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Today's Editor: Matti Lassas University of Helsinki

Today's Topics:

1. Summer school "Applied Harmonic Analysis and Machine Learning" - Genoa, 7-11 September 2026
2. Table of contents (AIMS)
3. Table of contents

Submissions for IPNet Digest: submit-ipnet@helsinki.fi

Information about IPNet: <https://www.helsinki.fi/en/researchgroups/inverse-problems/ipnet-inverse-problems-network>

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From: Matteo Santacesaria Matteo.Santacesaria@unige.it

Date: Friday 9 January 2026

Subject: Postdoctoral Researcher at LUT

Dear colleague,

As part of the scientific activity and educational offer of [MaLGa - Machine Learning Genoa Center](#), we are delighted to announce the summer school "Applied Harmonic Analysis and Machine Learning", which will take place in Genoa (Italy) on September 7–11, 2026. The intended audience includes graduate students in Mathematics, Physics, Computer Science and Engineering, as well as postdoctoral fellows and young researchers.

The lecturers of this sixth edition will be Michael Bronstein (University of Oxford), Philipp Petersen (University of Vienna) and Clarice Poon (University of Warwick). We will also host a one-day workshop with invited speakers and selected contributed talks/posters from the participants.

The school will be held in person only. Limited funding is available to cover accommodation expenses.

The registration form, as well as further information and updates, can be found on the webpage <https://malga.unige.it/education/schools/ahaml2026/>.

We kindly ask you to circulate this message among all the potentially interested colleagues/participants.

We look forward to seeing you in Genoa!

The organizers

G. S. Alberti

N. Aroua

F. De Mari

E. De Vito

S. Sanna

M. Santacesaria

Matteo Santacesaria

Associate Professor

[MaLGa - Machine Learning Genoa Center](#)

Department of Mathematics

University of Genoa
[Personal Homepage](#)

.....
From: Charley Denton cdenton@aimsciences.org
Date: Friday, 5 December, 2025
Subject: IPNet Digest table of contents submission

IPI April 2026 Vol. 21 articles:

1. **[Maximum discrepancy generative regularization and Non-negative Matrix Factorization for single channel source separation](#)**

Martin Ludvigsen and Markus Grasmair

2. **[Stability for inverse random source problems of the polyharmonic wave equation](#)**

Peijun Li, Zhenqian Li and Ying Liang

3. **[A direct sampling method for inverse elastic scattering in cavity structure](#)**

Jiahui Gao, Shuxin Li and Junliang Lv

4. **[On numerical methods for inverse eigenvalue problems based on trace formulae and convergence analysis](#)**

Xiaowen Li and Xiang Xu

5. **[An inverse problem for a linear system of dispersive equations](#)**

Deissy Marcela Pizo and Juan Carlos Muñoz Grajales

6. **[A novel shape optimization approach for source identification in elliptic equations](#)**

Wei Gong and Ziyi Zhang

7. **[On the transmission eigenvalues for scattering by a clamped planar region](#)**

Isaac Harris, Andreas Kleefeld and Heejin Lee

8. **[Neural Schrödinger bridge matching for pansharping](#)**

Zi-Han Cao, Xiao Wu, Liang-Jian Deng and Gemine Vivone

9. **Consistency of the Bayes method for the inverse scattering problem with randomly truncated sieve priors**

Takashi Furuya, Pu-Zhao Kow and Jenn-Nan Wang

10. **Learnable boundary enhanced Softmax layer based on gray morphology for data-driven image segmentation**

Wenxiao Li, Xiangyue Wang, Faqiang Wang and Jun Liu

11. **Correction to "Recovering nonsmooth coefficients for higher-order perturbations of a polyharmonic operator"**

R. M. Brown and L. D. Gauthier

[Inverse Problems and Imaging](#)

Charley Denton
Communications Specialist
American Institute of Mathematical Sciences
Email: cdenton@aimsciences.org

.....

From: noreply@iopscience.org

Subject: Inverse Problems, Volume 42, Number 1, January 2026

Papers

[An iterative algorithm for the square-root Lasso](#)

Patrizia Boccacci, Christine De Mol and Ignace Loris

[Sampling methods for the inverse cavity scattering problem of biharmonic waves](#)

Isaac Harris, Peijun Li and General Ozochiawaeze

[Inverse resonance problem on the line for perturbations of Pöschl–Teller potentials](#)

Valentin Arrigoni

[Importance-aware nonlocal tensor nuclear norm for high-dimensional image recovery](#)

Ben-Zheng Li, Xi-Le Zhao, Hao Zhang and Delin Chu

[Reconstruction of multilayered periodic structures from one-sided acoustic near-field data](#)

Sheng Luo, Hao Wu and Jiaqing Yang

[Recovery of the matrix potential of the one-dimensional Dirac equation from spectral data](#)

