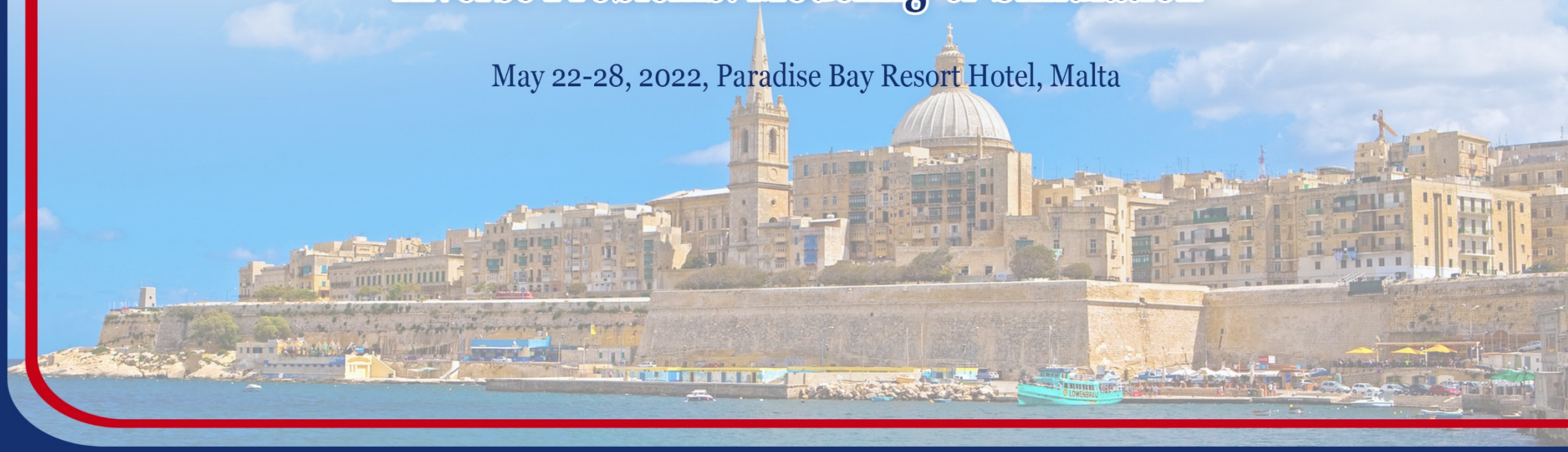
Conference Programme

10th International Conference
"Inverse Problems: Modeling & Simulation"

May 22-28, 2022, Paradise Bay Resort Hotel, Malta



THE EURASIAN ASSOCIATION ON INVERSE PROBLEMS

CONFERENCE PROGRAMME

10th International Conference

“Inverse Problems: Modeling and Simulation”

held on May 22-28, 2022, Paradise Bay Resort Hotel, Malta

http://www.ipms-conference.org

10th International Conference
"Inverse Problems: Modeling and Simulation"

http://www.ipms-conference.org

Paradise Bay Resort Hotel, Malta

May 22 – 28, 2022

CONFERENCE PROGRAMME

TABLE of CONTENTS

Welcome

to the 10th International Conference "Inverse Problems: Modeling and Simulation"

May 22- 28, 2022, Paradise Bay Resort Hotel, Malta

The First International Conference "Inverse Problems: Modeling and Simulation", sponsored by Fethiye Municipality, Office of Naval Research International Field Office and Naval Undersea Warfare Center (USA), and also by Danish Interdisciplinary Inversion Group (DIIG) (Denmark) was held during July 12 - 21, 2002, in Fethiye, Turkey.
The Second International Conference "Inverse Problems: Modeling and Simulation", sponsored by Fethiye Municipality, international journals "Inverse Problems", " Journal of Inverse and Ill-Posed Problems", "Inverse Problems in Engineering", the Scientific and Technological Research Council of Turkey (TUBITAK) was held during June 07 - 12, 2004, in Fethiye, Turkey.
The Third International Conference "Inverse Problems: Modeling and Simulation", sponsored by Mugla Governorship, the Scientific and Technological Research Council of Turkey (TUBITAK), Öludeniz Municipality, international journals "Inverse Problems", "Journal of Inverse and Ill-Posed Problems", "Inverse Problems in Science and Engineering" was held during May 29 - June 02, 2006, in Oludeniz - Fethiye, Mugla, Turkey.
The Fourth International Conference "Inverse Problems: Modeling and Simulation" was held in Öludeniz (Fethiye, Mugla) during May 26 -30, 2008 and was sponsored by the Turkish International Cooperation and Development Agency (TIKA), Mugla Governorship, Ankara Branch of Turkish Mathematical Society, Oludeniz Municipality, international journals "Inverse Problems", "Journal of Inverse and Ill-Posed Problems", "Inverse Problems in Science and Engineering".
The Fifth and Sixth International Conferences "Inverse Problems: Modeling and Simulation" were held during May 24 - 29, 2010, and May 21-26, 2012, respectively, in Lykia World & Links Golf Antalya hotel, Antalya, Turkey. Both conferences were held under the auspices of the leading international journals, "Inverse Problems in Science and Engineering", "Inverse Problems", "Journal of Inverse and Ill-Posed Problems".
The Seventh International Conference "Inverse Problems: Modeling and Simulation" was held during May 26-31, 2014, in Liberty Hotels Lykia, Öludeniz-Fethiye, Turkey. The meeting was supported by the Scientific and Technological Research Council of Turkey (TUBITAK). This meeting brought together 172 internationally known speakers and exhibitors from over 35 countries world-wide.
The Eighth International Conference "Inverse Problems: Modeling and Simulation" was held during May 23–28, 2016, in Liberty Hotels, Lykia, Ölüdeniz, Fethiye - Turkey. The conference brought together 160 international speakers and exhibitors from over 32 countries world-wide. The conference programme includes 3 plenary lectures and invited lectures given in the framework of 19 minisymposiums. The main sponsors of the conference were Izmir University, École Polytechnique and the Eurasian Association on Inverse Problems (EAIP).
The Ninth International Conference "Inverse Problems: Modeling and Simulation" was held during May 21–25, 2018, in the Paradise Bay Resort Hotel, Mellieha, Malta. The conference brought together over 250 experts on inverse problems and applications from 32 countries. The conference programme included 5 plenary lectures and about 250 invited lectures given in the framework of 26 minisymposiums and poster sessions. The main sponsor of the conference was The Eurasian Association on Inverse Problems (EAIP).

The Tenth International Conference "Inverse Problems: Modeling and Simulation", organized during May 22–28, 2022, in Paradise-Bay Hotel, Malta, is a Jubilee Conference and will celebrate also jubilees of several distinguished worldwide experts on inverse problems. This conference, as two previous ones, is organized under the auspices of the Eurasian Association on Inverse Problems (http://www.eurasianip.org).

Organizing Institutions and Sponsors

Main Topics

- Inverse Problems in: Tomography; Medical Imaging; Mechanics; Nondestructive Testing; Material Science; Underground Prospecting; Acoustics; Geosciences; Heat and Mass Transfer; Chemistry, Biology, Medicine, Economics and Life Sciences; Electromagnetism; Theory of Solitons; Learning Theory
- Imaging
- Statistical and Probabilistic Methods
- Numerical Inversion Algorithms
- Identification Problems for Differential Equations
- Geometric Inverse Problems
- Radon Transforms and Integral Geometry
- Convex Analysis and Inverse Problems
- Inverse Problems and Signal Processing
- Regularization Techniques
- Design and Shape Optimization Inverse Scattering and Wave Propogation
- Inverse Scattering Wave Propogation
- Solitons
- Determination of Boundary and Initial Conditions
- Inverse Coefficient and Source Problems
- Computational Methods and Identifiability Concepts
- Spectral Inversion
- Data Analysis

Committees

Chair of the Conference: Alemdar Hasanov Hasanoglu, Turkey

Co-Chairs: Roman Novikov, France; Eric Todd Quinto, USA; Otmar Scherzer, Austria; Cristiana Sebu, Malta

International Program Committee:

- Simon Arridge, UK
- Giovanni S. Alberti, Italy
- Laurent Baratchart, France
- Hiromichi Itou, Japan
- Thorsten Hohage, Germany
- Ming Jiang, China
- Sergey I. Kabanikhin, Russia
- Daniel Lesnic, UK
- Andreas Neubauer, Austria
- Thomas Schuster, Germany
- Shuhua Zhang, China

