

Yi-Hsuan Lin

Personal Information

- Name: Yi-Hsuan Lin (林奕亘)
- Position: Assistant Professor, Department of Applied Mathematics, National Yang Ming Chiao Tung University, Hsinchu, Taiwan
- Date of birth: 4th March 1986
- Civil Status: Married, 1 child
- E-mail : yihuanlin3@gmail.com
- Personal homepage: <https://jupiter.math.nycu.edu.tw/~yihuanlin3/>

Appointments

- Alexander von Humboldt Research Fellow (for experienced researcher), University of Duisburg-Essen, Germany. August 2024-July 2025.
- Assistant Professor, Department of Applied Mathematics, National Yang Ming Chiao Tung University, Hsinchu, Taiwan, August 2019-now.
- Postdoctoral Fellow at Department of Mathematics and Statistics, University of Jyväskylä, Finland, September 2018-July 2019, working with Prof. [Mikko Salo](#).
-From 2016-2018, working with Prof. [Gunther Uhlmann](#).
- Postdoctoral Fellow at Institute for Advanced Study, Hong Kong University Science and Technology, Hong Kong, January 2018 – August 2018.
- Postdoctoral Fellow at Department of Mathematics, University of Washington, Seattle, USA, March 2017 – December 2017.
- Postdoctoral Fellow at Institute of Advanced Study (IAS), Hong Kong University of Science and Technology (HKUST) August 2016 – February 2017.

Education

- Ph.D. in Mathematics, Department of Mathematics, National Taiwan University, Taipei, Taiwan, September 2012 – June 2016.
- M.Sc. in Mathematics, Department of Mathematics, National Taiwan University, Taipei, Taiwan. September 2008 – June 2010.
-PhD and M.Sc. Advisor: Prof. [Jenn-Nan Wang](#) (Institute of Applied Mathematics, National Taiwan University)
- B.Sc. in Mathematics, Department of Mathematics, National Taiwan Normal University, Taipei, Taiwan, September 2004 – June 2008.

Research Interest

- Partial Differential Equations: Unique Continuation and its Applications
- Inverse Problems: The Calderón Problem and Invisible Cloaking
- Nonlocal Equations: Fractional Elliptic Equations and Related Inverse Problems
- Homogenization Theory: Inverse Homogenization and Rates of Convergence

Publications *35 collaborators, 34 reprints, and 8 preprints.

Reprints

1. (with Rulin Kuan and Mourad Sini) **The enclosure method for the anisotropic Maxwell system**
SIAM J. Math. Anal., Vol. 47 (2015), 3488-3527.
2. **Strong unique continuation for residual stress system with Gevrey coefficients**
Proc Amer. Math. Soc., 144 (2016), 2171-2183.
3. **Reconstruction of penetrable obstacles in the anisotropic acoustic scatterings**
Inverse Probl. Imaging, Vol. 10, Issue 3 (2016), 765-780.
4. (with Gen Nakamura) **Boundary determination of the Lamé moduli for the isotropic elasticity system**
Inverse Problems, Vol. 33, No. 12 (2017), 1-23.
5. (with Tuhin Ghosh and Jingni Xiao) **The Calderón problem for variable coefficient nonlocal elliptic operators**
Comm. Partial Differential Equations, Vol. 42, No. 12 (2017), 1923-1961.
6. **Nearly cloaking for the elasticity system with residual stress**
Asymptot. Anal., Vol. 106, Issue 1 (2018), 1-23.
7. (with Bastian Harrach and Hongyu Liu) **On localizing and concentrating electromagnetic fields**
SIAM J. Appl. Math., 78(5) (2018), 2558-2574.
8. (with Eemeli Blåsten) **Radiating and non-radiating sources in elasticity**
Inverse Problem, Vol. 35, No. 1, 015005 (2019), 1-16.
9. (with Ru-Yu Lai) **Global uniqueness for semilinear fractional Schrödinger equation**
Proc Amer. Math. Soc., Vol. 147, No. 3 (2019), 1189-1199.
10. (with Xinlin Cao and Hongyu Liu) **Simultaneous recovering potentials and embedded obstacles for anisotropic fractional Schrödinger equation**
Inverse Probl. Imaging, Vol. 13, Issue 1 (2019), 1-15.
11. (with Shixu Meng) **Leading and second order homogenization of an elastic scattering problem for highly oscillating anisotropic medium**
J. Elasticity, Vol. 137, Issue 2 (2019), 177-217.
12. (with Bastian Harrach) **Monotonicity-based inversion of the fractional Schrödinger equation I: Positive potentials**
SIAM J. Math. Anal., Vol. 51, Issue 4 (2019), 3092-3111.

