohei Wakisaka, Stefano Citi, Mark Billinghurst, Yun Suen Pai, and Kouta Minamizawa. 2025. Blooming Resonant Tea: A Multisensory Dining Experience with Dynamic Visuals and Music. In *ACM SIGGRAPH 2025 Emerging Technologies (SIGGRAPH '25)*. Association for Computing Machinery, New York, NY, USA, Article 2, 2 pages. doi:10.1145/3721257.3734024

[7] Weijen Chen, Yang Yang, Kao-Hua Liu, Yun Suen Pai, Junichi Yamaoka, and Kouta Minamizawa. 2024. Cymatics Cup: Shape-Changing Drinks by Leveraging Cymatics. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) *(CHI '24)*. Association for Computing Machinery, New York, NY, USA, Article 861, 19 pages. doi:10.1145/3613904.3642920

[8] Jialin Deng, Ferran Altarriba Bertran, Lining Yao, Marianna Obrist, Koya Narumi, Humphrey Yang, Mako Miyatake, and Florian Mueller. 2022. Mapping FoodHCI Futures. In *Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems* (New Orleans, LA, USA) *(CHI EA '22)*. Association for Computing Machinery, New York, NY, USA, Article 166, 5 pages. doi:10.1145/3491101.3516401

[9] Jialin Deng, Yinyi Li, Hongyue Wang, Ziqi Fang, and Florian 'Floyd' Mueller. 2025. Sonic Delights: Exploring the Design of Food as An Auditory-Gustatory Interface. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. Association for Computing Machinery, New York, NY, USA, Article 356, 19 pages. doi:10.1145/3706598.3713892

[10] Jialin Deng, Patrick Olivier, Josh Andres, Kirsten Ellis, Ryan Wee, and Florian Floyd Mueller. 2022. Logic Bonbon: Exploring Food as Computational Artifact. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* (New Orleans, LA, USA) *(CHI '22)*. Association for Computing Machinery, New York, NY, USA, Article 47, 21 pages. doi:10.1145/3491102.3501926

[11] Jialin Deng, Nathalie Overdevest, Patrick Olivier, and Florian 'Floyd' Mueller. 2024. From Plating to Tasting: Towards Understanding the Choreography of Computational Food. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) *(CHI '24)*. Association for Computing Machinery, New York, NY, USA, Article 359, 17 pages. doi:10.1145/3613904.3642516

[12] Jialin Deng, Yan Wang, Carlos Velasco, Ferran Altarriba Altarriba Bertran, Rob Comber, Marianna Obrist, Katherine Isbister, Charles Spence, and Florian 'Floyd' Mueller. 2021. The Future of Human-Food Interaction. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) *(CHI EA '21)*. Association for Computing Machinery, New York, NY, USA, Article 100, 6 pages. doi:10.1145/3411763.3441312

[13] Lei Gao, Giorgos Christopoulos, Prateek Mittal, Ryuji Hirayama, and Sriram Subramanian. 2024. StableLev: Data-Driven Stability Enhancement for Multi-Particle Acoustic Levitation. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) *(CHI '24)*. Association for Computing Machinery, New York, NY, USA, Article 202, 11 pages. doi:10.1145/3613904.3642286

[14] Lei Gao, Pourang Irani, Sriram Subramanian, Gowdham Prabhakar, Diego Martinez Plasencia, and Ryuji Hirayama. 2023. DataLev: Mid-air Data Physicalisation Using Acoustic Levitation. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (Hamburg, Germany) *(CHI '23)*. Association for Computing Machinery, New York, NY, USA, Article 312, 14 pages. doi:10.1145/3544548.3581016

[15] Lei Gao, Yutaka Tokuda, Shubhi Bansal, and Sriram Subramanian. 2024. Computational Gastronomy and Eating with Acoustophoresis. In *Companion Proceedings of the 26th International Conference on Multimodal Interaction* (San Jose, Costa Rica) *(ICMI Companion '24)*. Association for Computing Machinery, New York, NY, USA, 113–116. doi:10.1145/3686215.3686218

[16] Nobuhito Kasahara, Miku Fukaike, and Homei Miyashita. 2025. TTTV4: Cutlery-Type Taste Display Toward Personal Taste Media. In *Adjunct Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology*. 1–3.

