

**East Asia Section of Inverse Problems International Association (EAIPIA) - 7th Young Scholar Symposium**

December 9-10, 2023

Venue: IAS4042, 4/F, Lo Ka Chung Building, Lee Shau Kee Campus, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong, China

**Format of Talk: 25-minute presentation + 5-minute Q&A session**

		December 9, 2023 (Saturday)		December 10, 2023 (Sunday)		
		Title	Speaker	Title	Speaker	
Morning	08:30 - 08:55	Registration		Session Chair: Xi CHEN (Fudan University)		
	08:55 - 09:00	Welcoming Remarks Gunther UHLMANN		09:00 - 09:30	D2-#1: A Density Property for Tensor Products of Gradients of Harmonic Functions Catalin CARSTEA (National Yang Ming Chiao Tung University)	
	Session Chair: Gunther UHLMANN HKUST (IAS Si Yuan Professor)		09:30 - 10:00	D2-#2: Geodesic X-ray Transform and Boundary Rigidity in Low Regularity Kelvin LAM (University of Washington)		
	09:00 - 10:00	D1-#1: A Journey through the State-of-the-Art of Non-Iterative Approach to Inverse Scattering, Open Questions and Future Prospects Fioralba CAKONI (Rutgers University)	10:00 - 10:30	D2-#3: Beating the Saturation of the Stochastic Gradient Descent for Linear Inverse Problems Zehui ZHOU (Rutgers University)		
	10:00 - 10:30	D1-#2: Uniqueness Result for Some Nonlocal Inverse Problems Yi-Hsuan LIN (National Yang Ming Chiao Tung University)	10:30 - 11:00	Coffee Break (Venue: 4/F Open Area)		
	10:30 - 11:00	Group Photo Taking & Coffee Break (Venue: 4/F Open Area)		11:00 - 11:30	D2-#4: Acousto-electric Inverse Source Problems Wei LI (DePaul University)	
	11:00 - 11:30	D1-#3: A Non-Local Inverse Problem with Boundary Response Tuhin GHOSH (Harish-Chandra Research Institute (HRI))	11:30 - 12:00	D2-#5: Inverse Boundary Problem for Mean Field Games System Shen ZHANG (City University of Hong Kong)		
	11:30 - 12:00	D1-#4: Some Free Boundary Methods and Their Application to Inverse Scattering Problems Pu Zhao KOW (National Chengchi University)	12:00 - 12:30	D2-#6: Uniqueness Principle for Fractional Polyharmonic Operators and Applications to Inverse Problems Catharine LO (City University of Hong Kong)		
	12:00 - 14:00	Lunch (For Speakers and Registered Participants; Venue: China Garden Restaurant)		12:30 - 14:00	Lunch (For Speakers and Registered Participants; Venue: UniBistro)	
Afternoon	Session Chair: Hai ZHANG (HKUST)		Session Chair: Junshan LIN (Auburn University)			
	Title		Speaker	Title		Speaker
	14:00 - 14:30	D1-#5: The Effective Construction on Elastic Metamaterials	Hongjie LI (Tsinghua University)	14:00 - 14:30	D2-#7: Hybrid Neural-Network FEM Approximation of Conductivity in Elliptic Problem Siyu CEN (The Hong Kong Polytechnic University)	
	14:30 - 15:00	D1-#6: Linearization of the Fixed Angle Inverse Scattering Shiqi MA (Jilin University)	14:30 - 15:00	D2-#8: Discovery of State Variables Hidden in Experimental Data Kuang HUANG (The Chinese University of Hong Kong)		
	15:00 - 15:30	D1-#7: On Inverse Problems for Several Coupled PDE Systems Arising in Mathematical Biology Minghui DING (City University of Hong Kong)	15:00 - 15:30	D2-#9: Asymptotic Analysis for the Wave Equation with Applications Haibing WANG (Southeast University)		
	15:30 - 16:00	Coffee Break (Venue: 4/F Open Area)		15:30 - 16:00	Coffee Break (Venue: 4/F Open Area)	
	16:00 - 16:30	D1-#8: A Bayesian Approach Combined with Machine Learning for Reconstructing Obstacles in Acoustic Waveguides Yu GAO (Jilin University)	16:00 - 16:30	D2-#10: Deep Ritz Method for Optimization with Elliptical Constrains Fengru WANG (The Chinese University of Hong Kong)		
	16:30 - 17:00	D1-#9: An Accelerated Markov Chain Monte Carlo Sampling Scheme for an Inverse Scattering Problem with Partial Measurement Jiho HONG (The Chinese University of Hong Kong)	16:30 - 17:00	D2-#11: Stochastic Convergence of Regularized Solutions for Backward Heat Conduction Problems Wenlong ZHANG (Southern University of Science and Technology)		
	17:00 - 17:30	D1-#10: SCAN-MUSIC: An Efficient Super-resolution Algorithm for Single Wide-band Line Spectral Estimation Zetao FEI (HKUST)	17:00 - 17:30	D2-#12: A Fourier Approach to the Parameter Estimation Problem for One-dimensional Gaussian Mixtures Xinyu LIU (HKUST)		
17:30 - 18:00	D1-#11: Hadamard Integrator for Time-dependent Wave Equations: Lagrangian Formulation via Ray Tracing Yuxiao WEI (Fudan University)	17:30 - 18:00	General Assembly of East Asia Section of Inverse Problems International Association (EAIPIA) (To discuss the future plans and activities of EAIPIA) Hongyu LIU (City University of Hong Kong)			
18:15 - 20:30	Banquet (For Speakers Only; Venue: Sai Kung) <i>*Coach departs from Lo Ka Chung Building at 18:15 and returns at 20:30</i>					