13. (with Bastian Harrach) **Monotonicity-based inversion of the fractional Schrödinger equation II: General potentials and stability**
SIAM J. Math. Anal., Vol. 52, Issue 1 (2020), 402-436.
14. (with Mihajlo Cekić and Angkana Rüland) **The Calderón problem for the fractional Schrödinger equation with drift**
Cal. Var. Partial Differential Equations, Vol. 59, Article number 91 (2020), 1-46.
15. (with Ru-Yu Lai and Angkana Rüland) **The Calderón problem for a space-time fractional parabolic equation**
SIAM J. Math. Anal., Vol. 52, Issue 3 (2020), 2655-2688.
16. (with Rashmi Murphy, Kwancheol Shin and Jennifer Mueller) **A direct reconstruction algorithm for the anisotropic inverse conductivity problem based on Calderón's method in the plane**
Inverse Problems, Vol. 36 (2020), 125008.
17. (with Matti Lassas, Tony Liimatainen and Mikko Salo) **Inverse problems for elliptic equations with power type nonlinearities**
J. Math. Pures Appl., Vol. 145 (2021), 1553-1580.
18. (with Gen Nakamura, Roland Potthast and Haibing Wang) **Duality between range and no-response tests and its application for inverse problems**
Inverse Probl. and Imaging, Vol. 15, No. 2 (2021), 367-386.
19. (with Matti Lassas, Tony Liimatainen and Mikko Salo) **Partial data inverse problems and simultaneous recovery of boundary and coefficients for semilinear elliptic equations**
Rev. Mat. Iberoam., Vol. 37, Issue 4 (2021), 1553-1580.
20. (with Pedro Caro, Ru-Yu Lai and Ting Zhou) **Boundary determination of electromagnetism and Lamé parameters with corrupted data**
Inverse Probl. Imaging, Vol. 15, Issue 5 (2021), 1171-1198.
21. (with Tony Liimatainen, Mikko Salo and Teemu Tyni) **Inverse problems for elliptic equations with fractional power type nonlinearities**
J. Differential Equations, Vol. 306, Issue 5 (2022).
22. (with Ru-Yu Lai) **Inverse problems for fractional semilinear elliptic equations**
Nonlinear Anal., Vol. 216 (2022), 112699.
23. (with Pu-Zhao Kow and Jenn-Nan Wang) **The Calderón problem for the fractional wave equation: Uniqueness and optimal stability**
SIAM J. Math. Anal., Vol. 54, Issue 3 (2022), 3379-3419.
24. **Monotonicity-based inversion of fractional semilinear elliptic equations with power type nonlinearities**
Cal. Var. Partial Differential Equations, Vol. 61, Article number: 188 (2022), 1-30.
25. (with Hongyu Liu, Xu Liu and Shen Zhang) **Simultaneous recoveries for semilinear parabolic equations**
Inverse Problems, Vol. 38, No. 11 (2022), 115006.

26. (with Bastian Harrach) **Simultaneous recovery of piecewise analytic coefficients in a semilinear elliptic equation**
Nonlinear Anal., Vol. 228 (2023), 113118.
 27. (with Hongyu Liu) **Inverse problems for fractional equations with a minimal number of measurements**
Comm. Anal. Comp., Vol. 1 (2023), 72-93.
 28. (with Ali Feimohammadi and Tony Liimatainen) **An inverse problem for a semilinear elliptic equation on conformally transversally anisotropic manifolds**
Ann. PDE, Vol. 9, Article number: 12 (2023), 1-54.
 29. (with Hongyu Liu and Xu Liu) **Determining a nonlinear hyperbolic system with unknown sources and nonlinearity**
J. Lond. Math. Soc., Vol. 109, Issue 2, e12865 (2024), 1-39.
 30. (with Yavar Kian and Tony Liimatainen) **On determining and breaking the gauge class in inverse problems for reaction-diffusion equations**
Forum Math. Sigma, Vol. 12, e25 (2024), 1-42.
 31. (with Tony Liimatainen) **Uniqueness results for inverse source problems of semilinear elliptic equations**
Inverse Problems, Vol. 40, No. 4 (2024), 045030, 1-32.
 32. (with Teemu Tyni and Philipp Zimmermann) **Well-posedness and inverse problems for semilinear wave equations**
Nonlinear Anal., Vol. 24 (2024), 113601, 1-19.
 33. (with Manas Kar and Philipp Zimmermann) **Determining coefficients for a fractional p-Laplace equation from exterior measurements**
J. Differential Equations, Vol. 406 (2024), 338-365.
 34. (with Jesse Railo and Philipp Zimmermann) **The Calderón problem for a nonlocal diffusion equation with time-dependent coefficients**
Rev. Mat. Iberoam., to appear.
- Preprints
35. (with Ching-Lung Lin and Gunther Uhlmann) **The Calderón problem for nonlocal parabolic operators**
submitted (2022), arXiv:2209.11157.
 36. (with Philipp Zimmermann) **Unique determination of coefficients and kernel in nonlocal porous medium equations with absorption term**
submitted (2023), arXiv:2305.16282.
 37. (with Ching-Lung Lin and Gunther Uhlmann) **The Calderón problem for nonlocal parabolic operators: A new reduction from the nonlocal to the local**
submitted (2023), arXiv:2308.09654.

