Chi Thanh **Vi**

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Summary

I have been a Research Fellow in the School of Psychology, University of Sussex, since 07/2018. Previously, I was a Research Fellow in Multisensory Experiences at the Sussex Human-Computer Interaction (SCHI /sky/) Lab, School of Engineering and Informatics, University of Sussex, and a Research Assistant at the Bristol Interaction & Graphics (BIG) Lab, Computer Science Department, University of Bristol.

I received my Ph.D. in Computer Science in 2014 and my MSc in Advance Computing: Internet Technologies with Security in 2008 from the University of Bristol, UK, while working with Prof. Sriram Subramanian. I received my BSc in Electronics and Telecommunications at Hanoi University of Science and Technology, Vietnam, in 2006.

My research interest is in a multidisciplinary domain, where there is a cross-feeding between Computer Science, Human-Computer Interaction, Multisensory Experience (taste, smell, and flavor), Experimental Psychology, and Neuroscience. In addition, I am interested in harnessing novel technology to enhance human-computer interaction bandwidth and enrich user experience.

My works have been covered on popular channels such as BBC Click, ITV Good Morning Britain, The Times, Digital Trends, The Evening Standard, IEEE Spectrum, WIRED, and in different languages (i.e., English, French, German, Japanese, Vietnamese, Chinese, and Russian).

Education

University of Bristol
Bristol, UK

PhD in Human Computer Interaction
May 2010 - May 2014

- **Supervisor**: Professor Sriram Subramanian.
- **Research focus**: My thesis focused on designing novel human-computer interaction techniques and harnessing physiological signals to enrich interactive applications and assist computer users. Specifically, I investigated how to use brain sensing techniques, such as EEG (Electroencephalography), to evaluate interactive applications in different scenarios. I also investigated the detection of human error awareness using EEG while interacting with computing systems.
- **Thesis**: Designing Interactive Applications using Active and Passive EEG-based BCI Systems.

University of Bristol
Bristol, UK

MSc in Internet Technology and Security
Sep 2007 - Nov 2008

- **Selected Subjects**: Web Technologies, Cryptography, Information Security, Mobile and Ubiquitous Computing.
- **Grade**: Second class honours, upper division (2:1).
- **Thesis**: Investigating human movement models in improving user interaction using pen input devices.

Hanoi University of Science and Technology
Hanoi, Vietnam

BSc in Electronics and Telecommunications
Sep 2001 - May 2006

- **Selected Subjects**: Digital Signal Processing, Automatic Control Theory, Microwave Engineering, Microprocessors, Data Transmission, Optical Fiber Communications.
- **Grade**: Distinction.
- **Thesis**: Research & Development of Voice Over IP Systems.

Work Experience

School of Psychology, University of Sussex
Brighton, UK

Research Fellow
Aug 2018 - PRESENT

- Work at the Sussex Ingestive Behaviour Group, led by Prof. Martin Yeomans.
- My responsibility is to design, conduct, and analyze a series of experimental studies examining how the character of food-related odors is changed by association with specific reward (i.e., sweet) and aversive (i.e., bitter or sour) tastes.
- In this post, I designed and self-built novel interactive multisensory device (i.e., to deliver taste and smell) using cutting-edge technology (i.e., acoustic levitation). I then used traditional brain scanning techniques (i.e., fMRI and EEG) to examine the behavior and neural changes underlying the altered odor experience.

SCHI Lab, University of Sussex
Brighton, UK

Research Fellow in Multisensory Experience
Jul 2015 - Jul 2018

- Work at the Sussex Computer Human Interaction (SCHI /sky/) Lab, led by Dr. Marianna Obrist.
- My research objectives were to explore and develop novel interaction techniques using different senses, especially taste and smell, and evaluate the developed interactive applications using novel quantitative methods in experimental psychology (such as EEG and fMRI).

