Han Shui'Er

Institute for Infocomm Research (I^2R), A*STAR,
Singapore
Email: han_shui_er@i2r.a-star.edu.sg;
han.shuier@gmail.com

EMPLOYMENT

- 2023-present: **Research Scientist**, I^2R, A*STAR
- 2020-2022: **AIF postdoctoral fellow**, University of Rochester with Duje Tadin and Randolph Blake
- 2019-2020: **Postdoctoral research associate** with Frans Verstraten and David Alais, VR OpenLab, University of Sydney
- 2017: **Summer intern**, Randolph Blake's lab, Vanderbilt University
- 2017: **Summer intern**, Eli Peli's lab, Schepens Eye Research Institute
- 2009-2012: **Research assistant**, with Dale Purves, Duke-NUS Graduate Medical School
- 2008: **Research assistant,** with Dr Melvin Yap, National University of Singapore

EDUCATION

- 2015-2019: Doctor of Philosophy, University of Sydney
- 2015: Masters of Psychology, University of Sydney, 2015
- 2009: Bachelor of Social Sciences, Psychology, National University of Singapore

PUBLICATIONS

Metric summary for journal articles: 402 citations, H-index: 9 (Google Scholar), 12 first-author (71%), 1 senior author (6%). More than half of my articles are published in journals ranked in the top quartile by CiteScore for their Subject Area (Scopus, 2024). The followings provides information about these articles, including the citation counts and impact factors (IF).

Peer-reviewed journal articles:

1. Han, S, Blake, R., Aubuchon, C., Tadin, D. *Binocular rivalry under naturalistic geometry: evidence from worlds simulated in virtual reality*, PNAS Nexus, **3**, 2 (2024). https://doi.org/10.1093/pnasnexus/pgae054
2. Han, S*, Kim, S.*, Jung, J. *The effect of visual rivalry in peripheral head-mounted displays on mobility*, Scientific Reports, **13**, 20199 (2023), https://doi.org/10.1038/s41598-023-47427-8
   (* The authors contributed equally)
3. Wang, G., Alais, D., Blake, R., Han, S. *CFS-crafter: an open-source tool for creating and analysing images for Continuous Flash Suppression experiments,* Behavioral Research Methods, 55, 2004-2020 (2023). https://doi.org/10.3758/s13428-022-01903-7

4. Han, S, Chen, Y-C., Maurer, D., Shore, D., Lewis, T., Stanley, B., Alais, D. *The development of multisensory temporal precision precedes its rapid recalibration.* Scientific Reports, **12**, 21591 (2022). https://doi.org/10.1038/s41598-022-25392-y
5. Han, S, Alais, D., Palmer, C.J. *Dynamic face masks enhance continuous flash suppression,* Cognition, **206**, 104473 (2021). https://doi.org/10.1016/j.cognition.2020.104473
6. Han, S, Alais, D., MacDougall, H., Verstraten, F. *Brief localised monocular deprivation in adults alters rivalry predominance retinotopically and reduces spatial inhibition,* Scientific Reports, **10**, 18739 (2020). https://doi.org/10.1038/s41598-020-75252-w
7. Han, S*, Lukaszewski, R. *, Alais, D. *Continuous flash suppression operates in local spatial zones: Effects of mask size and contrast:*, Vision Research, **154**, 105-114 (2019). https://doi.org/10.1016/k.visres.2018.11.006 (* The authors contributed equally)
8. Han, S, Alais, D., Blake, R. *Battle of the Mondrians: Investigating the role of unpredictability in continuous flash suppression*, iPerception, **9**, 4 (2018). https://doi.org/10.1177/2041669518792930
9. Han, S, Qiu, C., Lee, K., Jung, JH, Peli, E. *Word recognition: Re-thinking prosthetic vision evaluation, Journal of Neural Engineering*, **15***,* 5 (2018). https://doi.org/10.1088/1741-2552/aac663
10. Han, S, Alais, D. *Strength of continuous flash suppression is optimal when target and masker modulation rates are matched*, Journal of Vision, **18***,* 3, (2018) https://doi.org/10.1167/18.3.3
11. Han, S, Blake, R., Alais, D. *Slow and steady, not fast and furious: Slow temporal modulation strengthens continuous flash suppression*, Consciousness and Cognition, **58** (2018) https://doi.org/10.1016/j.concog.2017.12.007
12. Alais, D. Ho, TH., Han, S., Van der Burg, E. *A matched comparison across three different sensory pairs of cross-modal temporal recalibration from sustained and transient adaptation*, iPerception, **8**, 4 (2017). https://doi.org/10.1177/2041669517718697
13. Han, S, Lunghi C., Alais, D. *The temporal frequency tuning of CFS: peak at very low frequencies*. Scientific reports, **6**, 35723 (2016). https://doi.org/10.1038/srep35723
14. Bowling, D.L., Gingras, B., Han, S., Sundararajan, J., Opitz, E.C.L. *Tone of voice in emotional expression: relevance for the affective character of musical mode*. Journal of Interdisciplinary Music Studies, **7** (2014). https://doi.org/10.4407/jims.2014.06.002
15. Monson BB, Han S., Purves D (2013) *Are auditory percepts determined by experience?* PLoS ONE, **8**, 5 (2013). https://doi.org/10.1371/journal.pone.0063728
16. Bowling DL, Sundararajan J, Han S., Purves D. *Expression of emotion in Eastern and Western music mirrors vocalization*, PLoS ONE **7**, 3 (2011). https://doi.org/10.1371/journal.pone.0031942