38. **Determining both leading coefficient and source in a nonlocal elliptic equation**
submitted (2023), arXiv:2312.15607.
39. (with Philipp Zimmermann) **Approximation and uniqueness results for the nonlocal diffuse optical tomography problem**
submitted (2024), arXiv:2406.06226.
40. (with Gen Nakamura and Philipp Zimmermann) **The Calderón problem for the Schrödinger equation in transversally anisotropic geometries with partial data**
submitted (2024), arXiv: 2408.08298.
41. (with Teemu Tyni and Philipp Zimmermann) **Optimal Runge approximation for nonlocal wave equations and unique determination of polyhomogeneous nonlinearities**
submitted (2024), arXiv: 2408.13869.
42. **A local uniqueness for the fractional Schrödinger equation on closed Riemannian manifolds**
submitted (2024), arXiv: 2409.01921

Honor and Awards

1. **Golden Prize** of the Outstanding PhD Thesis Award (中華民國數學學會傑出博士論文金牌獎), Taiwanese Mathematical Society, 2016.
2. **Keynote speaker** of 9th International Conference of Inverse Problems, National University of Singapore, Singapore, August 13-17, 2018.
3. **Travel Award of Simons Foundation**: Attend the Math+X Symposium on Inverse Problems and Deep Learning in Space Exploration (Simons Foundation Grant). Rice University, USA, January 23-31, 2019.
4. **NSTC Young Scholar Fellowship**: The Columbus Program (哥倫布計畫 2020-2022) and 2030 Cross-Generation Young Scholar Program (2030 跨世代年輕學者方案-國際年輕傑出學者 2022-2025). Awarded by the National Science and Technology Council (NSTC) Taiwan, 2020-2025.
5. **Outstanding Young Scholar Research Award** (國立陽明交通大學理學院年輕學者研究獎). Awarded by National Yang Ming Chiao Tung University (NYCU), Taiwan, 2023.
6. **Humboldt Research Fellowship for Experienced Researcher** (德國洪堡基金會資深學者). Awarded by Alexander von Humboldt Foundation, Germany, 2024-2027.
7. **EAIP Young Scientist Award**. Awarded by Eurasian Association on Inverse Problems, 2024.

Research Grants

1. National Science and Technology Council (NSTC 一般專題研究計畫), 113-2115-M-A49-017-MY3. August 1, 2024- July 31, 2027.
2. National Science and Technology Council (2030-國際年輕傑出學者研究計畫), 113-2628-M-A49-003. February 1, 2024-January 31, 2025 (5/5)

3. National Science and Technology Council (2030-國際年輕傑出學者研究計畫), 112-2628-M-A49-003. February 1, 2023-January 31, 2024 (4/5)
4. National Science and Technology Council (2030-國際年輕傑出學者研究計畫), 111-2628-M-A49-002. February 1, 2022-January 31, 2023 (3/5).
5. Ministry of Science and Technology Taiwan (哥倫布計畫), MOST-110-2636-M-0-09-007. February 1, 2021-January 31, 2022 (2/5).
6. Ministry of Science and Technology Taiwan (哥倫布計畫), MOST-109-2636-M-009-006. February 1, 2020-January 31, 2021 (1/5).