International Organizing Committee:

- Onur Baysal, Malta
- Karel Van Bockstal, Belgium
- Alexandre Kawano, Brazil
- Burhan Pektas, Turkey
- Yanica Said, Malta
- Cristiana Sebu, Malta (Chair)

PROGRAMME OUTLINE

	REGISTRATION: Paradise Bay Resort Hotel Reception Hall: Sunday, May 22th, 2022, 14:00-18:00; Monday, May 23th, 2022, 08:30-09:45			
	MONDAY 23th May, 2022			
09:45-10:30	**Opening Ceremony & Award Presentation** (Amphitheatre)			
10:30-11:10	**PLENARY SESSION**			
11:10-11:30	**Coffee Break**			
	MINISYMPOSIUMS			
	Salon A	**Salon B**	**Salon C**	**Salon D**
11:30-13:10	**M1: Recent Advances in Inverse Problems over the Past 20 Years** *Commemorative Minisymposium for the 10th IPMS Conference* Organizers: A. Hasanov, T. Quinto	**M6: Generalized Radon Transforms and Applications** Organizers: M.K. Nguyen-Verger, T.T. Truong	**M23: Theory and Numerics for Inversion Strategies** Organizer: G. Nakamura	
13:10-14:30	**Lunch**			
14:30-16:10	**M1** (Continued) **Session 2**	**M6** (Continued) **Session 2**	**M23** (Continued) **Session 2**	
	POSTER SESSION 1			
16:10-16:30	**Coffee Break**			
16:30-18:10	**M2: New Trends in Regularization Theory** Organizers: B. Hofmann, S. Kindermann	**M6** (Continued) **Session 3**	**M11: Inverse Problems for Time-fractional PDEs** Organizer: E. Soccorsi	**M20: Inverse Obstacle and Control Problems in Mechanics** Organizers: H. Itou, V. Kovtunenko, G. Alekseev, M. Lavrentiev
19:30-20:30	**Welcome Party**			

	TUESDAY 24th May, 2022			
09:00-09:40	PLENARY SESSION			
	MINISYMPOSIUMS			
	Salon A	Salon B	Salon C	Salon D
09:50-11:30	**M16: Recent Advances in Inverse Problems and Distributed Parameter Systems** *Minisymposium in memory of Professor H.T. Banks' long career* Organizers: J. Burns, A. Hasanov	**M14: Mathematical Methods in Tomography Across the Scales** Organizer: P. Elbau	**M12: Electrical Impedance Tomography: Theory and Applications** Organizers: M. Santacesaria, G.S. Alberti	**M20** (Continued) **Session 2**
11:30-11:50	Coffee Break			
11:50-13:30	**M16 (Continued)** **Session 2**	**M14** (Continued) **Session 2**	**M12** (Continued) **Session 2**	**M20** (Continued) **Session 3**
13:30-15:00	Lunch			
15:00-16:40	**M2** (Continued) **Session 2**	**M27: Inverse Problems in Scattering Theory and Geometry** Organizers: M. Lassas, T. Tyni	**M5: Theoretical and Numerical Results in Geometric Inverse Problems for PDEs** Organizers: J. Apraiz, A. Doubova	**M7: Recent Advances in Inverse Problems of Time Harmonic Wave Propagation** Organizers: S. Meng, R. Novikov
16:40-17:00	Coffee Break			
17:00-18:40	**M2** (Continued) **Session 3**	**M27** (Continued) **Session 2**	**M5** (Continued) **Session 2**	**M7** (Continued) **Session 2**
19:00-19:30	Biennial Assembly of the Eurasian Association on Inverse Problems (Salon A)			

	WEDNESDAY 25th May, 2022			
09:00-09:40	PLENARY SESSION			
	MINISYMPOSIUMS			
	Salon A	Salon B	Salon C	Salon D
09:50-11:30	**M4: Modern Challenges in Inverse Problems Including Boundary Rigidity, Microlocal Analysis and Cloaking** *Minisymposium dedicated to Professor Gunther Uhlmann* Organizers: G. Nakamura, T. Quinto, P. Stefanov	**M21: Imaging Modalities: Recent Advances and Beyond** Organizer: C. Sebu	**M26: Variational Methods for Inverse Problems in Imaging** Organizers: R. Beinert, K. Bredies	**M17: Parameter Identification Problems for PDEs: Theoretical and Computational Aspects** Organizer: T.N.T. Quyen
11:30-11:50	Coffee Break			
11:50-13:30	**M4** (Continued) **Session 2**	**M21** (Continued) **Session 2**	**M26** (Continued) **Session 2**	**M17** (Continued) **Session 2**
13:30-14:30	Lunch			
14:00-19:00	Gozo Island Tour			

	THURSDAY 26th May, 2022			
09:00-09:40	PLENARY SESSION			
	MINISYMPOSIUMS			
	Salon A	**Salon B**	**Salon C**	**Salon D**
09:50-11:30	**M19: Modern Challenges in Imaging, Tomography, and Radon Transforms** *Minisymposium dedicated to Professor Todd Quinto* Organizers: J. Boman, R. Novikov	**M22: Inverse Problems with Data-Driven Methods and Deep Learning** Organizers: T. Bubba, M. Genzel, A. Hauptmann, M. März	**M26** (Continued) **Session 3**	**M28: Regularization Methods and Applications in Statistics and Econometrics** Organizers: Pierre Maréchal, Anne Vanhems
11:30-11:50	Coffee Break			
11:50-13:30	**M19** (Continued) **Session 2**	**M22** (Continued) **Session 2**	**M18: Coefficient Identification Problems** Organizer: D. Lesnic	**M28** (Continued) **Session 2**
13:30-14:30	Lunch			
14:30-15:10	PLENARY SESSION			
15:10-16:50	**M9: Recent Advances in Analytical and Numerical Methods in Inverse Problems for PDEs** *Minisymposium dedicated to Professor Michael Klibanov* Organizers: C. Clason, T.T. Nguyen, P. Sacks	**M22** (Continued) **Session 3**	**M18** (Continued) **Session 4**	**M8: Inverse Problems in Science and Engineering** Organizers: K. Van Bockstal, C. Sebu
16:50-17:1 0	Coffee Break			
17:10-18:50	**M3: Tomographic Inverse Problems** Organizers: A. Abhishek, J. Boman, T. Quinto	**M22** (Continued) **Session 4**	**M6** (Continued) **Session 4**	**M8** (Continued) **Session 2**
20:00-24:00	Banquet			

	FRIDAY 27th May, 2022			
09:00-09:40	PLENARY SESSION			
	MINISYMPOSIUMS			
	Salon A	Salon B	Salon C	Salon D
09:50-11:30	**M10: Computational Methods for Inverse Problems and Applications** *Minisymposium dedicated to Professor Anatoly Yagola* Organizers: U. Hämarik, M. Kojdecki	**M25: Inverse Problems in Biomedical and Material Imaging** Organizers: D. Lazzaro, A. Samorè, L. Seppecher	**M15: Inverse Source Problems with Applications to Planetary Sciences and Medical Imaging** Organizer: L. Baratchart	**M24: Inverse Problems via Topological Derivatives** Organizer: M.-L. Rapún
11:30-11:50	Coffee Break			
11:50-13:30	**M10** (Continued) **Session 2**	**M25** (Continued) **Session 2**	**M15** (Continued) **Session 2**	**M24** (Continued) **Session 2**
13:30-15:00	Lunch			
15:00-16:40	**M10** (Continued) **Session 3**	**M25** (Continued) **Session 3**	**M13: Inverse Problems in Geomathematics and Seismology** Organizers: A. Aspri, E. Beretta, J. Ilmavirta, A. Mazzucato. D. Volkov	**M3** (Continued) **Session 2**
16:40-17:00	Coffee Break			
17:00-18:40	**M10** (Continued) **Session 4**		**M13** (Continued) **Session 2**	**M4** (Continued) **Session 3**
19:00-19:30	Closing Ceremony. Election of Committee Members for IPMS 2024 (Salon A)			

