Curriculum Vitae [1]

Hai Zhang

Department of Mathematics,
HKUST,
Clear Water Bay, Kowloon, Hong Kong

Office: 3449
Phone: 2358 7439
Email: `haizhang@ust.hk`
Homepage: `http://www.math.ust.hk/~haizhang/`

Personal Information

- Citizenship: Chinese.

Education

- Ph.D in Mathematics, 08/2013, Michigan State University,
  Thesis title: *On the stability/sensitivity of recovering velocity fields from boundary measurements.*

- M.Phil in Mathematics, 06/2009, the Chinese University of Hong Kong,
  Thesis: *Some new developments on inverse scattering problems.*

- B.S in Mathematics, 06/2006, Wuhan University, P.R.China.

Appointments

- Associate Professor, HKUST, 07/2021-.

- Assistant Professor, HKUST, 08/2015-06/2021.

- Postdoctoral Research Fellow, Department of Mathematics and Applications , Ecole Normale Superieure, Paris, 09/2013-08/2015.

Research Interest

- Applied Mathematics; Inverse Problems and Imaging; Wave propagation in metamaterial and topological material.

Research Monograph

- *Mathematical and Computational Methods in Photonics and Phononics*,
  Habib Ammari, Hyeonbae Kang, Brian Fitzpatrick, Matias Ruiz, Sanghyeon Yu and Hai Zhang,
  Mathematical Surveys and Monographs, Volume 235, American Mathematical Society, Providence, 2018.

Journal Publications

1. *Mathematical theory for electromagnetic scattering resonances and field enhancement in a subwavelength annular gap*,
   Junshan Lin, Wangtao Lu, Hai Zhang,
   SIAM Journal on Multiscale Modeling and Simulation, to appear, 2023. arXiv:2205.05377.

---

2. *Bulk-interface correspondences for one dimensional topological materials with inversion symmetry*,
Guo Chuan Thiang, Hai Zhang.
Proceedings of the Royal Society A, 479:20220675, 2023.

3. *Dirac points for the honeycomb lattice with impenetrable obstacles*,
Wei Li, Junshan Lin, Hai Zhang,
SIAM Journal on Applied Mathematics, to appear, 2023. arXiv:2206.12077.

4. *Mathematical theory for topological photonic materials in one dimension*,
Junshan Lin and Hai Zhang,
Journal of Physics A: Mathematical and Theoretical, 55, 495203, 2022.

5. *A Mathematical theory of computational resolution limit in one dimension*,
Ping Liu and Hai Zhang,
Applied and Computational Harmonic Analysis, 56, 402-446, 2022.

6. *A Mathematical Theory of Computational Resolution Limit in Multi-dimensional Spaces*,
Ping Liu and Hai Zhang,
Inverse Problems, 37, (10), 2021.

7. *A Theory of Computational Resolution Limit for Line Spectral Estimation*,
Ping Liu and Hai Zhang,
IEEE Transactions on Information Theory, 67(7), 2021.

8. *Fano resonance in metallic grating via strongly coupled subwavelength resonators*,
Junshan Lin and Hai Zhang,
European Journal of Applied Mathematics, 32, 370-394, 2021.

9. *Sensitivity of resonance frequency in the detection of thin layer using nano-slit structures*,
Junshan Lin, Sang-Hyun Oh and Hai Zhang,
IMA Journal of Applied Mathematics, 86 (1), 146-164, 2021.

10. *A super-resolution imaging approach via subwavelength hole resonances*,
Junshan Lin and Hai Zhang,
Physical Review Applied, 14, 034066, 2020.

11. *Photonic bandgap phenomenon in a metal-dielectric periodic structure*,
Fadil Santosa and Hai Zhang,
Research in the Mathematical Sciences, 7 (15), 2020.

12. *Fano resonance for a periodic array of perfectly conducting narrow slits*,
Junshan Lin, Stephen P Shipman and Hai Zhang,
SIAM Journal on Applied Mathematics, 80(5), 2045-2070, 2020.