Conferences/Workshop Organization

- Co-organizer of 8th Young Scholar Symposium of East Asia Section of IPIA, Central South University, Changsha, China. November 15-17, 2024.
- Co-organizer (with Daisuke Kawagoe) of RIMS workshop: Some approaches on ill-posed problems -theory and practice-, Research Institute for Mathematics Sciences (RIMS), Kyoto University, Kyoto, Japan. January 10-12, 2024.
- Co-organizer (with Mikko Salo and Jesse Railo) of Minisymposium: *Inverse Problems of Fractional and Nonlocal Equations*, AIP 2023, Gottingen, Germany. September 4-8, 2023.
- Co-organizer of 10th TWSIAM annual meeting, National Yang Ming Chiao Tung University, Hsinchu, Taiwan.
- Co-organizer (with Mikko Salo) of Minisymposium: *Inverse Problems of Fractional and Nonlocal Equations*, AIP 2019, Grenoble, France, July 8-12, 2019.
- Co-organizer of the 5th East Asia IPIA Young Scholar Symposium, Beijing, June 7-8, 2019.

Invited Conference/Workshop Talks

- Minisymposium on *Monotonicity and Convexity in Inverse Coefficient Problems*, Conference on Mathematics of Wave Phenomena, February 24-28, 2025, at KIT (Karlsruhe).
- Invited Speaker at the *Infinite Dimensional Optimization Seminar*, HUP Hotel, Mierlo, Netherlands, September 23-26, 2024.
- Minisymposium on *Inverse Problems for Fractional Equations*, the 11th international conference Inverse Problems: Modeling and Simulation (IPMS 2024), Malta, May 26-June 1, 2024
- Invited Speaker at One-Day Workshop on Inverse Problems, National Taiwan University, Taiwan, May 10, 2024.
- Invited Speaker at 7th East Asia Section of Inverse Problems International Association (EAIPIA 2023), Young Scholar Symposium, Hong Kong University Science and Technology (HKUST), Hong Kong, December 9-10, 2023
- Minisymposium on *Recent Advances in Inverse Problems for Elliptic and Hyperbolic Equations*, Applied Inverse Problems (AIP 2023), Gottingen, Germany, September 4-8, 2023.

- Minsymposium on *Inverse Problems for Nonlinear Equations*, Applied Inverse Problems (AIP 2023), Gottingen, Germany, September 4-8, 2023.
- Minsymposium on *Recent Advances in Inverse Problems*, Hong Kong SIAM Biennial Meeting, Hong Kong, August 28-September 1, 2023
- Minisymposium on *Inverse Problems for Anomalous Diffusion*, International Congress on Industrial and Applied Mathematics (ICIAM 2023), Tokyo, Japan, August 20-25, 2023.
- Minisymposium on *Theoretical and Computational Progresses on PDE-based Inverse Problems with Applications*, International Congress on Industrial and Applied Mathematics (ICIAM 2023), Tokyo, Japan, August 20-25, 2023.
- Inverse Problems Session, 34th International Workshop on Operator Theory and its Applications (IWOTA 2023), Helsinki, Finland, July 31–August 4, 2023.
- Invited Speaker at 6th East Asia Section of Inverse Problems International Association (EAIPIA 2023), Young Scholar Symposium, The Chinese University of Hong Kong, Hong Kong, March 25-26, 2023.
- Invited Speaker at Inverse Problems in the Desert, New York University Abu Dhabi, Abu Dhabi (UAE), December 19-22, 2022.
- Invited Speaker at The 1st East and Southeast Asia Workshop on Inverse Problems and Optimal Control (ESEAW: IPOC), August 1st-5th, 2022.
- Minisymposium on *Inverse Problems for Time-Fractional PDEs*, the 10th international conference Inverse Problems: Modeling and Simulation (IPMS 2022), Malta, May 22-28, 2022.
- Invited Speaker at Workshop on PDEs and Analysis, Fu Jen Catholic University, Taipei, Taiwan. May 6, 2022.
- Invited Speaker at Workshop on PDEs and Geometry, National University of Tainan, Tainan, Taiwan, April 9-10, 2022.
- Minisymposium on *Recent Advances in Inverse Problems and Mathematical Imaging*, SIAM Conference on Image Sciences, Berlin, Germany, March 22-25, 2022.
- Minisymposium on *Monotonicity methods for shape reconstruction*, Conference on Mathematics of Wave Phenomena, Karlsruhe, Germany, February 14-18, 2022.
- Invited Speaker at Young Dynamics Day, National Taiwan Normal University, Taipei, Taiwan, February 18, 2022.
- Invited Speaker at 30th Annual Workshop on Differential Equations, National Chengchi University, Taipei, Taiwan, January 14-15, 2022.
- Invited Speaker at online workshop *Theory and Practice in Inverse Problems*, Research Institute of Mathematical Sciences (RIMS), Kyoto University, Japan, January 5-7, 2022.
- Invited Speaker at online workshop *2021 Minjiang Workshop on Applied and Computational Mathematics*, Minjiang University, China, December 25-26, 2021.
- Invited Speaker at Taiwan-Japan Joint Online Workshop on Inverse Problems, University of Kyoto, Kyoto, Japan, March 12, 2021.