BIG Lab, University of Bristol *Bristol, UK*

RESEARCH ASSISTANT IN SHAPE CHANGING INTERFACES *Jul 2014 - Jul 2015*

- I worked closely with Professor Sriram Subramanian in the Bristol Interaction and Graphics group within the Department of Computer Science on a project exploring the evaluation of shape-changing interfaces.
- My tasks were to develop novel interactive display devices, investigate the User Experience (UX) of interactive display devices using novel evaluation methods, explore direct and indirect interaction techniques with such display devices in novel scenarios, and examine how these devices can become part of an ecology of displays (both 2D and 3D).

SPHERE Group, University of Bristol *Bristol, UK*

RESEARCH ASSISTANT *May 2014 - Jul 2014*

- I worked on the SPHERE project under the supervision of Professor Ian Craddock.
- The overall objective of this project is to develop a novel sensing technique to diagnose and help manage health and well-being conditions.
- My task was to investigate the capabilities of various EEG sensors and systems to provide simple, convenient, reliable EEG measurements for older adults..

ICD Lab, Tohoku University *Sendai, Japan*

RESEARCH FELLOW *Dec 2012 - May 2013*

- I spent six months here as a Ph.D. research fellow under the supervision of Professor Yoshifumi Kitamura.
- My main objective was to evaluate existing interactive applications using physiological signals (particularly using portable and commodity EEG neuro-headsets).

R&D Lab, Hanoi University of Science and Technology *Hanoi, Vietnam*

RESEARCH ASSISTANT *Jun 2005 - Jun 2006*

- Researched and deployed the project Voice over IP (VoIP) as part of the Bach Khoa Unified Messaging Network (BKUMN) project.
- I successfully implemented two systems using VoIP: Web2Phone and Asterisk.

Honors & Awards

2017	**Best demo award**, ACM International Conference on Interactive Surfaces and Spaces (ISS)	*Brighton, UK*
2013	**Honorable mention paper award**, International Conference on Advances in Computer Entertainment Technology (ACE)	*Enschede, Netherlands*
2012	**Best paper award**, ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)	*Austin, Texas, U.S.A*
2006	**Second prize award**, "Student research contest" at the Hanoi University of Science and Technology	*Hanoi, Vietnam*
2005	**Commendation awards**, for having excellent achievement in academic year 2004, 2005 at the Hanoi University of Science and Technology	*Hanoi, Vietnam*

Academic Activities

- **Associate Journal Editor**
  - International Journal of Human-Computer Studies.
  - Frontiers in Human-Media Interaction (Computer Science).

- **Program Committee Member**
  - ACM CHI Conference on Human Factors in Computing Systems. Hamburg, Germany – CHI 2023
  - The 17th IFIP TC.13 International Conference on Human-Computer Interaction – INTERACT 2019, 2021, 2023
  - Workshop on Multisensory Approaches to Human-Food Interaction - MAHFI 2017, 2018.
  - ACM Multimedia Conference - MM 2017, 2018
  - aBCI 2015 - 4th Workshop on Affective Brain Computer Interaction – aBCI 2015.
  - International Conference on Entertainment Computing – ICEC 2012, 2013.

- **Organizing Committee Member**
  - CHI 2016 Workshop on "Touch, Taste, and Smell User Interfaces: The Future of Multisensory HCI

- **Reviewer**: continuously from 2010 to present
  - Conferences: CHI, UIST, ICMI, DIS, INTERACT, TEI, MM, OzCHI, MobileHCI, EICS, ICEC, UbiComp, and so on.
  - Journals: ToCHI, IJHCS, Frontiers in Computer Science, Frontiers in Neuroscience, Quality and User Experience, Behaviour Information Technology, Interacting with Computers, and so on.

Publications

JOURNALS

- Martin R Yeomans, <u>Chi Thanh Vi</u>, Narmeen Mohammed, Rhiannon M Armitage. "*Re-evaluating how sweet-liking and PROP-tasting are related*". Physiology & Behavior, Volume 246, 15 March 2022, 113702

- Martin R Yeomans, Thomas Ridley-Siegert, <u>Chi Thanh Vi</u>, Hans S.Crombag. "*Visual cues associated with sweet taste increase short-term eating and grab attention in healthy volunteers.*". Physiology & Behavior, Volume 241, 1 November 2021, 113600

- Jenny Morris, <u>Chi Thanh Vi</u>, Marianna Obrist, Sophie Forster, Martin R. Yeomans. "*Ingested but not perceived: Response to satiety cues disrupted by perceptual load*". Appetite, Volume 155, 1 December 2020, 104813.