13. *Photonic bandgap phenomenon in a metal-dielectric periodic structure*,
Fadil Santosa and Hai Zhang,
Research in the Mathematical Sciences, 7(3), 2020.

14. *Characterization of the essential spectrum of the Neumann-Poincaré operator in 2D domains with corner via Weyl sequences*,
Eric Bonnetier and Hai Zhang,
Revista Matemática Iberoamericana, 35 (3), 925-948, 2019.

15. *Mathematical analysis of surface plasmon resonance by a nano-gap in the plasmonic metal*,
Junshan Lin and Hai Zhang,
SIAM Journal on Mathematical Analysis, 51(6), 4448-4489, 2019.

16. *Double-negative acoustic metamaterials*,
Habib Ammari, Brian Fitzpatrick, Hyundae Lee, Sanghyeon Yu and Hai Zhang,
Quarterly of Applied Mathematics, 77 (4), 767-791, 2019.

17. *The plasmonic resonances of a bowtie antenna*,
Eric Bonnetier, Charles Dapogny, Faouzi Triki and Hai Zhang,
Analysis in Theory and Applications, 85-116, 35 (1), 2019.

18. *An integral equation method for numerical computation of plasmonic resonances in a narrow metallic slit*,
Junshan Lin and Hai Zhang,
J. Comput. Phy., 385, 75-105, 2019.

19. *Bloch waves in bubbly crystal near the first band gap: a high-frequency homogenization approach*,
Habib Ammari, Hyundae Lee and Hai Zhang,
SIAM Journal on Mathematical Analysis, 51-1, 45-59, 2019.

20. *Shape reconstruction of nanoparticles from their associated plasmonic resonances*,
Habib Ammari, Mihai Putinar, Matias Ruiz, Sanghyeon Yu and Hai Zhang,
Journal de Mathématiques Pures et Appliquées, 23-48, 122, 2019.

21. *Scattering by a periodic array of subwavelength slits II: surface bound state, total transmission and field enhancement in homogenization regimes*,
Junshan Lin and Hai Zhang,
SIAM Journal on Multiscale Modeling and Simulation, 16(2), 954-990, 2018.

22. *Scattering by a periodic array of subwavelength slits I: field enhancement in the diffraction regime*,
Junshan Lin and Hai Zhang,
SIAM Journal on Multiscale Modeling and Simulation, 16(2), 922-953, 2018.

23. *Reconstructing fine details of small objects by using plasmonic spectroscopic data. Part II: The strong interaction regime*,
Habib Ammari, Matias Ruiz, Sanghyeon Yu and Hai Zhang,
SIAM Journal on Imaging Sciences, 11(3), 1931-1953, 2018.

24. *Reconstructing fine details of small objects by using plasmonic spectroscopic data*,
Habib Ammari, Matias Ruiz, Sanghyeon Yu and Hai Zhang,
SIAM Journal on Imaging Sciences, 1-23, 11, 2018.

25. *Field expansions for systems of strongly coupled plasmonic nanoparticles*,
Habib Ammari, Matias Ruiz, Sanghyeon Yu and Hai Zhang,
SIAM Journal on Numerical Analysis, 56(4), 2029-2044, 2018.

26. *Minnaert resonances for acoustic waves in bubbly media*,
Habib Ammari, Brian Fitzpatrick, David Gontier, Hyundae Lee and Hai Zhang,
Annales de l'Institut Henri Poincaré: Analyse Nonlinéaire, 1975-1998, 35, 2018.

27. *Sub-wavelength focusing of acoustic waves in bubbly media*,
Habib Ammari, Brian Fitzpatrick, David Gontier, Hyundae Lee and Hai Zhang,
Proceedings of the Royal Society A, 473: 20170469, 2017.