- **Plenary Speaker** at 3rd Young Scholar Workshop on Inverse Problems, Tokyo University of Science, Tokyo, Japan, August 26-27, 2019.
- Minisymposium on *Inverse Problems in Shape and Geometry*, International Congress on Industrial and Applied Mathematics (ICIAM 2019), Valencia, Spain, July 15-19, 2019.
- Minsymposium on *Geometric Structures in Wave Scattering and Applications in Inverse Problems and Material Sciences*, Applied Inverse Problems (AIP 2019), Grenoble, France, July 8-12, 2019.
- Math+X Symposium on *Inverse Problems and Deep Learning in Space Exploration*, Rice University, USA. January 23-25, 2019.
- Invited Speaker at 24th Inverse Days, Aalto University, Helsinki, Finland, Dec 11-13, 2018.
- Invited Speaker at Inverse Problems, PDE and Geometry, University of Jyväskylä, Finland, August 20–23, 2018
- **Keynote Speaker** at the 9th International Conference on Inverse Problems and Related Topics (ICIP 2018), National Singapore University, Singapore, Aug. 13-17, 2018.
- Minisymposium on *Recent Advances in Inverse Scattering and Cloaking*, the 9th International Conference on Inverse Problems and Related Topics (ICIP 2018), National Singapore University, Singapore, Aug. 13-17, 2018.
- Minisymposium on *Recent Developments in Inverse Boundary Value Problems and applications*, the 9th International Conference Inverse Problems: Modeling and Simulation (IPMS 2018), Malta, May 21-26, 2018.
- Invited Speaker at 3rd East Asia Section of Inverse Problems International Association (IPIA 2018), Young Scholar Symposium, Hong Kong Baptist University, Hong Kong, March 17-18, 2018.
- Minisymposium on *Inverse Problems and Related Questions*, 26th Annual Workshop on Differential Equations and Related Topics, National Taiwan University, Taipei, Taiwan, Jan 6-7, 2018.
- Minisymposium on *Inclusion Detection Methods in Inverse Problems and Visibility and Invisibility for Wave Scatters*, Applied Inverse Problems (AIP 2017), Zhejiang University, Hangzhou, China, May 29-June 2, 2017.
- Invited Speaker at Analysis and PDE Workshop for 70 Years Anniversary of Department of Mathematics, National Taiwan University, Taipei, Taiwan. January 14-16, 2017.
- Minisymposium on *Inverse Problems for Systems of Equations*, the 8th International Conference on Inverse Problems and Related Topics (ICIP 2016), Ewha Womans University, Seoul, Korea, June 27-July 1, 2016.
- Minisymposium on *Inverse Problems and Related Topics*, 4th TWSIAM Annual meeting, National Chung Hsing University, Taiwan, May 28-29, 2016.
- Invited Speaker at First East Asia Symposium of Inverse Problems International Association (IPIA 2016), South University of Technology, Shengzhen, China, Feb 29-Mar 1, 2016

- Invited Speaker at East Asia Core Doctoral Forum on Mathematics 2016, Fudan University, Shanghai, China, Jan 9-12, 2016.
- Invited Speaker at 2015 Taiwan-Japan Joint Workshop on Inverse Problems and Related Topics, National Taiwan University, Taipei, Taiwan, Nov 21-22, 2015
- Minisymposium on *Reconstruction Methods for Inverse Problems*, Applied Inverse Problems (AIP 2015), Helsinki University, Helsinki, Finland, May 25-29, 2015.
- Invited Speaker at East Asian Core Doctoral Forum on Mathematics, National Taiwan University, Taipei, Taiwan, Jan 19-22, 2015.
- Invited Speaker at The 6th Taiwan-Japan Joint Workshop for Young Scholars in Applied Mathematics, Meiji University, Tokyo, Japan, Feb 27-28, 2015.
- Minisymposium on *Inverse Problems for Elliptic Systems*, International Conference on Inverse Problems and Related Topics (ICIP 2014), National Taiwan University, Taipei, Taiwan, Dec 15-19, 2014.