- <u>Chi Thanh Vi</u>, Asier Marzo, Gianluca Memoli, Emanuela Maggioni, Damien Ablart, Martin Yeomans, Marianna Obrist. "*LeviSense: A Platform for the Multisensory Integration in Levitating Food and Insights into its Effect on Flavour Perception*". International Journal of Human-Computer Studies. Volume 139, July 2020, 102428.

- <u>Chi Thanh Vi</u>, Marianna Obrist. "*Sour Promotes Risk-Taking: An Investigation into the Effect of Taste on Risk-Taking Behaviour in Humans*". Nature Scientific Reports. May 2018.

- <u>Chi Thanh Vi</u>, Damien Ablart, Elia Gatti, Calos Velosco, Marianna Obrist. "*Not just seeing, but also feeling Art: Mid-air Haptic Experiences integrated in a Multisensory Art Exhibition*". International Journal of Human-Computer Studies. vol. 108, p. 1-14. December 2017.

- <u>Chi Thanh Vi</u>, Kazuki Takashima, Hitomi Yokoyama, Gengdai Liu, Yuichi Itoh, Sriram Subramanian, Yoshifumi Kitamura. "*A Dynamic Flexible and Interactive Display Method of Digital Photographs*". Entertainment Computing, November 2014. ISSN 1875-9521.

BOOK CHAPTERS

- Jason Alexander and <u>Chi Thanh Vi</u>. "*DSP Basics*". Intelligent Computing for Interactive System Design: Statistics, Digital Signal Processing, and Machine Learning in Practice, p105-139. Association for Computing Machinery. New York, NY, USA

- Patricia Cornelio Martinez, <u>Chi Thanh Vi</u>, Giada Brianza, Emmanuela Maggioni, Marianna Obrist. "*Smell & Taste-based Interactions enabled through Advances in Digital Technology*". Handbook of Human-Computer Interaction. Springer Nature. 2022. (**SUBMITTED**)

PEER-REVIEWED CONFERENCE PAPERS

- <u>Chi Thanh Vi</u>, Daniel Arthur, Marianna Obrist. "*TasteBud: Bring Taste Back into the Game*". 3rd ACM SIGCHI International Workshop on Multisensory Approaches to Human-Food Interaction. Boulder CO USA. 2018.

- <u>Chi Thanh Vi</u>, Asier Marzo, Damien Ablart, Gianluca Memoli, Sriram Subramanian, Bruce Drinkwater, Marianna Obrist. "*TastyFloats: A Contactless Food Delivery System*". ACM International Conference on Interactive Surfaces and Spaces. Brighton, UK. 2017. ★ Best Demo Award ★

- Dmitrijs Dmitrenko, Emanuela Maggioni, <u>Chi Thanh Vi</u>, Marianna Obrist. "*Did I Sniff? Mapping Scents Onto Driving-Related Messages*". ACM International Conference on Automotive User Interfaces and Interactive Vehicular Applications (AutomotiveUI). Oldenburg, Germany. 2017.

- <u>Chi Thanh Vi</u>, Kasper Hornbæk, Sriram Subramanian. "*Neuroanatomical Correlates of Perceived Usability*". ACM Symposium on User Interface Software and Technology (UIST). Quebec, Canada. 2017.

- Patricia Cornelio Martinez, Silvana De Pirro, <u>Chi Thanh Vi</u>, Sriram Subramanian. "*Agency in mid-air Interfaces*". In proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI). Denver. USA. 2017.

- Bo Wan, <u>Chi Thanh Vi</u>, Sriram Subramanian, Diego Martinez Plasencia. "*Enhancing Interactivity with Transcranial Direct Current Stimulation*". In Proceedings of the 21st International Conference on Intelligent User Interfaces Companion (IUI). Sonoma, California. 2016.