[17] Qingqin Liu, Ziqi Fang, Jiayi Wu, Shaoyu Cai, Jianhui Yan, Tiande Mo, Shuk Ching Chan, and Kening Zhu. 2025. VirCHEW Reality: On-Face Kinesthetic Feedback for Enhancing Food-Intake Experience in Virtual Reality. In *Proceedings of the Special Interest Group on Computer Graphics and Interactive Techniques Conference Conference Papers (SIGGRAPH Conference Papers '25)*. Association for Computing Machinery, New York, NY, USA, Article 19, 13 pages. doi:10.1145/3721238.3730694

[18] Homei Miyashita. 2024. Taste Media: Innovative Technology Transforms the Eating Experience. In *International Conference on Modeling Decisions for Artificial Intelligence*. Springer, 8–16.

[19] Mako Miyatake, Koya Narumi, Yuji Sekiya, and Yoshihiro Kawahara. 2021. Flower Jelly Printer: Slit Injection Printing for Parametrically Designed Flower Jelly. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) *(CHI '21)*. Association for Computing Machinery, New York, NY, USA, Article 425, 10 pages. doi:10.1145/3411764.3445346

[20] Florian Floyd Mueller, Pedro Lopes, Paul Strohmeier, Wendy Ju, Caitlyn Seim, Martin Weigel, Suranga Nanayakkara, Marianna Obrist, Zhuying Li, Joseph Delfa, Jun Nishida, Elizabeth M. Gerber, Dag Svanaes, Jonathan Grudin, Stefan Greuter, Kai Kunze, Thomas Erickson, Steven Greenspan, Masahiko Inami, Joe Marshall, Harald Reiterer, Katrin Wolf, Jochen Meyer, Thecla Schiphorst, Dakuo Wang, and Pattie Maes. 2020. Next Steps for Human-Computer Integration. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) *(CHI '20)*. Association for Computing Machinery, New York, NY, USA, 1–15. doi:10.1145/3313831.3376242

[21] Koya Narumi, Yuichi Hirose, Hsuanling Lee, Maria Larsson, Liang He, Mackenzie Leake, Jack Forman, Behnaz Farahi, Lining Yao, and Takeo Igarashi. 2025. Computational Tailor-Making for Personalized, Shape-changing, and Sustainable Fabrics. In *Adjunct Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology (UIST Adjunct '25)*. Association for Computing Machinery, New York, NY, USA, Article 11, 4 pages. doi:10.1145/3746058.3758470

[22] Koya Narumi, Kazuki Koyama, Kai Suto, Yuta Noma, Hiroki Sato, Tomohiro Tachi, Masaaki Sugimoto, Takeo Igarashi, and Yoshihiro Kawahara. 2023. Inkjet 4D Print: Self-folding Tessellated Origami Objects by Inkjet UV Printing. *ACM Trans. Graph.* 42, 4, Article 117 (July 2023), 13 pages. doi:10.1145/3592409

[23] Marianna Obrist, Ferran Altarriba Bertran, Neharika Makam, Soh Kim, Christopher Dawes, Patrizia Marti, Maurizio Mancini, Eleonora Ceccaldi, Nandini Pasumarthy, Sahej Claire, et al. 2024. Grand challenges in human-food interaction. *International Journal of Human-Computer Studies* 183 (2024), 103197. doi:10.1016/j.ijhcs.2023.103197

[24] Marianna Obrist, Carlos Velasco, Chi Vi, Nimesha Ranasinghe, Ali Israr, Adrian Cheok, Charles Spence, and Ponnampalam Gopalakrishnakone. 2016. Sensing the future of HCI: touch, taste, and smell user interfaces. *Interactions* 23, 5 (Aug. 2016), 40–49. doi:10.1145/2973568

[25] Marianna Obrist, Carlos Velasco, Chi Thanh Vi, Nimesha Ranasinghe, Ali Israr, Adrian D. Cheok, Charles Spence, and Ponnampalam Gopalakrishnakone. 2016. Touch, Taste, & Smell User Interfaces: The Future of Multisensory HCI. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (San Jose, California, USA) *(CHI EA '16)*. Association for Computing Machinery, New York, NY, USA, 3285–3292. doi:10.1145/2851581.2856462

[26] Yuecheng Peng, Mako Miyatake, Tyler L Peng, Qiuyu Lu, Yue Yang, and Lining Yao. 2025. BioTube: Designing and Fabricating Biodegradable Hollow Tubular Devices Through Progressive Crosslinking Alginate. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. Association for Computing Machinery, New York, NY, USA, Article 437, 21 pages. doi:10.1145/3706598.3714165

[27] Charles Spence. 2018. *Gastrophysics: The New Science of Eating*. Penguin General UK, London, UK. 336 pages. Foreword by Heston Blumenthal.

[28] Charles Spence and Betina Piqueras-Fiszman. 2014. *The Perfect Meal: The Multisensory Science of Food and Dining*. John Wiley & Sons, Ltd, Chichester, West Sussex, UK. Foreword by Heston Blumenthal.