Seminar/Colloquium Talks

- Colloquium, Department of Mathematics, National Taiwan Normal University, Taipei, Taiwan. March 16, 2024.
- Scientific Computing Seminar, Department of Mathematics, National University of Singapore, Singapore. October 16, 2023.
- Numerical and Applied Analysis Seminar, Graduate School of Informatics, Department of Advanced Mathematical Sciences, Kyoto University, Kyoto, Japan. March 2, 2023.
- Seminar Talk, Johann Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria. February 7, 2023
- Lecture, Graduate School of Mathematical Sciences, The University of Tokyo, Tokyo, Japan. January 12, 2023
- Colloquium, Department of Mathematics, Tamkang University, Taipei, Taiwan. November 1, 2022.
- Colloquium, Department of Mathematics, National Cheng Kung University, Tainan, Taiwan. October 27, 2022.
- Analysis Seminar, Institute of Mathematics, Academia Sinica, Taipei, Taiwan. March 24, 2022.
- International Zoom Inverse Problems Seminar, University of California, Irvine, December 2, 2021.
- Colloquium, Department of Applied Mathematics, National Chengchi University, Taipei, Taiwan. May 3, 2021.
- Nonlinear Analysis Seminar Series (online talk). Okinawa Institute of Science and Technology (OIST), Okinawa, Japan. March 11, 2021.
- Colloquium, Department of Applied Mathematics, National University of Kaohsiung, December 9, 2020.

- Colloquium, Institute of Computational and Modeling Science, National Tsing Hua University, Taiwan, November 3, 2020.
- Colloquium, Department of Mathematics, National Cheng Kung University, Tainan, Taiwan. October 29, 2020.
- Online Seminar, NCTS Math Division, May 6, 2020.
- Colloquium, Department of Mathematics, National Cheng Kung University, Tainan, Taiwan. November 28, 2019.
- Colloquium, Department of Mathematics, National Chung Cheng University, Chiayi, Taiwan. October 28, 2019.
- Colloquium, Department of Applied Mathematics, National University of Kaohsiung, September 25, 2019.
- Colloquium, Department of Mathematics, Hong Kong Baptist University, Hong Kong. June 5, 2019.
- Applied Math Seminar, School of Mathematics, University of Minnesota, USA. May 6 2019.
- Seminar Talk, Johann Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria. April 25, 2019.
- NCTS PDE & Analysis Seminar, National Center for Theoretical Sciences Mathematics Division, Taipei, Taiwan. December 26, 2018.
- Inverse Problems Seminar, Department of Mathematics, University of Helsinki, Finland, Dec 3, 2018.
- Analysis Seminar, Department of Mathematics and Statistics, University of Jyväskylä, Finland, November 28, 2018.
- Computational & Applied Mathematics (CAM) seminar, Yau Mathematical Sciences Center, Tsinghua University, Beijing China, June 20, 2018.
- Colloquium, Department of Applied Mathematics, National Sun Yat-sen University, April 11, 2018.
- Colloquium, Department of Mathematics, National Central University, Jan. 11, 2018.
- Colloquium, Department of Mathematics, National Tsing Hua University, Jan. 8, 2018.
- IAS program on inverse problems, IAS, HKUST, Oct 11, 2017
- PDE seminar, School of Mathematics, University of Minnesota, Sept 27, 2017.
- Inverse problems seminar, Department of Mathematics, Colorado State University, Sept 14, 2017.
- The Hong Kong Mathematical Society Annual General Meeting 2017, HKUST, May 20, 2017.
- Postdoc Seminar, Institute for Mathematics and its Applications (IMA), University of Minnesota, March 21, 2017.
- Department of Mathematics, Hong Kong University of Science and Technology, Hong Kong, Nov 28, 2016.
- Department of Mathematics, National Cheng Kung University, Tainan, Taiwan, Oct. 31, 2016.

- Department of Mathematics, National Central University, Taoyuan, Taiwan, July 28, 2015.
- Sub-Department of Applied Analysis, Graduate School of Informatics, Kyoto University, Kyoto, Japan, July 9, 2015.
- Department of Mathematics, National Central University, Taiwan, June 30, 2015.
- Department of Mathematics, National Cheng Kung University, Taiwan, May 07, 2015.
- Institute of Mathematics, Academia Sinica, Taiwan, April 20, 2015.
- Institute of Mathematics, Academia Sinica, Taiwan, 2012.01-2012.02, Basic Theory of ODEs.
- Institute of Mathematics, Academia Sinica, Taiwan, May 24, 2010.