28. *Subwavelength phononic bandgap opening in bubbly media*,
Habib Ammari, Brian Fitzpatrick, Hyundae Lee, Sanghyeon Yu and Hai Zhang,
Journal of Differential Equations, 5610-5629, 263, 2017.

29. *Effective medium theory for acoustic waves in bubbly fluids near Minnaert resonant frequency*,
Habib Ammari and Hai Zhang,
SIAM Journal on Mathematical Analysis, 3252-3276, 49, 2017.

30. *A mathematical and numerical framework for bubble meta-screens*,
Habib Ammari, Brian Fitzpatrick, David Gontier, Hyundae Lee and Hai Zhang,
SIAM Journal on Applied Mathematics, 1827-1850, 77(5), 2017.

31. *Scattering and field enhancement of a perfect conducting narrow slit*,
Junshan Lin and Hai Zhang,
SIAM Journal on Applied Mathematics, 951-976, 77(3), 2017.

32. *Mathematical analysis of plasmonic nanoparticles: the scalar case*,
Habib Ammari, Pierre Millien, Matias Ruiz and Hai Zhang,
Archive on Rational Mechanics and Analysis, 597-658, 224, 2017.

33. *Stability for the lens rigidity problem*,
Gang Bao and Hai Zhang,
Archive on Rational Mechanics and Analysis, 1127-1160, 225(3), 2017.

34. *Mathematical and numerical framework for metasurfaces using thin layers of periodically distributed plasmonic nanoparticles*,
Habib Ammari, Matias Ruiz, Wei Wu, Sanghyeon Yu and Hai Zhang,
Proceedings of the Royal Society A, 472, 20160445, 2016.

35. *Mathematical analysis of plasmonic resonances for nanoparticles: the full Maxwell equations*,
Habib Ammari, Matias Ruiz, Sanghyeon Yu and Hai Zhang,
Journal of Differential Equations, 3615-3669, 261, 2016.

36. *Stability analysis for magnetic resonance elastography*,
Habib Ammari, Alden Waters and Hai Zhang,
Journal of Mathematical Analysis and Applications, 919-931, 430, 2015.

37. *Super-resolution in high contrast media*, Habib Ammari and Hai Zhang,
Proceedings of the Royal Society A, 471, 20140946, 2015.

38. *A mathematical theory of super-resolution by using a system of sub-wavelength Helmholtz resonators*,
Habib Ammari and Hai Zhang,
Communications in Mathematical Physics, 379-428, 337(1), 2015.

39. *Sensitive analysis of an inverse problem for the wave equation with caustics*,
Gang Bao and Hai Zhang,
Journal of the American Mathematical Society, 953-981, 27, 2014.

40. *Unique determination of periodic polyhedral structures by scattered electromagnetic fields II: the resonance case,*
Gang Bao, Hai Zhang and Jun Zou,
Transactions of the American Mathematical Society, 1333-1361, 366(3), 2014.

41. *A convergent multiscale Gaussian beam parametrix for wave equations,*
Gang Bao, Jianliang Qian, Lexing Ying and Hai Zhang,
Communications in Partial Differential Equations, 92-134, 38, 2013.

42. *Unique determination of periodic polyhedral structures by scattered electromagnetic fields,*
Gang Bao, Hai Zhang and Jun Zou,
Transactions of the American Mathematical Society, 4527-4551, 363, 2011.

43. *Recovery of polyhedral obstacles by a single far-field measurement,*
Hongyu Liu, Hai Zhang and Jun Zou,
Journal of Mathematical Physics, 50, 123506, 2009.

Preprints

1. *IFF: A Super-resolution algorithm for Multiple Measurements,*
Zetao Fei, Hai Zhang, submitted. arXiv:2303.06617v1.

2. *Mathematical theory for the interface mode in a waveguide bifurcated from a Dirac point,*
Jiayu Qiu, Junshan Lin, Peng Xie, Hai Zhang, submitted. arXiv:2304.10843v1.