[29] C. Spence and C. Velasco. 2025. *Digital Dining: New Innovations in Food and Technology*. Springer Nature Switzerland.

[30] Chi Thanh Vi, Damien Ablart, Daniel Arthur, and Marianna Obrist. 2017. Gustatory interface: the challenges of 'how' to stimulate the sense of taste. In *Proceedings of the 2nd ACM SIGCHI International Workshop on Multisensory Approaches to Human-Food Interaction* (Glasgow, UK) *(MHFI 2017)*. Association for Computing Machinery, New York, NY, USA, 29–33. doi:10.1145/3141788.3141794

[31] Chi Thanh Vi, Damien Ablart, Elia Gatti, Carlos Velasco, and Marianna Obrist. 2017. Not just seeing, but also feeling art: Mid-air haptic experiences integrated in a multisensory art exhibition. *International Journal of Human-Computer Studies* 108 (2017), 1–14.

[32] Chi Thanh Vi, Asier Marzo, Damien Ablart, Gianluca Memoli, Sriram Subramanian, Bruce Drinkwater, and Marianna Obrist. 2017. Tastyfloats: A contactless food delivery system. In *Proceedings of the 2017 ACM international conference on interactive surfaces and spaces*. 161–170.

[33] Chi Thanh Vi, Asier Marzo, Gianluca Memoli, Emanuela Maggioni, Damien Ablart, Martin Yeomans, and Marianna Obrist. 2020. LeviSense: A platform for the multisensory integration in levitating food and insights into its effect on flavour perception. *International Journal of Human-Computer Studies* 139 (2020), 102428.

[34] Hongyue Wang, Sasindu Abewickrema, Yuchen Zheng, 'Cosmos' Po-Yao Wang, Hong Luo, Ziqi Fang, Jialin Deng, Nandini Pasumarthy, Don Samitha Elvitigala, and Florian 'Floyd' Mueller. 2026. GastroConcerto: Towards Designing Dining–Sound Pairings to Support Culinary Creativity. In *Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (CHI '26)*. 1–23. doi:10.1145/3772318.3790348

[35] Hongyue Wang, Jialin Deng, Linjia He, Nathalie Overdevest, Ryan Wee, Yan Wang, Phoebe O Toups Dugas, Don Samitha Elvitigala, and Florian Floyd Mueller. 2025. Towards Understanding Interactive Sonic Gastronomy with Chefs and Diners. *Proceedings of the 2025 CHI conference on human factors in computing systems* (2025), 1–19. doi:10.1145/3706598.3714237

[36] Hongyue Wang, Jialin Deng, Aravind Mohan, Yinyi Li, Hao Peng, Linjia He, Don Samitha Elvitigala, and Florian'Floyd' Mueller. 2024. pic2eat: Facilitating Social Ice-breaking through Collaborative Design of 3D Printed Appetizer. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*. 1–7. doi:10.1145/3613905.3651082

[37] Wen Wang, Lining Yao, Teng Zhang, Chin-Yi Cheng, Daniel Levine, and Hiroshi Ishii. 2017. Transformative Appetite: Shape-Changing Food Transforms from 2D to 3D by Water Interaction through Cooking. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (Denver, Colorado, USA) *(CHI '17)*. Association for Computing Machinery, New York, NY, USA, 6123–6132. doi:10.1145/3025453.3026019

[38] Lining Yao, Jifei Ou, Chin-Yi Cheng, Helene Steiner, Wen Wang, Guanyun Wang, and Hiroshi Ishii. 2015. bioLogic: Natto Cells as Nanoactuators for Shape Changing Interfaces. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (Seoul, Republic of Korea) *(CHI '15)*. Association for Computing Machinery, New York, NY, USA, 1–10. doi:10.1145/2702123.2702611

[39] Yuchen Zheng, Jialin Deng, Hongyue Wang, Florian 'Floyd' Mueller, Xueni Pan, and Marco Fyfe Pietro Gillies. 2025. immersiTea: Exploring Multisensory Virtual Reality Environments to Enrich Bubble Tea Drinking Experiences. In *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25)*. Association for Computing Machinery, New York, NY, USA, Article 613, 7 pages. doi:10.1145/3706599.3720228

[40] Yuchen Zheng, Ashlyn Doyle, Hongyue Wang, Jialin Deng, Don Samitha Elvitigala, and Florian Mueller. 2025. "When You Are the Plant": Encouraging Hydration Through Playful Virtual Reality Embodiment. In *Proceedings of the IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*. IEEE, Los Angeles, USA.