MONDAY 23th May, 2022			
PLENARY SESSION (Salon A) **Chair**: Otmar Scherzer			
10:30-11:10	**Bernd Hofmann**, Chemnitz University of Technology, Germany *Ill-posedness concepts and the distinguished role of smoothness in regularization for linear and nonlinear inverse problems*		
11:10-11:30	**Coffee Break**		
MINISYMPOSIUMS			
M1: Recent Advances in Inverse Problems over the Past 20 Years **Chairs:** M. Isaev, A. Jollivet (11:30-13:10)	**M6: Generalized Radon Transforms and Applications** **Chairs:** M. K. Nguyen-Verger, T. T. Truong (11:30-13:10)	**M23: Theory and Numerics for Inversion Strategies** **Chair:** G. Nakamura (11:30-13:10)	
Salon A	**Salon B**	**Salon C**	
Jan Boman, Stockholm University, Sweden, *Uniqueness and stability questions for inverse Radon transforms* (11:30-11:55)	**Matthias Beckmann**, University of Hamburg, Germany, *The Modulo Radon transform and its inversion* (11:30-11:55)	**Takashi Furuya**, Hokkaido Univ., Japan, *Local recovery of a piecewise constant anisotropic conductivity in EIT on domains with exposed corners* (11:30-11:55) (Virtual Presentation)	
Otmar Scherzer, University of Vienna, Austria, *Inverse problems of single molecule localization microscopy* (11:55-12:20)	**Maimouna Bocoum**, Institut Langevin, France, *Structured ultrasound-modulated optical tomography* (11:55-12:20)	**Durga Prasad Challa**, Indian Inst. of Tech., India, *Extraction of the mass density by embedding contrasted small inclusions* (11:55-12:20) (Virtual Presentation)	
Maria-Luisa Rapun, Universidad Politecnica de Madrid, *Topological derivative based methods for shape reconstruction* (12:20-12:45)	**Aleksander Denisiuk**, University of Warmia and Mazury in Olsztyn, Poland, *On range condition of the tensor x-ray transform in $\mathbb R^n$* (12:20-12:45)	**Manabu Machida**, Hamamatsu Univ. School of Medicine, Japan, *Diffuse optical tomography with a simulated annealing Monte Carlo algorithm* (12:20-12:45) (Virtual Presentation)	
Karel Van Bockstal, Ghent University, Belgium, *The identification of a time-dependent source in a time-fractional diffusion equation with non-smooth solutions* (12:45-13:10)	**Joonas Ilmavirta**, University of Jyvaskyla, Finland, *Ray Transform problems arising from seismology on Mars* (12:45-13:10)	**Zhidong Zhang**, Sun Yat-sen University, China, *On the identification of source term in the heat equation from sparse data* (12:45-13:10) (Virtual Presentation)	
13:10-14:30	**Lunch**		

M1 (Continued) **Chairs:** K.Van Bockstal, M.-L. Rapun (14:30-16:10)	**M6** (Continued) **Chairs:** M. K. Nguyen-Verger, T. T. Truong (14:30-16:10)	**M23** (Continued) **Chair:** G. Nakamura (14:30-15:45)	
Salon A	**Salon B**	**Salon C**	
Roman Novikov, Ecole Polytechnique, France, *Multidimensional inverse scattering problem* (14:30-14:55) (Virtual Presentation)	**Voichita Maxim**, CREATIS, INSA Lyon, France, *Spectral Compton Camera imaging of polychromatic gamma-ray sources* (14:30-14:55)	**Hiroshi Takase**, Kyushu University, Japan, *Inverse source problem for wave equations on Lorentzian manifolds* (14:30-14:55) (Virtual Presentation)	
Mikhail Isaev, Monash University, Australia, *A simple example of Hölder-logarithmic stability in inverse problems* (14:55-15:20) (Virtual Presentation)	**Mai K. Nguyen-Verger**, Univ. of Cergy-Pontoise, France, *Some Generalized Radon Transforms Inspired from Imaging Technology* (14:55-15:20)	**Shumin Li**, Univ. of Science and Tech. of China, China, *Carleman estimates and inverse problems for the coupled quantitative thermo-acoustic equations* (14:55-15:20) (Virtual Presentation)	
Alemdar Hasanov, Kocaeli University, Turkey, *Inverse problems for Euler-Bernoulli beam based on boundary measured outputs* (15:20-15:45)	**Stephen Pistorius**, Univ. of Manitoba, Canada, *Compton scatter tomography: from algebraic and iterative reconstruction to machine learning* (15:20-15:45)	**Gen Nakamura**, Hokkaido University, Japan, *Uniqueness for the inverse boundary value problem of piecewise homogeneous anisotropic elasticity in the time domain* (15:20-15:45) (Virtual Presentation)	
Alexandre Jollivet, Université de Lille 1, France, *Properties of the Steklov zeta function of a smooth planar domain over the real axis* (15:45-16:10)	**Daniel Obmann**, University of Innsbruck, Austria, *Augmented NETT RegularizatIon of Inverse Problems* (15:45-16:10)		
14:10-16:10	**POSTER SESSION**		
Gregory Samelsoh, Center for Computational Imaging Systems, SCE, Israel, *Radon-to-Helmholtz mappings and tomographic imaging of scattering objects*	**Sonia Foschiatti**, University of Trieste, Italy, *Stability for a special class of anisotropic conductivities via an ad-hoc misfit functional*	**Hjørdis Amanda Schlüter**, Technical University of Denmark, Denmark, *Jacobian of solutions to the conductivity equation in limited view*	**Huynh Phuoc Truong**, Alpen-Adria Universität Klagenfurt, Austria, *Optimal experimental design for sound source localization*

16:10-16:30	Coffee Break		
M2: New Trends in Regularization Theory **Chairs:** B. Hofmann, S. Kindermann (16:30-18:10)	**M6** (Continued) **Chairs:** M.K. Nguyen-Verger, T.T. Truong (16:30-17:45)	**M11: Inverse Problems for Time-fractional PDEs** **Chair:** E. Soccorsi (16:30-18:10)	**M20: Inverse Obstacle and Control Problems in Mechanics** **Chairs:** H. Itou, V. Kovtunenko, G. Alekseev, M. Lavrentiev (16:30-17:45)
Salon A	**Salon B**	**Salon C**	**Salon D**
Christine Boeckmann, University Potsdam, Germany, *A Modified Asymptotical Regularization of Nonlinear Ill-posed Problems* (16:30-16:55)	**Michael Quellmalz**, TU Berlin, Germany, *Fourier reconstruction in diffraction tomography* (16:30-16:55)	**Masahiro Yamamoto**, The University of Tokyo, Japan, *Uniqueness and stability for time-fractional diffusion equations with incomplete boundary conditions* (16:30-16:55) (Virtual Presentation)	**Alexandre Kawano**, Escola Politecnica da Universidade de Sao Paulo, Brazil, *Uniqueness in load identification in vibrating nanoplates* (16:30-16:55) (Virtual Presentation)
Toomas Raus, University of Tartu, Estonia, *General heuristic rule for choosing regularization parameter in Tikhonov Method* (16:55-17:20)	**Jesse Railo**, University of Jyväskylä, Finland, *Periodic view on some classical operators associated to Radon transforms* (16:55-17:20)	**Yikan Liu**, Hokkaido University, Japan, *Inverse source problems for time-fractional diffusion (-wave) equations* (16:55-17:20) (Virtual Presentation)	**Carlos Borges**, University of Central Florida, USA, *High resolution inverse obstacle scattering using multiple frequency data* (16:55-17:20) (Virtual Presentation)
Daniel Gerth, TU Chemnitz, Germany *A new way of interpreting Tikhonov regularization and its consequence for the estimation of solution smoothness and noise level* (17:20-17:45)	**Lukas Vierus**, Saarland University, Germany, *Diffractive tensor field tomography as an inverse problem for a transport equation* (17:20-17:45)	**Walter Simo Tao Lee**, University of Toulouse, France, *A unified framework for the regularization of final value time-fractional diffusion equation* (17:20-17:45)	**Yulia M. Meshkova**, St. Petersburg State University, Russia, *On homogenization of periodic hyperbolic systems* (17:20-17:45) (Virtual Presentation)
Urve Kangro, University of Tartu, Estonia, *On regularized projection methods for ill-posed problems* (17:45-18:10)		**Lauri Ylinen**, University of Helsinki, Finland, *Inverse problems for fractional diffusion equation with one measurement* (17:45-18:10)	