17. Han S., Sundararajan J, Bowling DL, Lake J, Purves D. *Co-variation of tonality in the music and speech of different cultures*, PloS ONE**, 6**, 5 (2011). https://doi.org/10.1371/journal.pone.0020160

Non-refereed conference proceedings:

1. Kim, S., Han, S., Jung, J-H. *Binocular see-through configuration and eye movement attenuate visual rivalry in peripheral wearable displays*. Proceedings of SPIE - The International Society for Optical Engineering, 124490T (2023). https://doi.org/10.1117/12.2648481

AWARDS/PATENTS (OTHER ACHIEVEMENTS)

Research funding:

- FY22 Human Potential Prenatal/Early Childhood grant (SGD 499,912; Collaborator)
- Duke-NUS Autism Spectrum Disorder Fund (SGD 196 000; Co-Investigator)
- Duke-NUS Medical School Program Grant Award (SGD 25 000; Collaborator)

Support funding:

- University of Sydney International Scholarship 2015-2019 (A$ 112 000)
- Postgraduate Research Support Scheme Award, 2017 (A$ 3000)
- Postgraduate Research Grant 2016 (A$ 800)
- Postgraduate Research Prize for Outstanding Academic Achievement, 2018 (A$ 500)
- A*STAR International Fellowship Award 2020-2022 (USD 130 800)

Other awards:

- Females of Vision et al. (FoVea) Travel and Networking Award 2022 (USD $1600)
- Steadman Family Postdoctoral Award (USD $2000)

Intellectual property:

- Software IP: Gamified Visual Tasks for the Study of Early Childhood Autism Spectrum Disorder (SWIP-GVTA-2024-02)

TEACHING AND SUPERVISION

Teaching experience:

- Teaching Assistant for PSYC1001 Introduction to Psychology, University of Sydney
- Teaching Assistant for PSYC2011 Perception Tutorial, University of Sydney

Research supervision/mentoring:

- Axel Chemke-Dreyfus, Research assistant (technical mentor, 2017)

- Raphael Lukaszewski, Honours student (supervisor, 2018).
- Margot Fox, Honours student (supervisor, 2019).
- Nina Kougan, Summer intern (supervisor, 2019)
- Celine Aubuchon, Summer intern (supervisor, 2020)
- Betty Qianying Wu, Research assistant (supervisor 2022), Honours (co-supervisor, 2023)
- Ella Chi, I^2R research intern (supervisor, 2023)
- Richelle Ho, I^2R research intern (supervisor, 2023-2025)
- Nandini Bohra, I^2R research intern (supervisor, 2024)
- Peck Cheryl, I2R research intern (supervisor, present)

PUBLIC AND PROFESSIONAL SERVICE

Invited talk:

- *What is continuous flash suppression?* Schepens Eye Research Institute, VIVO 2017.
- *On the use of interocular suppression*. Consciousness Research Network*,* 2023.
- What we can learn from customising continuous flash suppression, University of Nevada, Reno, Early Career Seminar, 2020.

Scientific communication:

- Kids Q and A 2016, Powerhouse Museum
- Sydney Science Forum 2017
- Sydney Science Festival 2017
- STEM Girls at Sydney

Workshop:

- Led an online Virtual Reality (Unity 3D) workshop for colleagues at the University of Rochester

Other conference presentations:

Poster presentation

- Asymmetry for shading direction in visual search persists in inattentional blindness, Vision Science Society 2024
- Peripheral binocular or monocular rivalry in vision multiplexing devices for mobility. Vision Science Society 2022
- CFS-crafter: an open-source tool for making controlled Continuous Flash Suppression stimuli. Vision Science Society 2022
- Binocular rivalry under naturalistic conditions. Vision Science Society 2022
- Photographic Depiction and Virtual Reality Illustration of the Field of View with Spectacles-Mounted Low Vision Aids. American Academy of Optometry 2021
- Do touch and audition share common temporal frequency channels? Experimental Psychology Conference (EPC) 2013

Talk presentation

- From Screens to Social Connection: How Toddlers Attend to Digital Stimuli. EPC-APCV joint conference 2025

- Binocular see-through configuration and eye movement attenuate visual rivalry in peripheral wearable displays. SPIE 2023
- What does temporal frequency tell us about continuous flash suppression? EPC 2018
- What is continuous flash suppression? EPC 2017
- What is continuous flash suppression? SPPC 2016
- What is continuous flash suppression? PsychFest 2016
- Continuous flash suppression: slow maskers are better, Sydney Psychology Postgraduate Conference (SPPC) 2015

Other professional service:

- Session chair for Sydney Psychology Postgraduate conference 2015
- Ad-hoc referee for Scientific Reports, Vision Research, Journal of Vision, Eye and Vision, Social Cognition
- Review Editor for the Frontiers of Psychology

Media coverage:

- *Sensory processing- in a virtual Kodak Hall.* https://www.rochester.edu/newscenter/sensory-processing-virtual-reality-kodak-hall-524332/. Last retrieved, 23rd August 2022.
- *Improving visual perception in virtual reality.* https://advances.massgeneral.org/ophthalmology/journal.aspx?id=2589. Last retrieved 13th February 2024
- *AR glasses abandoned by Google and Apple, the key to commercialization is 'viewing angle'.* [New Tech] AR glasses abandoned by Google and Apple, the key to commercialization is 'viewing angle' - Chosun Biz (biz-chosun-com.translate.goog). Last retrieved, 27th March, 2024

Professional membership: Vision Sciences Society (VSS)