- Dmitrijs Dmitrenko, <u>Chi Thanh Vi</u>, and Marianna Obrist. "*A Comparison of Scent-Delivery Devices and Their Meaningful Use for In-Car Olfactory Interaction*". In Proceedings of the AutomotiveUI: 8th International Conference on Automotive User Interfaces and Interactive Vehicular Applications (AutomotiveUI). Ann Arbor, MI, USA. 2016

- Marianna Obrist, Carlos Velasco, <u>Chi Thanh Vi</u>, Nimesha Ranasinghe, Ali Israr, Adrian Cheok, Charles Spence, Ponnampalam Gopalakrishnakone. "*Touch, Taste, & Smell User Interfaces: The Future of Multisensory HCI*". Proceedings of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems. San Jose, CA, USA. 2016

- Camille Jeunet, <u>Chi Thanh Vi</u>, Daniel Spelmezan, Bernard Nkaoua, Fabien Lotte, Sriram Subramanian. "*Continuous Tactile Feedback for Motor-Imagery based Brain-Computer Interaction in a Multitasking Context*". 15th IFIP International Conference on Human-Computer Interaction (INTERACT). Bamberg, Germany. 2015.

- <u>Chi Thanh Vi</u>, Izdihar Jamil, David Coyle, Sriram Subramanian. "*Error Related Negativity in Observing Interactive Tasks*". In proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI), ACM. Toronto, Canada. 2014.

- <u>Chi Thanh Vi</u>, Kazuki Takashima, Hitomi Yokoyama, Gengdai Liu, Yuichi Itoh, Sriram Subramanian, Yoshifumi Kitamura. "*D-FLIP: Dynamic & Flexible Interactive PhotoShow*". In proceedings of Advances in Computer Entertainment (ACE 2013). Enschede, Netherlands. 2013. ★ Honorable Mention Award ★

- Yoshifumi Kitamura, <u>Chi Thanh Vi</u>, Gengdai Liu, Kazuki Takashima, Yuichi Itoh, Sriram Subramanian. "*-FLIP: Dynamic & Flexible Interactive PhotoShow*". ACM SIGGRAPH Asia Emerging Technologies. Hong Kong, China. 2013.

- <u>Chi Thanh Vi</u>, Sriram Subramanian. "*Detecting Error-Related Negativity For Interaction Design*". In proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI), ACM. Austin, Texas, USA. 2012. ★ Best Paper Award ★

WORKSHOPS - MAGAZINES - TECHNICAL REPORTS - CONFERENCE ABSTRACTS

- <u>Chi Thanh Vi</u>, Patricia Cornelio, Marianna Obrist, Martin Yeomans. "*Evaluating the sense of agency for taste in moderate sweet likers.*". Appetite. Volume 179, 2022, 106238

- Rhiannon M. Armitage, <u>Chi Thanh Vi</u>, Martin R. Yeomans. "*Exploring phenotypic differences in the remembered experience of odours: the effects of sweet liking.*". Appetite. Volume 169, 2022, 105566

- <u>Chi Thanh Vi</u>, Lydia Henke, Patricia Cornelio Matinez, Marianna Obrist, Martin Yeomans. "*Exploring the effect of taste on sense of agency and predictions from eating behaviour*". Appetite. Volume 169, 2022, 105527

- <u>Chi Thanh Vi</u>, Dmitrijs Dmitrenko, Martin Yeomans. "*Eating like an astronaut: An investigation of how children are willing to eat "flying" foods using acoustic levitation*". British Feeding and Drinking Group 43rd Annual Meeting (BFDG). Swansea, UK.