TUESDAY 24th May, 2022

PLENARY SESSION (Salon A)
Chair: Bernd Hofmann

09:00-09:40 **John C. Schotland,** Yale University, USA
Acoustically-modulated electromagnetic inverse source problems

MINISYMPOSIUMS

M16: Recent Advances in Inverse Problems and Distributed Parameter Systems; Chairs: J. E. Banks, J. Burns (09:50-11:30)	**M14: Mathematical Methods in Tomography Across the Scales Chair**: P. Elbau (09:50-11:30)	**M12: Electrical Impedance Tomography: Theory and Appl. Chairs:** M. Santacesaria, G.S. Alberti (09:50-11:30)	**M20** (Continued) **Chairs:** H. Itou, V. Kovtunenko (09:50-11:30)
Salon A	**Salon B**	**Salon C**	**Salon D**
John A. Burns, *In Memory of Professor Harvey Thomas Banks* (09:50-10:00)	**David Omogbhe**, RICAM, Austria, *A Fourier approach to the inverse source problem in an absorbing and scattering medium with applications to Optical Molecular Imaging* (09:50-10:15)	**Elena Beretta**, NYU Abu Dhabi, Politecnico di Milano, Italy, *Lipschitz stable determination of polygonal and polyhedral conductivity inclusions from boundary data* (09:50-10:15)	**Victor A. Kovtunenko**, Univ. of Graz, Austria, and Lavrentyev Inst. of Hydrodynamics SB RAS, Russia, *Mathematical model of crack diagnosis: inverse acoustic scattering problem and its high-precision numerical solution* (09:50-10:15)
Alemdar Hasanov, *The scientist who has always been a pioneer* (10:00-10:15)			
Daniel J. Inman, University of Michigan, USA, *Why are there so many structural health monitoring algorithms* (10:15-10:40)	**Andrea Aspri**, RICAM, Austria, *Data driven regularization* (10:15-10:40)	**Valentina Candiani**, University of Genoa, Italy, *Machine learning approach for stroke detection in electrical impedance tomography* (10:15-10:40)	**Andreas S. Hauptmann**, Univ. College London, UK; Univ. of Oulu, Finland, *Implementation of the enclosure method for some inverse crack problems* (10:15-10:40)
Azmy Ackleh, University of Louisiana at Lafayette, USA, *Finite difference schemes for a structured coagulation fragmentation model in the space of measures* (10:40-11:05)	**Florian Faucher**, University of Vienna, Austria, *Quantitative seismic imaging using reciprocity-based methods enabling arbitrary probing sources* (10:40-11:05)	**Bastian Harrach**, Goethe University Frankfurt, Germany, *Global convergence and stable invertibility for a Robin transmission problem with finitely many measurements* (10:40-11:05)	**Ping Wu**, Singapore University of Technology and Design, Singapore, *Elastoplastic Modelling and Experiments for Inversel Problems Based on Entropy Approaches* (10:40-11:05)
Fumio Kojima, Kobe Univ., Japan, *Inverse problem for electromagnetic propagation in human muscle tissues* (11:05-11:30)	**Leon Frischauf**, University of Vienna, Austria, *Data-driven methods in inverse problems* (11:05-11:30)	**Ivan Pombo**, University of Aveiro, Portugal, *The Inverse Conductivity Problem for Complex conductivities with Regular Jumps* (11:05-11:30)	**Peter Elbau**, University of Vienna, Austria, *An inverse obstacle problem for the time-dependent heat equation* (11:05-11:30)

11:30-11:50 **Coffee Break**

M16 (Continued)**; Chairs:** A. Ackleh, D. J. Inman (11:50-12:40)	**M14** (Continued); **Chair**: P. Elbau (11:50-13:30)	**M12** (Continued)**; Chair:** M. Santacesaria (11:50-13:05)	**M20** (Continued); **Chair:** V. Kovtunenko (11:50-13:05)
Salon A	**Salon B**	**Salon C**	**Salon D**
John A. Burns, Virginia Polyt. Inst. and State Univ., *Numerical Methods for Control, Optimization, Design and Estimation of Infinite Dimensional Systems* (11:50-12:15)	**Leopold Veselka**, University of Vienna, Austria, *Quantitative Optical Coherence Tomography on Basis of a Gaussian Beam Forward Model* (11:50-12:15)	**Luca Rondi**, University of Pavia, Italy, *Interior decay of solutions to elliptic equations* (11:50-12:15)	**Onur Baysal**, Univ. of Malta, Malta, *Numerical method for source identification problem for dynamical Kirchhoff plate equation* (11:50-12:15)
John E. Banks, California State Univ., USA, *Population dynamics in applied ecology: models & experiments* (12:15-12:40)	**Tim Jahn**, University of Bonn, Germany *A probabilistic oracle inequality and quantification of uncertainty of a modified discrepancy principle under white noise* (12:15-12:40)	**Silvia Sciutto**, University of Genova, Italy, *Generative models for Electrical Impedance Tomography* (12:15-12:40)	**Virginia Selgas**, University of Oviedo, Spain, *Steklov and modified transmission eigenvalues as target signatures in an inverse fluid-solid interaction problem* (12:15-12:40)
	Ekaterina Sherina, University of Vienna, Austria, *Displacement field estimation utilizing speckle information for parameter recovery in quantitative elastography* (12:40-13:05)	**Pedro Caro**, Basque Center for Applied Mathematics, Spain, *The Calderón problem with Lipschitz conductivities* (12:40-13:05) (Virtual Presentation)	**Yuliya E. Spivak**, Inst. of Appl. Math. FEB RAS, Vladivostok, Russia, *Optimization approach in 2D problems of static fields cloaking* (12:40-13:05) (Virtual Presentation)
	Simon Hubmer, RICAM, Austria, *A frame decomposition of the atmospheric tomography operator* (13:05-13:30)		
13:30-15:00	**Lunch**		
M2 (Continued) **Chairs:** B. Hofmann, S. Kindermann (15:00-16:40)	**M27: IPs in Scattering Theory and Geometry** **Chair:** T. Tyni (15:00-16:40)	**M5: Theoretical and Numerical Results in Geometric IPs for PDEs; Chairs:** J. Apraiz, A. Doubova (15:00-16:40)	**M7: Recent Advances in IPs of Time Harmonic Wave Propagation;, Chairs:** A. Kirsch, R. Novikov (15:00-16:40)
Salon A	**Salon B**	**Salon C**	**Salon D**
Wensheng Zhang, Chinese Academy of Sciences, China, *A mixed regularization method for ill-posed problems* (15:00-15:25) (Virtual Presentation)	**Tracey Balehowsky**, University of Calgary, Canada, *Determining a Lorentzian metric from the source-to-solution map for the relativistic oltzmann equation* (15:00-15:25)	**Jone Apraiz**, University of the Basque Country, Spain, *Geometric inverse problems for the Burgers equation and related systems* (15:00-15:25)	**Andreas Kirsch**, Karlsruhe Institute of Technology, Germany, *A Direct and Inverse Scattering Problem for a Locally Perturbed Periodic Structure* (15:00-15:25)