Research Visits

- Department of Mathematics, National University of Singapore, Singapore, October 16 - 20, 2023 (working with Prof. Hui Yu).
- Department of Mathematics, University of Duisburg-Essen, Germany, September 11-15, 2023, (working with Prof. Irwin Yousept)
- Department of Mathematics and Statistics, University of Helsinki, Finland, July 27 - August 10, 2023 (working with Prof. Matti Lassas).
- Department of Mathematics, Eidgenössische Technische Hochschule (ETH) Zürich, Zürich, Switzerland. July 14- 26, 2023 (working with Prof. Habib Ammari).
- Graduate School of Informatics, Department of Advanced Mathematical Sciences, Kyoto University, Kyoto, Japan. February 24-March 3, 2023 (working with Prof. Yusuke Iso).
- Johann Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria. January 25-February 11, 2023 (working with Prof. Mourad Sini).
- University of Tokyo, Tokyo, Japan. January 4-18, 2023 (working with Prof. Masahiro Yamamoto).
- Tokyo University of Science, Tokyo, Japan. August 28-31, 2019 (working with Prof. Hiromichi Itou).
- Max Planck Institute, Leipzig, Germany, June 23-27, 2019 (working with Prof. Angkana Rüland).
- Department of Mathematics, Hong Kong Baptist University, Hong Kong, June 3-7, 2019 (working with Prof. Hongyu Liu).
- Institute of Mathematics, Goethe University Frankfurt, Germany, May 13-18, 2019 (working with Prof. Bastian von Harrach).
- School of Mathematics, University of Minnesota, May 3-10, 2019 (working with Prof. Ru-Yu Lai).
- Johann Radon Institute for Computational and Applied Mathematics (RICAM), April 22- 27, 2019, Linz, Austria (working with Prof. Mourad Sini).
- Department of Mathematics and Statistics, University of Helsinki, Finland, February 1-7, 2019 (working with Prof. Matti Lassas).

- Department of Mathematics, Rice University, USA, January 26-31, 2019 (working with Prof. Maarten de Hoop).
- Department of Mathematics, University of Helsinki, Dec 3-10, 2018 (working with Prof. Matti Lassas).
- Department of Mathematics and Statistics, University of Jyväskylä, Finland, August 24-31, 2018 (working with Prof. Mikko Salo).
- Department of Mathematics, Hokkaido University, July 8-15, 2018. Sapporo, Japan (working with Prof. Gen Nakamura).
- Yau Mathematical Center, Tsinghua University, June 17-24, 2018, Beijing, China (working with Prof. Wenjia Jing).
- School of Mathematics, University of Minnesota, Sept 24-30, 2017 (working with Prof. Ru-Yu Lai).
- Department of Mathematics, Colorado State University, Sept 20-23, 2017 (working with Prof. Jennifer Mueller).
- Department of Mathematics, The Hong Kong University of Science and Technology, May 15-28, 2017 (working with Prof. Hai Zhang).
- Institute for Mathematics and its Applications (IMA), University of Minnesota, March 12-22, 2017 (Sponsor: IMA).
- National Cheng Kung University, Department of Mathematics, Oct.31 - Nov.4, 2016. Tainan, Taiwan (working with Prof. Ching-Lung Lin).
- Department of Mathematics, Hokkaido University, Aug 29 - Sept 3, 2016. Sapporo, Japan (working with Prof. Gen Nakamura).
- Chinese University of Hong Kong, Department of Mathematics, April 25-29, 2016, Hong Kong (working with Prof. Jun Zou).
- Johann Radon Institute for Computational and Applied Mathematics (RICAM), Jan 19- Feb 20, 2016, Linz, Austria (working with Prof. Mourad Sini).
- Sub-Department of Applied Analysis, Graduate School of Informations, Kyoto University, July 5-11, 2015, Kyoto, Japan (working with Prof. Yusuke Iso).
- Center for Partial Differential Equations, East China University, June 18-22, 2015, Shanghai, China (working with Prof. Wei-Ming Ni).
- Johann Radon Institute for Computational and Applied Mathematics (RICAM), Jan 28- March 1, 2014, Linz, Austria (working with Prof. Mourad Sini).

International Conferences Attendance

- IMA program on Mathematics in Optical Imaging, University of Minnesota, USA, April 29-May 3, 2019.
- Finnish Mathematical Society 150 Years Conference, University of Helsinki, Finland, Nov 30-Dec2, 2018.