- Rhiannon Armitage, <u>Chi Vi</u>, Vasiliki Iatridi, Martin R. Yeomans.. "*Understanding sweet-liker phenotypes: exploring habitual intake of western diet, impulsitivity and childhood eating experience.*". Appetite 157 (2020) 104939

- Martin Yeomans, Vasiliki Iatridi, Rhiannon Armitage, <u>Chi Thanh Vi</u>. "*Understanding sweet-liker phenotypes: strong liking for sweetness is associated with higher reward sensitivity but lower adiposity.*". International Symposium on Olfaction and Taste 2020. Portland, Oregon, USA.

- <u>Chi Thanh Vi</u>, Asier Marzo, Gianluca Memoli, Emanuela Maggioni, Damien Ablart, Martin Yeomans, Marianna Obrist. "*Multisensory Integration in Levitating Food and the Effect of Vision and Smell on Flavour Perception.*". International Symposium on Olfaction and Taste 2020. Portland, Oregon, USA.

- <u>Chi Thanh Vi</u>, Damien Ablart, Daniel Arthur, Marianna Obrist. "*Gustatory Interface: The Challenges of 'How' to Stimulate the Sense of Taste.*". In Proceedings of 2nd ACM SIGCHI International Workshop on Multisensory Approaches to Human-Food Interaction (MHFI'17). ACM, New York, NY, USA.

- Damien Ablart, Carlos Velasco, <u>Chi Thanh Vi</u>, Elia Gatti, Marianna Obrist. "*The how and why behind a multisensory art display*". ACM Magazine Interaction. Volume 24 Issue 6, November + December 2017. Pages 38-43.

- Marianna Obrist, Elia Gatti, Emanuela Maggioni, <u>Chi Thanh Vi</u>, Carlos Velasco. "*Multisensory Experiences in HCI*". In IEEE MultiMedia, vol. 24, no. 2, pp. 9-13, Apr.-June 2017.

- Marianna Obrist, Carlos Velasco, <u>Chi Thanh Vi</u>, Nimesha Ranasinghe, Ali Israr, Adrian Cheok, Charles Spence, Ponnampalam Gopalakrishnakone. "*Sensing the future of HCI: touch, taste, and smell user interfaces*". ACM Magazine Interaction. Volume 23 Issue 5, September + October 2016. Pages 40-49.

- Dmitrijs Dmitrenko, <u>Chi Thanh Vi</u>, Marianna Obrist. "*A Comparison of Scent-Delivery Devices and their Meaningful Use*". Position Paper at ACM CHI Workshop on Touch, Taste, & Smell User Interfaces: The Future of Multisensory HCI. San Jose, CA, USA. 2016.

- <u>Chi Thanh Vi</u>, Jason Alexander, Pourang Irani, Behrad Babaee, Sriram Subramanian. "*Quantifying EEG Measured Task Engagement for use in Gaming Applications*". Technical Report. University of Bristol. November 2014.

- <u>Chi Thanh Vi</u>, Sriram Subramanian. "*Online Single Trial ERN Detection As An Interaction Aid In HCI Applications*". In ACM CHI Workshop on Brain and Body Interfaces: Designing for Meaningful Interaction. Vancouver, Canada. 2011.

THESIS

- <u>Chi Thanh Vi</u>. "*Designing Interactive Applications using Active and Passive EEG-based BCI Systems*". PhD Thesis. University of Bristol. September 2014.

- <u>Chi Thanh Vi</u>. "*Investigating human movement models in improving user interaction using pen input devices*". MSc Thesis. University of Bristol. November 2008.

- <u>Chi Thanh Vi</u>. "*Research & Development of Voice Over IP Systems*" (in Vietnamese). BSc Thesis. Hanoi University of Science and Technology. May 2006.

Notes on Publications: Conferences are the primary venue for publication in Human-Computer Interaction. All my conference publications are in highly competitive peer-reviewed conferences with acceptance rates of 20 to 35% (typically, CHI accepts about 750 submissions from over 3000 papers per year). Most of my full conference papers would be readily accepted in most peer-reviewed HCI journals, with an acceptance rate of over 35%. It is generally considered that ACM CHI and UIST conferences are the flagships and leading venues in a discipline area, with accepted papers being archival contributions (https://www.core.edu.au/conference-portal).

References

(available upon request)