Robert Plato, University Siegen, Germany, *Convergence results for nonlinear Tikhonov regularization with oversmoothing penalty* (15:25-15:50)	**Jinpeng Lu**, University of Helsinki, Finland, *Stability of the Gelfand inverse boundary spectral problem* (15:25-15:50)	**Jon Asier Bárcena-Petisco**, University of the Basque Country, Spain, *Inverse problems for parabolic equations in networks with loops* (15:25-15:50)	**Thorsten Hohage**, Georg-August-Universität Göttingen, Germany, *Uniqueness Result for Random ISP and Application to Helioseismic Holography* (15:25-15:50)
Frank Werner, University of Göttingen, Germany, *Convergence Analysis of (Statistical) Inverse Problems under Conditional Stability Estimates* (15:50-16:15)	**Petri Ola**, University of Helsinki, Finland, *Simultaneous reconstruction of conductivity, boundary shape and contact impedances in EIT* (15:50-16:15)	**Carlos Castro**, Universidad Politécnica de Madrid, Spain, *Numerical reconstruction of the conductivity in the 3D Calderon problem using the Born approximation* (15:50-16:15)	**Shixu Meng**, Academy of Math. and Systems Science, China, *Single Mode Multi-frequency Factorization Method for the Inverse Source Problem in Acoustic Waveguides* (15:50-16:15) (Virtual Presentation)
Jorge P. Zubelli, IMPA, Brazil, Khalifa University, UAE, *Splitting for Jump-Diffusion Calibration in Financial Option Models* (16:15-16:40)	**Teemu Tyni**, University of Helsinki, Finland, *Inverse scattering problems for the biharmonic operator* (16:15-16:40)	**Umberto Biccari**, DeustoTech – University of Deusto, Spain, *Multilevel control* (15:15-16:40)	**Björn Müller**, Max-Planck-Institut für Sonnensystemforschung, Germany, *Quantitative passive imaging by iterative helioseismic holography* (15:15-16:40)
16:40-17:00	**Coffee Break**		
M2 (Continued) **Chairs:** B. Hofmann, S. Kindermann (17:00-18:15)	**M27** (Continued) **Chair:** T. Tyni (17:00-17:25)	**M5** (Continued) **Chairs:** J. Apraiz, A. Doubova (17:00-18:15)	**M7** (Continued) **Chairs:** T. Hohage, S. Meng (17:00-18:40)
Salon A	**Salon B**	**Salon C**	**Salon D**
Yu Deng, TU Chemnitz, Germany, *On the deautoconvolution problem in the two-dimensional case* (17:00-17:25)	**Leyter Potenciano Machado**, University of Concepcion, Chile, *The fixed angle scattering problem with a first-order perturbation* (17:00-17:25) (Virtual Presentation)	**Larisa Beilina**, Chalmers Univ. of Technology and Univ. of Gothenburg, Sweeden, *Adaptive FEM for solution of inverse and ill-posed problems* (17:00-17:25) (Virtual Presentation)	**Roman Novikov**, Ecole Polytechnique, France, *Formulas for phase recovering from phaseless scattering data* (17:00-17:25) (Virtual Presentation)
Clemens Meiser, Saarland University, Germany, *Learned Landweber Iteration for the Terahertz Tomography* (17:25-17:50)		**Jairo Rocha de Faria**, Universidade Federal de Paraíba, Brasil, *Transcranial direct current simulation: estimation of individually targeted using the head geometry* (17:25-17:50) (Virtual Presentation)	**Andreas Kleefeld**, Forschungszentrum Jülich, Germany, *Interior transmission eigenvalues for fractal domains* (17:25-17:50) (Virtual Presentation)
Zeljko Kereta, University College London, UK, *Stochastic Gradient Descent in Banach Spaces* (17:50-18:15)		**Axel Osses**, Universidad de Chile, Chile, *A resistance method for a fluid-obstacle inverse problem* (17:50-18:15)	**Isaac Harris**, Purdue University, USA, *Eigenvalue problems for a scatterer with a conductive boundary* (17:50-18:15)

			Lukas Pieronek, Karlsruhe Institute of Technology, Germany, *On complex transmission eigenvalues* (18:15-18:40)
19:00-19:30	**Biennial Assembly of the Eurasian Association on Inverse Problems (Salon A)**		
WEDNESDAY 25th May, 2022			
PLENARY SESSION (Salon A) **Chair**: Mikko Salo			
09:00-09:40	**Gunther Uhlmann**, University of Washington, USA *Inverse Problems for Nonlinear Equations* (Virtual Presentation)		
MINISYMPOSIUMS			
M4: Modern Challenges in Inverse Problems Including Boundary Rigidity, Microlocal Analysis and Cloaking; Chair: T. Quinto (09:50-11:30)	**M21: Imaging Modalities: Recent Advances and Beyond** **Chairs**: T. Bubba, C. Sebu (09:50-11:30)	**M26: Variational Methods for Inverse Problems in Imaging** **Chairs**: R. Beinert, K. Bredies (09:50-11:30)	**M17: Parameter Identification Problems for PDEs: Theoretical and Computational Aspects** **Chairs**: T.T. Nguyen, T.N.T. Quyen (09:50-11:30)
Salon A	**Salon B**	**Salon C**	**Salon D**
Nikolas Eptaminitakis, Purdue University, USA, *The Solid-Fluid Transmission Problem* (09:50-10:15)	**Tatiana Bubba**, University of Bath, UK, *Simultaneous reconstruction of emission and attenuation in passive gamma emission tomography of spent nuclear fuel* (09:50-10:15)	**Jean-Christophe Pesquet**, University Paris-Saclay, France, *Penalized methods for solving constrained variational problems in image recovery* (09:50-10:15)	**Tran Nhan Tam Quyen**, Georg-August-Univ. of Goettingen, Germany, *Electrical impedance tomography with partial Cauchy data* (09:50-10:15) (Virtual Presentation)
Sean Holman, Univ. of Manchester, UK, *Simultaneous recovery of attenuation and source density in SPECT* (10:15-10:40)	**Tobias Kluth**, University of Bremen, Germany, *Deep Image Prior reconstruction for 3D Magnetic Particle Imaging* (10:15-10:40)	**Rudolf Stollberger**, TU Graz, Austria, *Variational methods for functional and quantitative MRI* (10:15-10:40)	**Irwin Yousept**, University of Duisburg-Essen, Germany, *Acoustic full-waveform inversion via optimal control* (10:15-10:40)
Mikko Salo, University of Jyväskylä, Finland, *Instability mechanisms in inverse problems* (10:40-11:05)	**Melody Alsaker**, Gonzaga University, USA, *Ultrasound data as a prior in Thoracic Imaging with Electrical Impedance Tomography* (10:40-11:05)	**Kristian Bredies**, University of Graz, Austria, *Optimal-transport-based approaches for dynamic image reconstruction* (10:40-11:05)	**Francesco Silva**, Eindhoven Univ. of Tech., The Netherlands, *A Reduced Basis Ensemble Kalman Method for Inverse Problems* (10:40-11:05)
Benjamin Palacios, Universidad de Chile, Chile, *Recent developments in Photoacoustic Tomography* (11:05-11:30)	**Andrea Ebner**, University of Innsbruck, Austria, *Regularization of inverse problems by filtered diagonal frame decomposition* (11:05-11:30)	**Vincent Duval**, INRIA Paris, France, *Towards off-the-grid algorithms for total variation regularized inverse problems* (11:05-11:30)	**Sarah Eberle**, Goethe-University of Frankfurt am Main, Germany, *Reconstruction of Lamé parameters in linear elasticity* (11:05-11:30)

11:30-11:50	Coffee Break		
M4 (Continued) **Chairs:** T. Quinto, E. Eptaminitakis (11:50-13:55)	**M21** (Continued) **Chairs**: M. Alsaker, C. Sebu (11:50-12:15)	**M26** (Continued) **Chairs:** R. Beinert, K. Bredies (11:50-13:30)	**M17** (Continued) **Chair**: T.N.T. Quyen (11:50-12:15)
Salon A	**Salon B**	**Salon C**	**Salon D**
Rakesh, University of Delaware, USA, *Formally determined inverse problems for hyperbolic PDEs* (11:50-12:15)	**Volker Michel**, University of Siegen, Germany, *Geophysical and medical imaging: what they can learn from each other* (11:50-12:15) (Virtual Presentation)	**Robert Beinert**, TU Germany, *Robust PCA via Regularized REAPER and Matrix-Free Proximal Algorithms* (11:50-12:15)	**Thanh Trung Nguyen**, Rowan State University, USA, *Model and source identification problems for a system of advection-reaction equations and applications in water quality* (11:50-12:15)
Matti Lassas, University of Helsinki, Finland, *Inverse problems for finite graphs and cloaking* (12:15-12:40) (Virtual Presentation)		**Dirk Lorenz**, TU Braunschweig, Germany, *Denoising of image gradients and total generalized variation* (12:15-12:40)	
Reed Meyerson, University of Helsinki, Finland, *Intersection Rigidity for Simple Riemannian Manifolds* (12:40-13:05) (Virtual Presentation)		**Tatiana Bubba**, University of Bath, UK, *Deep neural networks for inverse problems with pseudodifferential operators: An application to Limited Angle Tomography* (12:40-13:05)	
Jenn-Nan Wang, National Taiwan University, Taiwan, *Estimate the size of an inclusion in a body with complex conductivity using finite number of measurements* (13:05-13:30) (Virtual Presentation)		**Benjamin Berkels**, RWTH Aachen University, Germany, *Joint exit wave reconstruction and image registration as a least-squares problem* (13:05-13:30)	
Hongyu Liu, City Univ.of Hong Kong, China, *Wave propagation inside a transparent scatterer and applications* (13:30-13:55) (Virtual Presentation)			
13:30-14:30	**Lunch**		