3. *A measurement decoupling based efficient algorithm for super-resolving point sources with a multi-cluster structure,*
Ping Liu, Hai Zhang, submitted. arXiv:2204.00469v1.

Awards

- Plenary talk at AIP 2019.

- JiongWei Young Researcher Award: awarded at ICIP 2018 at NUS in Singapore to scholars at the age of 40 or less who have made important contributions to the field of inverse problems.

Research Grant

- Hong Kong ITF grant: PRP/027/22FX , 01/02/2023-31/01/2025.

- Hong Kong RGC grant: GRF 16304621 , 01/09/2021-31/08/2024.

- Hong Kong RGC grant: GRF 16305419, 01/01/2020-31/12/2022,

- Hong Kong RGC grant: GRF 16306318, 09/2018-08/2021,

- Hong Kong RGC grant: GRF 16304517, 09/2017-08/2020,

- Hong Kong RGC grant: ECS 26301016, 09/2016-08/2019,

- HKUST Initiation Grant IGN15SC05, 06/2016-07/2018,

Teaching

MATH 2033-L1, Mathematical Analysis, HKUST, Fall 2022;
MATH 5285, Applied Analysis, HKUST, Fall 2022;
MATH2023-L1, Multivariable Calculus, HKUST, Spring 2022;
MATH 3033-L1, Real Analysis, HKUST, Fall 2021;
MATH 5285, Applied Analysis, HKUST, Fall 2021;
MATH 2033, Mathematical Analysis, HKUST, Spring 2021;
MATH 3033-L2, Real Analysis, HKUST, Fall 2020;
MATH 5285, Applied Analysis, HKUST, Fall 2020;
MATH 2023-L1, Multivariable Calculus, HKUST, Spring 2020;
MATH4991-L1, Capstone Project in Pure Mathematics, Spring 2020;
MATH 3033-L2, Real Analysis, HKUST, Fall 2019;
MATH 5285, Applied Analysis, HKUST, Fall 2019;
MATH 2033, Mathematical Analysis, HKUST, Spring 2019;
MATH 2023-L2, Multivariable Calculus, HKUST, Fall 2018;
MATH 5285, Applied Analysis, HKUST, Fall 2018;
MATH 6380M, Mathematical Foundations of Imaging II, HKUST, Spring 2018;
MATH 6380L, Mathematical foundations of imaging I, HKUST, Fall 2017;
MATH 2023-L2, Multivariable Calculus, HKUST, Fall 2017;
MATH 6050B, Applied Analysis, HKUST, Fall 2016;
MATH 6380K, Introduction to Scattering and Inverse Scattering Theory, HKUST, Fall 2016;
MATH 1003, Calculus, HKUST, Fall 2015;

Editorial Services

- Mathematical Methods in the Applied Sciences: advisory editor.

Invited Conference/Workshop Talks

- M4: Computation and applications of scattering and inverse scattering, 12th conference on Inverse Problems, Imaging and Applications, Southern University of Science and Technology, Shenzhen, China, May 26-29, 2023.

- HKUST-KAIST-NUS Joint Workshop in Applied and Computational Mathematics, HKUST, Hong Kong, April 24-25, 2023.

- Short Course in material science "Resonances for light interaction with subwavelength structure", Tianyuan Mathematical Center in Northeast China, Jan 9-Jan 13, 2023 (online).

- MS 34, International conference on spectral and high order method, July 12-16, 2021, Vienna, Austria.

- The 7th Youth Symposium on Scientific Computing of "Scientific Computing Forum", Chinese Academy of Sciences, Beijing, Nov 27, 2021.

- 11th Zurich Summer School 2021, three 75-minutes lectures (online) on Asymptotic analysis in nanophysics, University of Zurich, Zurich, Aug 23-27, 2021.

- Workshop "Series of Lectures on Waves and Imaging (IV)", ETH, Zurich, July 8, 2021.

