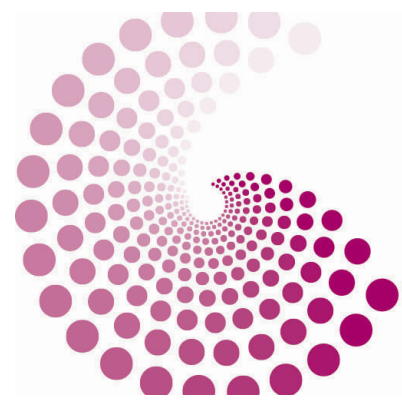




4th IMA Conference on Inverse Problems from Theory to Application

11-13 September 2024 | Bath, UK.

Wednesday 11th September

09:30	Registration
10:00	Keynote: Scalable Bayesian Inference using Hierarchical Sampling Approaches, <i>Rob Scheichl</i>
10:40	Coffee Break
11:10	Photoacoustic and Ultrasonic Tomography for Breast Imaging, <i>Felix Lucka</i>
11:35	Sequential Experimental Design for X-ray CT, Tianyuan Wang
12:00	Stable determination of a complex anisotropic conductivity of a medium from local measurements, Jessica Crosse
	LUNCH & POSTERS: An inverse problem from engineering geology: a regularization approach for landslide thickness estimation, Liwei Hu Estimating Ozone Profiles from Satellite Radiometer Data, Colin Fox Learning Preconditioners for Inverse Problems, Patrick Fahy Identification of time-wise thermal conductivity and diffusion on free-boundary inverse coefficient problem, Taysir Emhemed Ail Dyhoum Dynamic X-ray Computed Tomography using Deep Generative Networks, Xinyuan Wang Hybrid Gaussian Beam Pseudo-spectral Method for Efficient Wave Propagation in PAT, Elliott Macneil Low Rank Tensor completion for X-Ray Spectromicroscopy, Oliver Townsend Vertex classification with topological derivative, Bochra Mejri Parameter Identification for a Two-Compartment Contrast Flow Field Model, Sophie Externbrink Deterministic and Stochastic Optimisation Framework using the Core Imaging Library and Synergistic Image Reconstruction Framework for CT aPET reconstruction, Margaret Anne Georgina Duff The Inverse Problem in Diffuse Optical Tomography Reconstruction: a Modular Deep Learning-based Approach, Paola Causin
12:25	
14:00	Keynote: Learned Forward and Inverse Problems for PDEs in imaging, <i>Simon Arridge</i>
14:40	On Optimal Regularisation Parameters via Bilevel Learning, <i>Sebastian James Scott</i>
15:05	Coffee Break
15:20	An Adaptively Inexact Algorithm for Bilevel Learning, Mohammad Sadegh Salehi
15:45	Statistical inverse learning of randomly sampled sparse dynamic tomography, <i>Tommi Heikkilä</i>
16:10	Inverse learning in Hilbert scales, <i>Abhishake Rastogi</i>
16:35	Wine Reception
17:45	Finish