THURSDAY 26th May, 2022			
PLENARY SESSION (Salon A) **Chair**: Thorsten Hohage			
09:00-09:40	**Erkki Somersalo**, Case Western Reserve University, USA *Hypermodels, sparsity and approximate Bayesian computing*		
MINISYMPOSIUMS			
M19: Modern Challenges in Imaging, Tomography, and Radon Transforms **Chairs**: J. Boman, R. Novikov (09:50-11:30)	**M22**: **Inverse Problems with Data-Driven Methods and Deep Learning** **Chairs**: T. Bubba, M. Genzel, A. Hauptmann, M. März (09:50-11:30)	**M26** (Continued) **Chairs:** R. Beinert, K. Bredies (09:50-10:40)	**M28: Regularization Methods and Applications in Statistics and Econometrics** **Chairs**: P. Maréchal, A. Vanhems (09:50-11:30)
Salon A	**Salon B**	**Salon C**	**Salon D**
Mark Agranovsky, Bar Ilan University, Israel, *Domains with algebraic X-ray transform* (09:50-10:15)	**Vegard Antun**, Univ. of Oslo, *Norway Still no free lunch – On AI generated hallucinations and the accuracy-stability trade-off in inverse problems* (09:50-10:15)	**Richard Huber**, University of Graz, Austria, *Pixel-driven projection methods: Analysis and the Gratopy toolbox* (09:50-10:15)	**Clément Marteau**, University of Lyon 1, France, *Sparse Regularization for Mixture Problems* (09:50-10:15)
Otmar Scherzer, Univ. of Vienna, Austria, *Quantitative inverse problems in visco-acoustic media and evaluation of attenuation model uncertainties* (10:15-10:40)	**Riccardo Barbano**, University College London, UK, *A Bayesian Deep Image Prior* (10:15-10:40)	**Robert Tovey**, National Institute for Research in Computer Science and Control, INRIA, France, *Accelerating the solution of sparse dynamic inverse problems using tools from dynamical programming* (10:15-10:40)	**Elena Resmerita**, University of Klagenfurt, Austria, *On Hamilton-Jacobi PDEs and image denoising models with certain non-additive noise* (10:15-10:40)
Ronny Ramlau, RICAM, Austria Regularized Recycling Methods for Linear Inverse Problems with Applications to Adaptive Optics (10:40-11:05)	**Sören Dittmer**, University of Cambridge, UK, *Ground truth free denoising by optimal transport* (10:40-11:05)		**Pierre Maréchal**, University of Toulouse, France, *On the deconvolution of radom variables* (10:40-11:05)
Peter Maass, University of Bremen, Germany, *Regularization by architecture: Learning with few data and applications to CT* (11:05-11:30)	**Margaret Duff**, University of Bath, UK, *Regularising Inverse Imaging Problems Using Generative Deep Learning Models* (11:05-11:30)		**Mirza Karamehmedovic**, TU of Denmark, Denmark, *Localization of moving sources: uniqueness, stability, and Bayesian inference* (11:05-11:30)
11:30-11:50	**Coffee Break**		

M19 (Continued) **Chairs:** Mark Agranovsky, J. Boman, (11:50-13:30)	**M22** (Continued) **Chairs**: M. Genzel, A. Hauptmann, (11:50-13:30)	**M18: Coefficient Identification Problems Chair:** D. Lesnic (11:50-13:30)	**M28** (Continued) **Chairs:** P. Maréchal, A. Vanhems (11:50-13:05)
Salon A	**Salon B**	**Salon C**	**Salon D**
Alexander Katsevich, University of Central Florida, USA, *Resolution of 2D reconstruction of functions with nonsmooth edges from discrete Radon transform data* (11:50-12:15)	**Jan Macdonald**, TU Berlin, Germany, *Solving Inverse Problems With Deep Neural Networks – Robustness Included?* (11:50-12:15)	**Marian Slodicka**, University of Ghent, Belgium, *Uniqueness for an ISP of determining a space depenpendent source in a non-autonomous parabolic equation* (11:50-12:15)	**Anne Vanhems**, Toulouse Business School, France, *A mollifier approach to the nonparametric instrumental regression problem* (11:50-12:15)
Jürgen Frikel, Ostbayerische Technische Hochschule, Regensburg, Germany, *Microlocal analysis in tomographic application* (12:15-12:40)	**Peter Jung**, TU Berlin, Germany, *Solving MMV Problems via Algorithm Unfolding* (12:15-12:40)	**Daniel Lesnic**, University of Leeds, UK, *Recovery of a space- dependent rate of reaction in a thermal-wave model of bioheat transfer* (12:15-12:40)	**Tuomo Valkonen**, EscuelaPolitécnica Nacional, Ecuador; University of Helsinki, Finland, *Regularisation, optimisation, subregularity* (12:15-12:40)
Anuj Abhishek, University of North Carolina, Charlotte, USA, *An adaptive nonparametric estimator in an inverse problem for Exponential Radon Transform* (12:40-13:05)	**Ulugbek Kamilov**, Washington University, USA, *Recovery Analysis for Plug-and-Play Priors using the Restricted Eigenvalue Condition* (12:40-13:05)	**Nataliia Kinash**, Tallinn University of Technology, Estonia, *Inverse problems to reconstruct space- and time-dependent sources in evolution equations containing fractional Laplace operators* (12:40-13:05)	**Fredrik Hildrum**, Norwegian University of Science and Technology, Norway, *Total variation-based Lavrentiev regularisation of monotone problems* (12:40-13:05)
Raluca Felea, Rochester Institute of Technology, USA, *Microlocal analysis of the crosswell and the walkaway seismic data* (13:05-13:30) (Virtual Presentation)	**Maximilian Kiss**, CWI, Netherlands, *2DeteCT: A large 2D expandable, trainable, experimental computed tomography data collection for machine learning* (13:05-13:30)	**Bolatbek Rysbaiuly**, International Information Technology University, Kazakhstan, *An Iteration Method for Solving the Inverse Problem of Freezing Soil* (13:05-13:30)	
13:30-14:30	**Lunch**		
PLENARY SESSION (Salon A) **Chair**: Cristiana Sebu			
14:30-15:10	**Liliana Borcea**, University of Michigan, USA *Quantitative inverse scattering via reduced order modeling* (Virtual Presentation)		