- Advanced School on "Metamaterial in acoustics, elastodynamics and electromagnetism", six 45-minutes lectures in International Centre for Mechanical Sciences, Udine, Italy, July 12 to 16, 2021.

- International Conference on Eigenvalue Problems and Related Topics, Beijing Computational Science Research Center, Peking, May 8-9, 2021(online).

- International Conference on Partial Differential Equations Related to Material Science, Beijing Normal University and Brown University, May 6-9, 2021 (online).

- The workshop on theoretical and computational analyses for inverse problems, Hei Long Jiang University, Hei Long Jiang, Nov, 15, 2020 (online).

- Mini-symposium TM 17, Analysis, algorithm and applications of wave propagation and scattering, CSIAM, Chang Sha, Hunan, Oct 29-Nov 1, 2020 (online).

- Workshop on inverse problems, Southeast University, Nianjing, Jiang Su, Oct, 25, 2020 (online).

- Workshop on PDE modelling and analysis in Bioscience and Complex Media, Tsinghua Sanya International Mathematics Forum, July 29-Aug 2, 2019.

- 5th International Workshop on Computational Inverse Problems and Applications, Longyan, Fujian, July 25-29, 2019.

- Plenary talk: Applied Inverse Problems, Grenoble, France, July 08-12, 2019.

- Special session: Integral operators and layer potentials, 9th Congress of Romanian Mathematicians, Galati, Romania, June 28-July 3, 2019.

- Series of Lectures on Waves and Imaging (III) , ETH, Zurich, June 27-28, 2019.

- 6th International Conference on Interdisciplinary Applied and Computational Mathematics, Zhejiang University, Hangzhou, China, June 8-9, 2019.

- Symposium of Big Data Challenges for Predictive Modeling of Complex Systems, Hong Kong, Nov 26-30, 2018.

- Workshop on Qualitative and Quantitative Approaches to Inverse Scattering Problems, Singapore, Sep 24-28, 2018.

- Plenary talk: The 9th International Conference on Inverse Problems and Related Topics, Singapore, Aug 13-17, 2018.

- Special Session SS5: Recent Advances in Inverse Problems, Conference on Dynamical Systems, Differential Equations and Applications, Taipei, July 5-9, 2018.

- Series of Lectures on Waves and Imaging (I) , ETH, Zurich, June 14-15, 2018.

- International Conference on Applied Mathematics (ICAM 2018), City U, Hong Kong, 4-8 June, 2018.

- MiniSymposium M1: Forward and inverse scattering problems and their applications, The 10th Annual Meeting on Inverse Problems, Changchun, China, May 28-31, 2018.

- International Workshop on Neumann-Poincare Operator, Plasmonics, and Field Concentrations, Jeju, Feb 8-10, 2018.

- Workshop on Inverse problems, Zhejiang University, Dec 20-22, 2017.

- Frontiers of theory and applications of nonlinear partial differential equations, IAS, HKUST, Dec 11-15, 2017.

- Young Researchers Workshop: New Trends in Computational and Applied Mathematics, BICMR, Peking, December 18-20, 2017.

- Minisymposium on Super-resolution in imaging and inverse problems, 9th Applied Inverse Problems, Hangzhou, China, May 29-June 2, 2017.

- Workshop on Optical Imaging and Inverse Problems, IMA, University of Minnesota, USA, February 13-17, 2017.

- IMS Workshop on PDE(I), CUHK, HK, December 29-31, 2016.

- Workshop on Composites, Metamaterials and Inverse Problems, in honour of Graeme Milton's 60th Birthday, KAIST, Korea, December 13-15, 2016.

- 2nd East Asia Section of IPIA-Young Scholars Symposium, National Center for Theoretical Sciences, NTU, Taipei, November 5-6, 2016.

- Imaging and Applied Optics Congress, Heidelberg, Germany, July 25-28, 2016.