E Roque and S M Torba

[Recovering a \$\(1 + 1\)\$ -dimensional wave equation from a single white noise boundary measurement](#)

Emilia L K Blästen, Tapio Helin, Antti Kujanpää, Lauri Oksanen and Jesse Railo

[Regularization for time-dependent inverse problems: geometry of Lebesgue–Bochner spaces and algorithms](#)

Gesa Sarnighausen, Thorsten Hohage, Martin Burger, Andreas Hauptmann and Anne Wald

[Extended sampling method for inverse electromagnetic scattering problems using a single incident wave](#)

Juan Liu, Fuquan Yang, Xiaoyi Yan and Jiguang Sun

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Today's Editor: Matti Lassas University of Helsinki

Today's Topics:

1. 5th IMA Conference on Inverse Problems from Theory to Application
2. 2026 International Summer School on Inverse Problems in Geophysics, Lake Como, Italy
3. 1st Workshop of the SFB MR-DYNAMO
4. Table of contents (AIMS)
5. Table of contents (IOPScience)

Submissions for IPNet Digest: submit-ipnet@helsinki.fi

Information about IPNet: <https://www.helsinki.fi/en/researchgroups/inverse-problems/ipnet-inverse-problems-network>

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From: Martin Benning, martin.benning@ucl.ac.uk

Date: Monday 16 February 2026

Subject: 5th IMA Conference on Inverse Problems from Theory to Application

Announcement:

8 –10 September 2026,

Woburn House, Tavistock Square, London WC1H 9HQ

<https://ima.org.uk/28046/5th-ima-conference-on-inverse-problems-from-theory-to-application/>

Inverse problems remain at the heart of scientific discovery and technological innovation, spanning fields as diverse as medical and satellite imaging, biology, astronomy, geophysics, environmental sciences, computer vision, energy, finance, and defence. Fundamentally, these problems involve using a mathematical or physical model "backwards" to infer a quantity of interest from the observed effects it produces.

A main challenge resulting from using models "backwards" is that solutions are often not well posed, i.e., not unique or unstable with respect to small perturbations in the data. This difficulty continues to stimulate research and innovation at the interface of applied mathematics, statistics, engineering, and physics, leading to social and economic benefit through impact on science, medicine, and engineering. The aim of this conference is to bring together mathematicians, statisticians, and computer scientists working on the theoretical and numerical aspects of inverse problems, alongside engineers and physicists, tackling challenging applications. We will discuss recent developments and open challenges in theory, methodology, and computational algorithms.

Joint Event: Big Data Day

This year, the conference features a dedicated Big Data Day, held in conjunction with the IMA Conference on the Mathematical Challenges of Big Data.

This joint session reflects the growing intersection between classical model-based theory and modern data-driven approaches. With the rise of deep learning, generative models, and neural operators, the boundary between Inverse Problems and Data Science has become increasingly blurred. This day will explore the synergy between these fields, examining how techniques from network science, information theory, and large-scale optimisation can be leveraged to address ill-posedness, and conversely, how inverse problem theory can inform the foundations of data science.

We welcome industrial representatives, doctoral students, early career researchers, and established academics to attend and contribute.

Topics of Interest

- Machine Learning & Data-Driven Methods: Deep learning for inverse problems, learned regularisation, neural operators, unrolled networks.
- Big Data, Statistics & Optimisation: Large-scale inverse problems, Bayesian inference, uncertainty

quantification, data assimilation, stochastic algorithms.

- Mathematical Theory: Analysis of inverse problems, stability, uniqueness, and regularisation theory.
- Imaging & Applications: Mathematical and computational imaging, tomography, and wider applications in science, medicine, and engineering.

Call for Papers and Posters

Please submit your 300 word abstract via <https://my.ima.org.uk/> by **31 May 2026**. Abstracts should be submitted as a Word document. If you are an IMA Member or you have previously registered for an IMA conference, then you are already on our database. Please “request a new password” using the email address previously used, to log in.

Conference Fees

Includes entry to the conference as well as refreshments and lunches.

Full 3 day Conference Fee - Member- £375.00

Full 3 day Conference Fee - Non-Member - £500.00

Full 3 day Conference Fee - Student Member - £230.00

Full 3 day Conference Fee - Student Non Member - £270.00

Conference dinner details and pricing will be announced soon.

Please register for the conference via:

<https://my.ima.org.uk/>

Please email conferences@ima.org.uk for further information.

Martin Benning (he/him)

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.....
From: Romina Gaburro romina.Gaburro@ul.ie

Date: Tuesday 17 February 2026

Subject: 2026 International Summer School on Inverse Problems in Geophysics, Lake Como, Italy

We are pleased to announce that the **2026 International Summer School on Inverse Problems in Geophysics** will be held at the Lake Como School of Advanced Studies, Italy, during **August 31-September 4, 2026**. This is the third edition of the school which is mainly devoted to PhD students and early career researchers working in inverse problems and with an interest in their applications to geophysical sciences.