MINISYMPOSIUMS			
M9: Recent Advances in Analytical and Numerical Methods in Inverse Problems for PDEs **Chairs**: C. Clason, T.T. Nguyen, P. Sacks (15:10-16:50)	**M22** (Continued) **Chairs**: M. Genzel, M. März (15:10-16:50)	**M18** (Continued) **Chair:** D. Lesnic (15:10-16:00)	**M8: Inverse Problems in Science and Engineering** **Chairs**: K. V. Bockstal, C. Sebu (15:10-16:50)
Salon A	**Salon B**	**Salon C**	**Salon D**
Christian Clason, Universität Duisburg-Essen, Germany, *Multibang Regularization of a Coefficient Inverse Problem for the Wave Equation* (15:10-15:35)	**Reinhard Heckel**, Technical University of Munich, Germany, *Measuring and enhancing robustness in deep learning based compressive sensing* (15:10-15:35)	**Anthony Mulholland**, University of Bristol, UK, *Identification of heterogeneous material coefficients using ultrasonic arrays* (15:10-15:35) (Virtual Presentation)	**Mihaela Pricop-Jeckstadt**, University Politehnica, Romania, *Statistical Linear Inverse Problems Based on Discretely Sampled Function Data* (15:10-15:35)
Maya de Buhan, CNRS-Université Paris Saclay, France, *Carleman-based reconstruction algorithm* (15:35-16:00)	**Johannes Hertrich**, TU Berlin, Germany, *Stochastic normalizing flows for inverse problems: a Markov chains viewpoint* (15:35-16:00) (Virtual Presentation)	**Natalia Bondarenko**, Samara National Research University, Russia, *An inverse problem for the Sturm-Liouville equation with analytical dependence on the eigenparameter in the boundary condition* (15:35-16:00) (Virtual Presentation)	**Cristiana Sebu**, University of Malta, Malta, *Real-time electrical impedance imaging at high AC frequencies* (15:35-16:00)
Ugur G. Abdulla, Okinawa Institute of Science and Technology, Japan, *On the Kolmogorov Problem* (16:00-16:25) (Virtual Presentation)	**Tom Tirer**, Tel-Aviv University, Israel, *Solving Ill-Posed Inverse Problem with Pretraned Denoisers, Gans and Super-Resolvers: The BP Term and The Correction Filter* (16:00-16:25) (Virtual Presentation)		**Taufiquar Khan**, UNC at Charlotte, USA, *Image Reconstruction in Diffuse Optical Tomography: An Optimal Bayesian Estimator for Absorption Coefficient* (16:00-16:25)
Anatoly Yagola, Lomonosov MSU, Russia, *Solution of a three-dimensional inverse elastography problem for parametric classes of inclusions* (16:25-16:50) (Virtual Presentation)	**Subhadip Mukherjee**, University of Cambridge, UK, *Data-driven adversarial regularization for imaging inverse problems* (16:25-16:50) (Virtual Presentation)		**Johannes Schwab**, MRC-Laboratory of Molecular Biology, UK, *Reconstructing molecular flexibility in Cryogenic Electron Microscopy* (16:25-16:50)
16:50-17:10	**Coffee Break**		
M3: Tomographic Inverse Problems **Chairs**: A. Abhishek, J. Boman, T. Quinto (17:10-18:50)	**M22** (Continued) **Chairs**: M. Genzel, M. März (17:10-18:00)	**M6** (Continued) **Chairs**: M.K. Nguyen-Verger, T. T. Truong (17:10-18:00)	**M8** (Continued) **Chairs:** K. V. Bockstal, C. Sebu (17:10-18:50)

Salon A	Salon B	Salon C	Salon D
Todd Quinto, Tufts University, USA, *Novel Inverse Problems in Compton Tomography* (17:10-17:35)	**Jenni Poimala**, University of Oulu, Finland, *Learned speed of sound correction for photoacoustic tomography* (17:10-17:35) (Virtual Presentation)	**James Webber**, Harvard University, USA, *A joint reconstruction and lambda tomography regularization technique for energy-resolved X-ray imaging* (17:10-17:35)	**Yiqian He**, Dalian University of Technology, China, *Numerical solution of direct/inverse problems with parameter uncertainty of phase change energy storage wall* (17:10-17:35)
Leonid Kunyansky, University of Arizona, USA, *Sparsity-based techniques for hybrid imaging modalities with missing low frequencies* (17:35-18:00)	**Samy Wu Fung**, Colorado School of Mines, USA, *Efficient Training of Infinite-Depth Neural Networks via Jacobian-Free Backpropagation* (17:35-18:00) (Virtual Presentation)	**Joseph A. O'Sullivan**, Washington University in St. Louis, USA, *From Analysis to IterativeAalgorithms: A Linear Systems Perspective on the Broken Ray Transform* (17:35-18:00) (Virtual Presentation)	**Pravinkumar Ghodake**, IIT Bombay, India, *Inverse problem for quantification of localized damage using 1D nonlinear elastic two-wave mixing* (17:35-18:00) (Virtual Presentation)
Fulton Gonzalez, Tufts University, USA, Invertible *Distributions, Mean Value Operators, and Symmetric Space* (18:00-18:25)			**Anwesa Dey**, Oregon State University, USA, *On 3D PET in spherical geometry of data acquisition* (18:00-18:25) (Virtual Presentation)
Khalil Hall-Hooper, NC State University, USA, *Estimating Hyperparameters in Hierarchical Bayesian Linear Inverse Problem* (18:25-18:50)			**Lydie Mpinganzima**, University of Rwanda, Butare, Rwanda, *An iterative method for the Cauchy problem for the Helmholtz equation* (18:25-18:50) (Virtual Presentation)

FRIDAY 27th May, 2022			
PLENARY SESSION (Salon A) **Chair**: Laurent Baratchart			
09:00-09:40	**Jun Zou**, The Chinese University of Hong Kong, Hong Kong SAR *Direct sampling methods for general nonlinear inverse problems* (Virtual Presentation)		
MINISYMPOSIUMS			
M10: Computational Methods for Inverse Problems and Applications **Chairs:** U. Hämarik, M. Kojdecki (09:50-11:30)	**M25: Inverse Problems in Biomedical and Material Imaging** **Chairs**: D. Lazzaro, L. Seppecher (09:50-11:30)	**M15: IISPs with Applications to Planetary Sciences and Medical Imaging; Chair:** L. Baratchart (09:50-11:30)	**M24: Inverse Problems via Topological Derivatives** **Chair:** M.-L. Rapún (09:50-11:30)
Salon A	**Salon B**	**Salon C**	**Salon D**
Mikhail V. Klibanov, UNC at Charlotte, USA, *Carleman estimates for globally convergent numerical methods for coefficient inverse problems* (09:50-10:15)	**Elisabeth Brusseau**, CREATIS, France, *Mapping the relative shear modulus within biological tissues from internal displacement fields measured in quasi-static ultrasound elastography* (09:50-10:15)	**Christian Gerhards**, TU Bergakademie Freiberg, Germany, *Some inverse magnetization problems in Geoscience* (09:50-10:15)	**Ana Carpio**, Universidad Complutense de Madrid, Spain, *Topological derivative based Bayesian inference for inverse scattering problems* (09:50-10:15) (Virtual Presentation)
Uno Hämarik, University of Tartu, Estonia, *On acceleration of Landweber method for ill-posed problems* (10:15-10:40)	**Luca Calatroni**, I3S, Sophia-Antipolis, France, *Recent advances in correlation-based super-resolution fluorescent microscopy: from sparse/non-convex to generative approaches* (10:15-10:40)	**Cristóbal Villalobos Guillen**, INRIA, France, *Some measure-theoretic aspects of planar magnetization reconstruction* (10:15-10:40)	**Yuri Flores-Alburquerque**, University of São Paulo, Brazil, *Reconstruction of sharp interfaces in time-domain full waveform inversion* (10:15-10:40) (Virtual Presentation)
Marek Kojdecki, Military University of Technology, Poland, *On discrepancy principles for Tikhonov regularisation* (10:40-11:05)	**Elie Bretin**, ICJ, INSA de Lyon, France, *Direct inversion method for quasi-static medical elastography: stability and discretization* (10:40-11:05)	**Alexander Kegeles**, TU Freiberg, Germany, *A "Simple" Approach to the Magneto-Static Inverse Problem* (10:40-11:05)	**Won-Kwang Park**, Kookmin Univ., Korea, *A real-time identification of small conductivity inhomogeneity via topological derivative* (10:40-11:05) (Virtual Presentation)
Vasily Demyanov, Heriot-Watt University, UK, *Inverse problem challenges in practical subsurface geoengineering applications* (11:05-11:30) (Virtual Presentation)	**Serena Morigi**, University of Bologna, Italy, *Spatially adaptive image reconstruction in electrical impedance tomography* (11:05-11:30)	**Paul Asensio**, Inria Sophia Antipolis, France, *Inverse problem of source identification in electroencephalography (EEG)* (11:05-11:30)	
11:30-11:50	**Coffee Break**		