IAS Workshop on Inverse Problems, Imaging and Partial Differential Equations

December 11-14, 2023

Venue: Kaisa Group Lecture Theater (IAS LT) & IAS2042, Lo Ka Chung Building, Lee Shau Kee Campus, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong, China

**\* No talks on December 15 (Friday)**

Format of Talk: 40-minute presentation plus 5-minute Q&A session

	December 11, 2023 (Monday)		December 12, 2023 (Tuesday)		December 13, 2023 (Wednesday)		December 14, 2023 (Thursday)				
	Kaisa Group Lecture Theater (IAS LT)		IAS2042, 2/F		Kaisa Group Lecture Theater (IAS LT)		Kaisa Group Lecture Theater (IAS LT)				
	Title	Speaker	Title	Speaker	Title	Speaker	Title	Speaker			
Morning	8:30	Pick-up at Crowne Plaza Hong Kong Kowloon East by coach (Boarding point: Outside Crowne Plaza Hong Kong Kowloon East)		8:30	Pick-up at Crowne Plaza Hong Kong Kowloon East by coach (Boarding point: Outside Crowne Plaza Hong Kong Kowloon East)		8:30	Pick-up at Crowne Plaza Hong Kong Kowloon East by coach (Boarding point: Outside Crowne Plaza Hong Kong Kowloon East)			
	08:30 - 08:55	Registration		Session Chair: Jun ZOU (The Chinese University of Hong Kong)		Session Chair: Hongyu LIU (City University of Hong Kong)		Session Chair: Jianfeng CAI (HKUST)			
	08:55 - 09:00	Welcoming Remarks Gunther UHLMANN (HKUST (IAS Si Yuan Professor))		09:00 - 09:45	D2-#1: Far Field Broadband Approximate Cloaking for the Helmholtz Equation with a Drude-Lorentz Refractive Index Fioralba CAKONI (Rutgers University)	09:00 - 09:45	D3-#1: Reduced Order Model Approach for Imaging with Waves Josselin GARNIER (Ecole Polytechnique)	09:00 - 09:45	D4-#1: Neural Operators and Inverse Problems Maarten DE HOOP (Rice University)		
		Session Chair: Gunther UHLMANN (HKUST (IAS Si Yuan Professor))		09:45 - 10:30	D2-#2: On Some Inverse Boundary Value Problems Arising from Cardiac Electrophysiology Elena BERETTA (New York University Abu Dhabi)	09:45 - 10:30	D3-#2: Asymptotic Behavior at Infinity of Phaseless Total-field Operators and Applications to Phaseless Inverse Scattering at a Fixed Frequency Bo ZHANG (Academy of Mathematics and Systems Science, Chinese Academy of Sciences)	09:45 - 10:30	D4-#2: The Learning Based Numerical Solutions for Partial Differential Equations Jin CHENG (Fudan University)		
	09:00 - 09:45	D1-#1: On a Caffarelli-Silvestre-Type Extension Perspective of the (Variable Coefficient) Fractional Calderón Problem Angkana RÜLAND (University of Bonn)	10:30 - 11:00	Coffee Break (Venue: Open Area, 2/F)		10:30 - 11:00	Group Photo Taking & Coffee Break (Venue: Lobby, G/F)		10:30 - 11:00	Coffee Break (Venue: Lobby, G/F)	
	09:45 - 10:30	D1-#2: Inverse Problems for Nonlocal PDEs with Applications to Quantum Optics John SCHOTLAND (Yale University)	11:00 - 11:45	D2-#3: Differential-Equation Constrained Optimization With Stochasticity Yunan YANG (Cornell University)	11:00 - 11:45	D3-#3: The Born and Inverse Born Series for Scattering Problems with Nonlinearities Shari MOSKOW (Drexel University)	11:00 - 11:45	D4-#3: Scattering Resonances Through Subwavelength Holes: Theory, Computation and Applications in Imaging Junshan LIN (Auburn University)			