- Minisymposium on Multiscale and Homogenization: Interplay of Analysis and Numerics with a Focus on Wave Problems, 7th European Congress of Mathematics, TU Berlin, German, July 18-22, 2016.

- Minisymposium on Modeling, Simulation and Analysis of Defect Problems, SIAM Conference on Mathematical Aspects of Materials Science, Philadelphia, May 8-12, 2016.

- SUSTech Global Scientists Forum, SUSTech, Shenzhen, March 18-19, 2016.

- Computational and Mathematical Problems in Materials Science, IAS, HKUST, Jan 25-29, 2016.

- Computational Seismology Workshop, Tsinghua Sanya International Mathematics Forum, Jan 4-8, 2016.

- Workshop on Computational and Applied Mathematics, University of Macau, Dec 12-13, 2015.

- Workshop on Inverse Problems and Related Topics, Zhejiang University, Dec 9-11, 2015.

- IAS Workshop on Inverse Problems, Imaging and PDEs, Hong Kong, Sep 29-Oct 2, 2015.

- Minisymposium on Inverse Problems in Wave Propagation, 8th ICIAM, Beijing, Aug 10-14, 2015.

- Minisymposium on Multi-Physical Modelling and Multi-scale Methods for Nano-optics, 8th ICIAM, Beijing, Aug 10-14, 2015.

- International Conference on Inverse Problems, Imaging and Applications, Hangzhou, Aug 6-9, 2015.

- Minisymposium on Plasmonics and Cloaking, Applied Inverse Problems, Helsinki, May 25-29, 2015.

- Minisymposium on Imaging through Complex Media, Applied Inverse Problems, Helsinki, May 25-29, 2015.

- Workshop on Inverse Problems, Grenoble, Jan 27-29, 2015.

- Workshop on Recent Advances in Parallel and High Performance Computing Techniques and Applications, NUS, Singapore, Jan 12-16, 2015.

- Minisymposium on Numerical Simulation of Quantum and Kinetic Problems, ICCP 9, NUS, Singapore, January 7-11, 2015.

- 2014 Workshop on Scattering and Inverse Scattering Problems, Zhejiang University, Hangzhou, China, December 9-10, 2014.

- ICM Satellite Conference on Imaging, Multi-Scale and High Contrast PDE, Seoul, Korea, August 7-9, 2014.

- Minisymposium on Inverse Scattering Problems, Applied Inverse Problems, KAIST, Daejeon, Korea, July 2, 2013.

- The Second International Conference on Interdisciplinary Applied and Computational Mathematics, Zhejiang University, Hangzhou, China, June 22, 2013.

- Minisymposium on Inverse Obstacle Scattering Problems: Theory and Numerical Methods, Applied Inverse Problems, Texas A&M University, Texas, USA, May 24, 2011.

Seminar/Colloquium Talks

- Zurich colloquium of applied and computational mathematics, ETH, Zurich, Switzerland, May 22, 2023.

- Colloquium , City U, Dec 7, 2022.

- CAM Seminar, SUSTECH, Nov, 11, 2020 (online).

- Applied Math Seminar, SUSTECH, Dec 24, 2019.

- Colloquium, CUHK, Hong Kong, April 13, 2018.

- Seminar, HKU, Hong Kong, Feb 28, 2018.

- Seminar, Institute of Natural Sciences, Shanghai Jiao Tong University, June 27, 2017.

- CAM seminar, Yau Mathematical Sciences Center of Tsinghua University, Beijing, April 12, 2017.

- CSRC Seminar, CSRC, Beijing, April 13, 2017.

- Colloquium, WHU, Wuhan, March 27, 2017.

- Seminar, IAS, HKUST, Sep 21, 2016.

- Seminar, WHU, Wuhan, April 1, 2016.

- Seminar, City U of HK, Hong Kong, March 5, 2015.

- Colloquium, HKUST, Hong Kong, March 3, 2015.