M10 (Continued) **Chairs:** U. Hämarik, M. Kojdecki (11:50-13:30)	**M25** (Continued) **Chair**: D. Lazzaro, L. Seppecher (11:50-13:30)	**M15** (Continued) **Chairs:** L. Baratchart (11:50-12:40)	**M24** (Continued) **Chair:** M.-L. Rapún (11:50-13:05)
Salon A	**Salon B**	**Salon C**	**Salon D**
Gennady Alekseev, Inst. of Appl. Math., Vladivostok, Russia, *Optimization approach in inverse problems of designing thermal cloaking* (11:50-12:15) (Virtual Presentation)	**Damiana Lazzaro**, University of Bologna, Italy, *A deep convolutional neural network for brightness estimation in fluorescence imaging* (11:50-12:15)	**Masimba Nemaire**, INRIA Sophia-Antipolis, France, *A layer potential approach to functional and clinical brain imaging* (11:50-12:15)	**Luca Ratti**, University of Genoa, Italy, *Detection of small cardiac ischemic regions from boundary measurement via topological gradient* (11:50-12:15)
Mikhail Bulatov, Inst. of Syst. Dyn. and Control Theory, Irkutsk, Russia, *Collocation-variation approaches to numerical solution of differential-algebraic and Volterra equations of the first kind* (12:15-12:40) (Virtual Presentation)	**Elena Loli Piccolomini**, University of Bologna, Italy, *RISING: A new framework for few-view tomographic image reconstruction* (12:15-12:40)	**Xinpeng Huang**, TU Bergakademie Freiberg, Germany, *Relating Hardy components of compactly supported magnetizations* (12:15-12:40)	**Manuel Pena**, Universidad Politécnica de Madrid, Spain, *Topological derivative algorithm tested against experimental data: The three-dimensional Fresnel database* (12:15-12:40)
Sergey Buterin, Saratov State University, Russia, *Uniform stability of recovering the Dirac operator with an integral delay from the spectrum* (12:40-13:05) (Virtual Presentation)	**Simone Rebegoldi**, University of Florence, Italy, *A scaled adaptive FISTA-like algorithm for super-resolution image microscopy* (12:40-13:05)		**Bochra Mejri**, RICAM, Austria, *Topological sensitivity analysis for identification of voids under Navier's boundary conditions in linear elasticity* (12:40-13:05)
Gulnara Kuramshina, Lomonosov MSU, Russia, *Regularizing methods for predicting bulky molecules vibrational spectra based on the combined use of AB initio and experimantal data* (13:05-13:30) (Virtual Presentation)	**Angèle Niclas**, École Centrale de Lyon, France, *High sensitivity imaging of defects in elastic waveguides using near resonance frequencies* (13:05-13:30)		
13:30-15:00	**Lunch**		
M10 (Continued) **Chairs:** U. Hämarik, M. Kojdecki (15:00-16:40)	**M25** (Continued) **Chairs**: D. Lazzaro, L. Seppecher (15:00-16:15)	**M13: Inverse Problems in Geomathematics and Seismology** **Chairs:** A. Mazzucato, D. Volkov (15:00-16:40)	**M3** (Continued) **Chairs:** J. Boman, T. Quinto (15:00-16:50)
Salon A	**Salon B**	**Salon C**	**Salon D**

Andrey Shkalikov, Lomonosov MSU, Russia, *Uniform stability for the inverse Sturm-Liouville problem* (15:00-15:25) (Virtual Presentation)	**Alessandro Viani**, University of Genova, Italy, *Free hyper-parameter selection and averaging in Magneto/Electro-encephalography* (15:00-15:25)	**Ioan Ionescu**, Université Sorbonne Paris Nord, Villetaneuse, France, *Earthquake nucleation: direct and inverse problems* (15:00-15:25)	**Andrei Shurup**, Lomonosov MSU, Russia, *Functional-analytical methods in acoustic inverse problems* (15:00-15:25) (Virtual Presentation)
Alexander Tikhonravov, Lomonosov MSU, Russia, *Inverse problems in thin film optics:recent achievements and the newest trends* (15:25-15:50) (Virtual Presentation)	**Gabriele Scrivanti**, Université Paris-Saclay, France, *A variational approach for joint image recovery-segmentation based on spatially varying generalised gaussian models* (15:25-15:50)	**Eric Bonnetier**, Université Grenoble-Alpes, France, *A Stability Estimate for an Inverse Electroseismic Problem* (15:25-15:50)	**Suman Sahoo**, TIFR Centre for Applicable Mathematics, India, *Symmetry from sectional integrals for convex domains* (15:25-15:50) (Virtual Presentation)
Nikolay Nefedov, Lomonosov MSU, Russia, *Asymptotic solutions of inverse coefficient problems for Burger type equations with interior layer* (15:50-16:15) (Virtual Presentation)	**Elisabetta Vallarino**, University of Genova , Italy, *Optimal regularized estimation of the cross-power spectrum from indirect measurements: theoretical results and application to brain connectivity* (15:50-16:15)	**Kundan Kumar**, University of Bergen, Norway, *Coupled flow and geomechanics in fractured porous medium* (15:50-16:15)	**Grigory Sabinin**, Lomonosov MSU, Russia, *Numerical reconsruction from Fourier Transform on the ball via prolate spheroidal wave functions* (15:50-16:10) (Virtual Presentation)
Mikhail Lavrentiev, Novosibirsk State University, Russia, *Fast computation of tsunami wave parameters by measured data inversion* (16:15-16:40) (Virtual Presentation)		**Matti Lassas**, University of Helsinki, Finland, *Deep learning architectures for nonlinear operator functions and inverse problems for wave equations* (16:15-16:40) (Virtual Presentation)	**Ivan Kazantsev**, Inst. of Compt. Math. and Math. Geoph., Russia, *Algorithms for Compton Scatter Imaging in Positron Emission Tomography* (16:10-16:30) (Virtual Presentation)
			Souvik Roy, University of Texas at Arlington, USA, *Reconstruction of sparse log-conductivity in current density impedance imaging* (16:30-16:50) (Virtual Presentation)
16:40-17:00	**Coffee Break**		
M0 (Continued) **Chairs:** U. Hämarik, M. Kojdecki (17:00-18:40)		**M13** (Continued) **Chairs:** E. Beretta, D. Volkov (17:00-18:15)	**M4** (Continued) **Chair:** R. Meyerson, T. Quinto (17:00-19:05)
Salon A		**Salon C**	**Salon D**
Maria Kuznetsova, Saratov State University, Russia, *Local solvability and stability of inverse spectral problem for non-self-adjoint Sturm-* (17:00-17:20) (Virtual Presentation)		**Darko Volkov**, Worcester Polytechnic Institute, USA, *Stability properties for a class of inverse problems with applications to neural network solutions* (17:00-17:25)	**Allan Greenleaf**, University of Rochester, USA, *Sobolev estimates for multilinear Radon transforms via partition optimization* (17:00-17:25) (Virtual Presentation)

Olga Krivorotko, Novosibirsk State University, Russia, *High-performance regularization of multi-parametric inverse problems of epidemiology and social networks* (17:20-17:40) (Virtual Presentation)		**Laurent Seppecher**, École Centrale de Lyon, France, *Regularization for seismic sources inversion from interferometric data* (17:25-17:50)	**Francois Monard**, University of California Santa Cruz, USA, *Mapping properties of X-ray transforms near convex boundaries* (17:25-17:50) (Virtual Presentation)
Nikolay Zyatkov, Inst. of Comput. Math. and Math. Geoph., Russia, *Machine learning regularization of inverse problem for Black-Scholes equation* (17:40-18:00) (Virtual Presentation)		**Gertjan van Zwieten**, Evalf computing, The Netherlands, *Bayesian inference of seismic events from local deformations using the Weakly-enforced Slip Method* (17:50-18:15)	**Alexandru Tamasan**, University of Central Florida, USA, *On the range of the planar X-ray transform of symmetric tensors on the Fourier lattice of the torus* (17:50-18:15) (Virtual Presentation)
Ye Zhang, Shenzhen MSU-BIT University, China, *On the generalized asymptotical regularization for linear ill-posed problems* (18:00-18:20) (Virtual Presentation)			**Yiran Wang**, Emory University, USA, *Integral geometry problems in Lorentzian geometry and cosmology* (18:15-18:40) (Virtual Presentation)
			Ting Zhou, Zhejiang University, China, *Inverse problems for nonlinear PDEs* (18:40-19:05) (Virtual Presentation)
Abdugany Satybaev, Osh TU, Kyrgyzstan, *FD regularized method for solving the generalized 1D inverse problem of propagation of the action potential along nervous fiber* (18:20-18:40) (Virtual Presentation)			**Ru-Yu Lai,** *University of Minnesota, USA, Inverse transport and diffusion, problems in photoacoustic imaging with nonlinear absorption* (19:05-19:30) (Virtual Presentation)
19:00-19:30	**Closing Ceremony. Election of Committee Members for IPMS 2024 (Salon A)**		