	10:30 - 11:00	Coffee Break (Venue: Lobby, G/F)		11:45 - 12:30	D2-#4: On Transport Twistor Spaces Jan BOHR (University of Bonn)	11:45 - 12:30	D3-#4: Inverse Boundary Value Problems Arising in Nonlinear Acoustic Imaging Yang ZHANG (University of Washington)	11:45 - 12:30	D4-#4: An Inverse Boundary Value Problem for a Nonlinear Elastic Wave Equation Jian ZHAI (Fudan University)		
	11:00 - 11:45	D1-#3: Bayesian Approach to the Inverse Medium Scattering Problem Jenn-Nan WANG (National Taiwan University)	12:30 - 14:00	Lunch (For Speakers only; Venue: UniQue, Conference Lodge)		12:30 - 14:00	Lunch (For Speakers only; Venue: UniBistro)		12:30 - 14:00	Lunch (For Speakers only; Venue: UniQue, Conference Lodge)	
	11:45 - 14:00	Lunch (For Speakers & Invited Participants; Venue: China Garden Restaurant)									
	Afternoon	Session Chair: Hai ZHANG (HKUST)		Session Chair: Eric Tsz Shun CHUNG (The Chinese University of Hong Kong)		Session Chair: Shing Yu LEUNG (HKUST)		Session Chair: Bangti JIN (The Chinese University of Hong Kong)			
14:00 - 14:45		D1-#4: Rigidity of Lorentzian Metrics with the Same Scattering Relations Yiran WANG (Emory University)	14:00 - 14:45	D2-#5: Computational Boundary Control Methods for the Acoustic Inverse Boundary Value Problem Yang YANG (Michigan State University)	14:00 - 14:45	D3-#5: The Diffraction Phenomenon on Conic Manifolds Xi CHEN (Fudan University)	14:00 - 14:45	D4-#5: Inverse Problem for the Minimal Surface Equation and Nonlinear CGO Calculus in Dimension 2 Tony LIIMATAINEN (University of Helsinki)			
14:45 - 15:30		D1-#5: Inverse Problems for the Boltzmann Equation Ru-Yu LAI (University of Minnesota)	14:45 - 15:30	D2-#6: Recovery of Coefficients in Nonlinear Transport Equations Hanming ZHOU (University of California, Santa Barbara)	14:45 - 15:30	D3-#6: Simultaneous Determination of Sound Speed and Initial Data for the Photoacoustic Tomography Problem Yavar KIAN (University of Rouen Normandy)	14:45 - 15:30	D4-#6: Inverse Problems for Third-order Nonlinear Perturbations of Biharmonic Operators Katya KRUPCHYK (University of California, Irvine)			
15:30 - 16:00		Coffee Break (Venue: Lobby, G/F)		15:30 - 16:00	Coffee Break (Venue: Open Area, 2/F)		15:30 - 16:00	Coffee Break (Venue: Lobby, G/F)			
16:15		Return to Crowne Plaza Hong Kong Kowloon East by coach (Boarding point: Lo Ka Chung Building)		16:00 - 16:45	D2-#7: Recovery of the Nonlinearity from Scattering Data in Nonlinear Schrödinger Equations Jason MURPHY (University of Oregon)	16:00 - 16:45	D3-#7: Spectrum of the Neumann-Poincaré Operator for Planar, Thin Doubly Connected Domains Mikyong LIM (Korea Advanced Institute of Science and Technology (KAIST))	16:00 - 16:45	D4-#7: Increasing Stability in the Linearized Inverse Schrödinger Potential Problems Shuai LU (Fudan University)		
				17:00	Return to Crowne Plaza Hong Kong Kowloon East by coach (Boarding point: Lo Ka Chung Building)		17:00	Return to Crowne Plaza Hong Kong Kowloon East by coach (Boarding point: Lo Ka Chung Building)			
						17:15	Banquet (For Speakers & Invited Participants; Venue: Sai Kung) <i>*Coach departs from Lo Ka Chung Building at 17:15 and returns at 20:30</i>				

Version as of Dec 12, 2023