- Inverse Problems, Imaging and Partial Differential Equations, IAS, HKUST, March 12-16, 2018.
- Frontier of Theory and Applications of Nonlinear Partial Differential Equations, IAS, HKUST, Dec. 11-15, 2017.
- Novel and Optics, IMA, University of Minnesota, March 13-17, 2017.
- Inverse Problems, Imaging and Partial Differential Equations, IAS, HKUST, Dec 5-9, 2016.
- LIASFMA on Control and Inverse Problems for PDEs, Oct 24-28, 2016, Zhejiang University, Hangzhou, China.
- Inverse Problems, Imaging and Partial Differential Equations, IAS, HKUST, Sep 28 - Oct 2, 2015, Hong Kong.
- The 10th East China Partial Differential Equations Conference, East China Normal University, June 15-18, 2015, Shanghai, China.
- The Global Young Scientists Summit @ one north (GYSS 2014), Nanyang Technological University, January 19-24, 2014, Singapore.

Summer Schools

- Summer school of Partial differential equations from theory to applications, July 1-5, 2019. Dipartimento di Matematica Federigo Enriques, Università di Milano.
- Summer school of Inverse and Spectral Problems for (Non)-Local Operators, Max Planck Institute (MPI) for Mathematics in the Sciences, Sept 10-14, 2018. (Sponsor: MPI)
- Summer school of Unique Continuation and Inverse Problems, Wolff hotel in Kopp, southwest village in Bonn, Germany, Sept 2-7, 2018. (Sponsor: Hausdorff Center for Mathematics)
- Summer school on inverse problems, AIP 2015, University of Helsinki, Finland, May 18-22, 2015.

Academic Services

- Referee for "Journal Differential Geometry", "Rev. Mat. Iberoam.", "SIAM J. Math Anal.", "Journal of Differential Equations", "Cal. Var. PDE", "Inverse Problems", "Inverse Problems and Imaging", "Nonlinearity", "Nonlinear Analysis", "Applicable Analysis", "Mathematics in Engineering", "Taiwanese Journal of Mathematics"...etc.
- Secretary of East Asia Inverse Problems International Association (EAIPIA), since 2024.
- Member of Inverse Problems International Association (IPIA).
- Member of Society for Industrial and Applied Mathematics (SIAM).
- Member of Finnish Inverse Problems Society (FIPS).
- Member of Taiwanese Mathematical Society (TMS).

Teaching Experiences

- Instructor, Real Analysis (II) at NYCU, 2024 Spring.
- Organizer, Colloquium at NYCU, 2023 Fall.

- Instructor, Partial Differential Equations (I) at NYCU, 2023 Fall.
- Instructor, Real Analysis (I) at NYCU, 2023 Fall.
- Instructor, Real Analysis (II) at NYCU, 2023 Spring.
- Instructor, Real Analysis (I) at NYCU, 2022 Fall.
- Instructor, Partial Differential Equations (I) at NYCU, 2022 Fall.
- Instructor, Inverse Problems and Related Applications at NYCU, 2022 Fall.
- Instructor, Calculus (II) at NYCU, 2022 Spring.
- Instructor, Mathematical Logic and Reasoning at NYCU, 2021 Fall.
- Organizer, Colloquium at NYCU, 2021 Fall.
- Instructor, Real Analysis (II) at NYCU, 2021 Spring.
- Instructor, Real Analysis (I) at NYCU, 2020 Fall.
- Instructor, Calculus (I) at NYCU, 2020 Fall.
- Instructor, Calculus (II) at NYCU, 2020 Spring.
- Instructor, Calculus (I) at NYCU, 2019 Fall.
- Teaching assistant, Partial Differential Equations, 2015.09-2016.05, National Taiwan University.
- Teaching assistant, Real Analysis, 2014.09 - 2015.06, National Taiwan University.
- Teaching assistant, Advanced Calculus, 2012.09 - 2014.06, National Taiwan University.
- Teaching assistant, Partial Differential Equations, 2009.09-2010.05, National Taiwan University.
- Teaching assistant, Calculus I & II, 2009.09-2010.05, National Taiwan University.

Students Advisory

PhD Students:

- Dr. You-Wei Benson Chen. NYCU PhD Program, 2024 (co-advisor with Prof. Daniel Spector).
PhD Thesis: *On functions of bounded β -dimensional mean oscillation and its application*

Master Students:

- Chung-Wei Tseng. NYCU Master Program, 2023.
Master Thesis: *Inverse problems for anisotropic equations in the plane.*
- Chan-Wei Liao. NYCU Master Program 2024.
Master Thesis: *Qualitative and quantitative unique continuation of the Hilbert transform*
- Yao-Chih Mo. NYCU Master Program 2024.
Master Thesis: *Unique determination of time-independent coefficients for wave equations*

Other Experiences

- Research assistant, July 2011 – June 2012, Academia Sinica, Taiwan.
- Military service, Taiwanese Government, July 2010 – June 2011.