- Colloquium, U of Toronto, Toronto, Canada, Feb 9, 2015.

- Seminar, University of Bath, Bath, UK, Jan 19, 2015.

- Colloquium, NUS, Singapore, Jan 13, 2015.

- Colloquium, Wuhan Univeristy, Wuhan, China, Dec 19, 2014.

- Seminar, Shantou University, Shantou, China, Dec 15, 16, 2014.

- Seminar, UCL, London, UK, Oct 31, 2014.

- Seminar on imaging, DMA, Ecole Normale Superieure, Paris, Sep 26, 2014.

- Seminar, Laboratoire Jean Kuntzmann, Grenoble, April 17, 2014.

- Seminar, Fudan University, Shanghai, China, Dec 24, 2013.

- Colloquium, Wuhan Univeristy, Wuhan, China, May 23, 2013.

- Seminar, Wuhan Univeristy, Wuhan, China, May 20, 2013.

- Seminar, Zhejiang University, Hangzhou, China, June 7, 2012.

- Seminar, Academy of Mathematics and System Science, Beijing, China, May 14, 15, 16, 2012.

- Student Applied Seminar, Michigan State University, Jan 23, 2012.

- Student Applied Seminar, Michigan State University, March 1, 2011.

- IMA Summer School, Michigan State University, June 25, 2010.

Conferences/Workshop organization

- The Sixth Young Scholar Symposium, CUHK, co-organized with Bangti Jin and Hongyu Liu, March 25-26, 2023.

- IAS program on Inverse Problems, Imaging and Partial differential Equations, co-organized with Gunther Uhlmann(chair), IAS, HKUST, September 2022-.

- Hong Kong Workshop on Inverse Problems and Imaging, co-organized with Gunther Uhlmann, IAS, HKUST, Hong Kong, Nov 29, 2022.

- Minisymposium MS-69: Mathematical and computational methods in photonics and phononics, AIP 2019, co-organized with Habib Ammari and Pierre Millien, Grenoble, France, July 08-12, 2019.

- IAS program on Inverse Problems, Imaging and Partial differential Equations, co-organized with Gunther Uhlmann(chair), IAS, HKUST, September 2016-June 2018.

- IAS Workshop on Inverse Problems, Imaging and Partial differential Equations, co-organized with Gunther Uhlmann(chair), Gang Bao, Tony F Chan, Shing Yu Leung and Yang Wang, IAS, HKUST, December 5-9, 2016.

- Minisymposium M7: Super-resolution in imaging and inverse problems, AIP 2017, co-organized with Habib Ammari and Weiyu Xu, Hangzhou, China, May 29-June 2, 2017.

- Minisymposium M8: Plasmonic Resonances and Its Applications in Imaging AIP 2017, co-organized with Junshan, Hangzhou, China, May 29-June 2, 2017.

- Minisymposium C5: Mathematical Analysis of Plasmonic Resonance and Related Topics, ICCP 10, co-organized with Habib Ammari , Macao, January 16-20, 2017.

Summer Schools

1. Summer School of Mathematical Physics, Analysis and Stochastic,
   Universität Heidelberg, July 21-26, 2014.

2. Gene Golub SIAM Summer School on Waves and Imaging,
   UBC, Vancouver, Canada, July 4-15, 2011.

3. IMA Summer Graduate Program on Computational Wave Propagation,
   Michigan State University, June 7-25, 2010.

Visiting experience

1. Institute for Mathematical Research and Department of Mathematics, ETH, Zurich, January 13-26, 2016; June 16-July 7, 2019.

2. Institute for Mathematical Sciences and the Department of Mathematics, NUS, Singapore, January 2-13, 2015.

Academic Service

- Referee for "Inverse Problems", "SIAM J.Imaging Sciences" , "Journal of Differential Equations", "Mathematical Modelling and Analysis", "Journal of Computational Mathematics", "Journal of Mathematical Analysis and Applications", etc.