# Emily Chao-Hui Huang

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## EDUCATION

**B.S. Agronomy, National Taiwan University, Taiwan** **2012/09-2017/01**

**M.S. Statistics, National Tsing Hua University, Taiwan** **2017/03-2018/06**

**Ph.D. Statistics, National Tsing Hua University, Taiwan** **2018/09-2025/07**

## WORK EXPERIENCE

**Postdoctoral Fellow, Institute of Statistical Science, Academia Sinica, Taiwan** (Supervisor: Dr. Frederick Kin Hing Phoa) **2025/09-Present**

**Visiting Research Scholar, School of Mathematical and Statistical Sciences, Arizona State of University, Arizona** (Supervisor: Dr. Ming-Hung Kao) **2024/04-2025/03**

**Research Assistant, Institute of Statistical Science, Academia Sinica, Taiwan** **2014/09–2025/07**

- Conduct an independent research under the supervision of Dr. Frederick Kin Hing Phoa.
- Research Topic 1: The structure of good high-order-fraction Quaternary-code design under generalized minimum aberration criterion. (2014/09 – 2015/08)
- Research Topic 2: A generalization to Quaternary-code designs and a unification with regular designs via generating matrix partition. (2015/09 – 2016/02)
- Research Topic 3: A new class of Quaternary-code designs constructed by column deletion. (2016/03 – 2017/01)
- Research Topic 4: Computer experiment designs. (2018/09-2019/06)
- Research Topic 5: Circulant Almost Orthogonal Arrays. (2021/02-Present)
- Research Topic 6: Network visualization on spheres. (2021/09-Present)

**Student Assistants, National Tsing Hua University, Taiwan** **2017/09-Present**

- Provide office hour for Mathematical Statistics class. (2017/09-2018/01)
- Provide office hour for Statistics class. (2018/02-2018/06)
- Provide office hour for Linear Model class. (2018/09-2019/01)
- Provide office hour for Statistical Inference class. (2021/09-2022/01)
- Provide office hour for Generalized Linear Model class. (2022/02-2022/06)

**Tutor in Mathematical Statistics for College Student, Taiwan** **2018/10-2019/12**

- Part-time (hourly based) tutoring to College students

## ACADEMIC AND RESEARCH AWARDS

**Bachelor Student Scholarship, Academia Sinica, Taiwan** **2014/09–2017/01**

**Bachelor Research Scholarship, Ministry of Science and Technology, Taiwan (MOST-104-2815-C-001-001-M01)** **2015/07–2016/02**

**The 1st National Conference on Statistical Research Achievements for Postgraduate Students, Tamkang University, Taiwan** **2018/06**

**Graduate Students Study Abroad Scholarship, National Science and Technology Council** **2023/12**

**2024 Design and Analysis of Experiments Conference Best Poster: Algorithmic Design, JMP, United State.** **2024/05**

## PUBLICATIONS

**Emily Chao-Hui Huang and Frederick Kin Hing Phoa (2022) Uniformly Scattering Neighboring Nodes of an Ego-Centric Network on a Spherical Surface for Better Network Visualization, *International Conference on Complex Networks and Their Applications*.**

**Emily Chao-Hui Huang and Frederick Kin Hing Phoa (2023) A Uniform Placement of Alters on Spherical Surface (U-PASS) for Ego-Centric Networks with Community Structure and Alter Attributes, *Advances in Complex Systems*.**

**Emily Chao-Hui Huang and Frederick Kin Hing Phoa (2023) An Extended Uniform Placement of Alters on Spherical Surface (U-PASS) Method for Visualizing General Networks, *International Conference on Complex Networks and Their Applications*.**

**Emily Chao-Hui Huang, Frederick Kin Hing Phoa and Yan-Hong Cheng (2024) A Generalized Uniform Placement of Alters on Spherical Surface (U-PASS) for Visualizing General Weighted Networks, *Applied Network Science*.**

**Emily Chao-Hui Huang and Ming-Hung Kao (2025) Optimal Experimental Designs for Sparse Functional Data: A Review, *WIREs Computational Statistics.***

## CONFERENCE TALK

**[2015/06/27] A New Class of Quaternary Code Designs with Good Wordlength Patterns. The 24th South Taiwan Statistics Conference. Changhua, Taiwan ROC.**

**[2022/06/05] An efficient method to scatter network nodes on a spherical surface via swarm intelligence. The 5th International Conference on Econometrics and Statistics. Kyoto, Japan.**

**[2023/08/01] A Uniform Placement of Alters on Spherical Surface (U-PASS) for Ego-centric Networks with Community Structure and Alter Attributes. The 6th International Conference on Econometrics and Statistics. Tokyo, Japan.**

**[2023/12/18] Uniform Placement of Alter-nodes on a Spherical Surface (U-PASS) for Ego-Centric Network and its Link to Minimum Energy Designs. Conference on Experimental Design and Analysis 2023. Taipei, Taiwan ROC.**

**[2024/06/12] Uniform Placement of Alter-nodes on a Spherical Surface (U-PASS) for Ego-Centric Network and its Link to Minimum Energy Designs. The Western North American Region of the International Biometric Society 2024. Colorado, United State.**

**[2024/10/13] Uniform placement of alter-nodes on a spherical surface (U-PASS) for ego-centric network and its link to minimum energy design. Advances in Interdisciplinary Statistics and Combinatorics. Greensboro, United State.**

**[2025/08/23]** **Optimal designs for two sample sparse functional data.** **The 8th International Conference on Econometrics and Statistics. Tokyo, Japan.**

## POSTER

**[2016/12/15]** **A New Class of Quaternary Code Designs with Good Wordlength Patterns.** **Conference on Experimental Design and Analysis 2016. Taipei, Taiwan ROC.**

**[2018/06/23]** **A New Class of Quaternary Code Designs with Good Wordlength Patterns.** **The 1st National Conference on Statistical Research Achievements for Postgraduate Students, Tamkang University, Taiwan ROC.**

**[2024/05/15]** **The Uniform Placement of Alter-nodes on a Spherical Surface (U-PASS) for Ego-Centric Networks and its Link to Minimum Energy Designs.** **2024 Design and Analysis of Experiments Conference. Virginia, United State.**

## SKILLS AND ACTIVITIES

**Programming Skills**: R, LaTeX, C, Matlab, Python

**Language**: English, Mandarin (fluent), Japanese (basic)