Thursday 12th September

09:30	Keynote: Improving the scalability and tractability of optimization algorithms , <i>Coralia Cartis</i>
10:10	Fictitious null spaces in inverse problems, <i>Ole Løseth Elvetun</i>
10:35	Coffee Break
11:05	Microlocal Analysis of ISAR Imaging, <i>Tiernan Brosnan</i>
11:30	Non-Uniqueness and reconstructability for the atmospheric tomography problem, <i>Ronny Ramlau</i>
11:55	Computational improvements of Plug-and-Play methods with proximable denoisers, <i>Andrea Sebastiani</i>
	LUNCH & POSTERS Single-stage approach for estimating optical parameters in spectral quantitative photoacoustic tomography, <i>Miika Suhonen</i> Hybrid knowledge and data-driven approaches for Diffuse Optical Tomography reconstruction, <i>Alessandra Serianni</i> Inverse magnetisation problem in paleomagnetic context: field extrapolation and asymptotic estimates, <i>Dmitry Ponomarev AMIMA</i> Variational Bayes image restoration with compressive autoencoders, <i>Maud Biquard</i> Network Inpainting via Optimal Transport, Enrico facca Dynamic Learning Rate Adaptation for Stochastic Variational Inference, <i>Maximilian Dinkel</i> Invertible Model Error Transport for Bayesian Inversion, <i>Maren Casfor</i> Graphite Material Property Model Calibration for Advanced Gas-Cooled Reactors, <i>Daniel Timothy Kent MIMA</i> Utilising Monte Carlo method for light transport in optical tomography, Jonna Kangasniemi
12:20	A primal-dual framework for inferencing learned convex regularizers, Hok Shing
14:00	Keynote: Optimal State and Parameter Estimation Algorithms, <i>Olga Mula</i>
14:40	Data-driven Approaches to the Kuopio Tomography Challenge 202023, <i>Alexander Denker</i>
15:05	Source Design Optimization for Depth Image Reconstruction in X-ray Imaging, <i>Hamid Fathi</i>
15:30	Coffee Break
16:00	Generative imaging for fast image reconstruction and uncertainty quantification in radio interfe , <i>Matthijs Mars</i>
16:25	Utilising Monte Carlo method for light transport in optical imaging, <i>Tanja Tarvainen</i>
16:50	Finish
18.30	Conference Dinner

Friday 13th September

09:30	Keynote: Uncertainty quantification in statistical imaging sciences: 40 years of muddling through, <i>Marcelo Pereyra</i>
10:10	Subgradient Langevin Methods for Sampling from Non-smooth Potentials, <i>Martin Holler</i>
10:35	Coffee Break
11:05	A uniqueness result for the anisotropic Schrödinger type equation from local measurements, <i>Niall Donlon</i>
11:30	Semiparametric Theory for Bayesian Inverse Problems, <i>Adel Magra</i>
11:55	Image Reconstruction via Deep Image Prior Subspaces, <i>Zeljko Kereta</i>
	LUNCH & POSTERS A bi-convex lifted Bregman training strategy for unfolded proximal neural networks, <i>Xiaoyu Wang</i> Bayesian Active Learning in the Presence of Nuisance Parameters, <i>Sabina Sloman</i> The Inverse Problem in Diffuse Optical Tomography Reconstruction: a Modular Deep Learning-based Approach, <i>Paola Causin</i> Numerical and Sensitivity Analysis of Modeling the Newcastle Disease Dynamics, <i>Nurudeen Oluwasola Lasisi</i> Enhancing Physical Powder System Properties through Particle Size Distribution Optimization and Non-Differentiable Stochastic Models, <i>Gil Robalo Rei</i> Persistent Sequential Monte Carlo, <i>Minas Karamanis</i> Solving Dynamic Inverse Problems with Neural Fields, <i>Pablo Arratia</i> Adaptive Higher Order Derivative Explicit Runge-Kutta-Nystrom Method For The Direct Integration of Second Order Ordinary Differential Equations, <i>Moses Adebowale Akanbi</i> Practical approaches to inverse problems in photoacoustic tomography, <i>Jaakko Kultima</i> Bregman-Based Inversion of Residual Neural Networks, <i>Alexandra Valavanis</i> Fibre-optic communication based on the inverse scattering transform for finite-genus solutions, <i>Stepan Bogdanov</i>
12:20	
14:00	Keynote: Edge preserving priors for inverse problems, <i>Hanne Kekkonen</i>
14:40	Sequential optimal experimental design for single-pixel image reconstruction using reinforcement learning, <i>Marcos Obando</i>
15:05	Coffee Break
15:35	Tomography of the Fast-Ion Velocity Distribution in Tokamak Plasmas with a Physics-Based Prior, <i>Per Christian Hansen</i>
16:00	A primal-dual data-driven method for computational optical imaging with a photonic lantern, <i>Audrey Repetti</i>
16:25	Finish