Confirmed lecturers include:

Jesus Carrera (IDAEA-CSIC, Spain)

Josselin Garnier (Ecole Polytechnique, France)

James Hobro (Schlumberger Cambridge, UK)

Shari Moskow (Drexel University, US)

Massimiliano Vassallo (Schlumberger Brighton, UK)

For more information please visit the school's website <https://iprg.lakecomoschool.org/> where you can register for the school.

Registration closes on May 22, 2026.

For informal information please email one of the organisers below.

Best wishes,
Romina Gaburro
on behalf of the organisers:
Alessandro Comunian (alessandro.comunian@unimi.it),
Romina Gaburro (romina.gaburro@ul.ie),
Mauro Giudici (mauro.giudici@unimi.it),
Luca Rondi (luca.rondi@unipv.it)

Romina Gaburro
Associate Professor in Applied Mathematics
Department of Mathematics and Statistics,
University of Limerick, Ireland

.....
From: Barbara Kaltenbacher Barbara.Kaltenbacher@aau.at
Date: Saturday 28 February 2026
Subject: 1st Workshop of the SFB MR-DYNAMO

Dear Colleagues,

The 1st Workshop of the SFB MR-DYNAMO (FWF) <https://indico.tugraz.at/event/126/> takes place at TU Graz, 20-22 May, 2026 Attendance of the workshop is free of charge!

This workshop brings together applied mathematicians and MRI researchers working on the theoretical, computational, and algorithmic foundations of magnetic resonance imaging. In the spirit of the Mathematics of Reconstruction in Dynamical and Active Models (MR-DYNAMO) SFB, the workshop focuses on research that connects mathematical modeling, acquisition design, and image reconstruction across the full MRI pipeline. Further information on the SFB MR-DYNAMO is available at <https://imsc.uni-graz.at/mr-dynamo/>.

Topics of interest include inverse problems and optimal control in MRI, model-based and learning-based reconstruction, optimal experiment and acquisition design, motion-robust and dynamic imaging, physics-informed machine learning, uncertainty quantification, and the joint optimization of acquisition and reconstruction. The workshop aims to strengthen exchange between communities that often meet separately and to stimulate new collaborations at the interface of applied mathematics and MRI methodology.

Best regards,
Barbara Kaltenbacher (on behalf of the organizers)

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From: Charley Denton cdenton@aimsciences.org
Date: Saturday, 7 February, 2026
Subject: IPNet Digest table of contents submission

PI April 2026 Vol. 21 articles:

1. [A local Fourier extension method for function approximation](#)

Zhenyu Zhao and Yanfei Wang

2. [Mathematical analysis of an observer for solving inverse source wave problem](#)

Tiphaine Delaunay, Sébastien Imperiale and Philippe Moireau

3. [A Calderón type inverse problem for the active scalar equations with fractional dissipation](#)

Li Li and Weinan Wang

4. [The hyperbolic X-ray transform: New range characterizations, mapping properties and functional relations](#)

Nikolas Eptaminitakis, François Monard and Yuzhou Zou

5. [Deep learning based low-rank prior ADMM for image recovered with Cauchy noise](#)

Yang Xiao, Yingying Li, Guoxi Ni and Tiejong Zeng

6. [An extended sampling-Bayesian approach for inverse elastic scattering problems with limited aperture data](#)

Jiangfeng Huang, Zhaoxing Li and Liwei Xu

7. [Edge detection based on variational regularization for mixed noise removal](#)

Yuying Shi, Zhihan Zeng, Jingjing Liu and Wei Wan

8. [On the existence of a variational regularization parameter under Morozov's discrepancy principle for nonlinear inverse problems](#)

Liang Ding, Long Li, Weimin Han and Wei Wang

9. [Piecewise data-driven tight frame and \$\ell_0\$ -balanced image denoising method](#)

Wenjian Du, Jia Li and Qiwen Zhou

10. [Comparing reduced order surrogate models for electrical impedance tomography](#)

Antti Autio and Antti Hannukainen

[Volume 22 - Inverse Problems and Imaging - AIMS](#)

Charley Denton

Communications Specialist

American Institute of Mathematical Sciences

Email: cdenton@aimsciences.org

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From: noreply@iopscience.org

Subject: Inverse Problems, Volume 42, Number 2, January 2026

Papers

[Performance comparison study of electrical impedance tomography \(EIT\) image reconstruction techniques using signal quality metrics and real hardware data](#)

[Md Mainuddin Sagar, Israt Jahan Nipa, Mishal Pokharel, Menaka Konara and Kihan Park](#)

[Higher order regularization using harmonic eigenfunctions for model-based reconstruction in magnetic particle imaging](#)

[Thomas März, Vladyslav Gapyak and Andreas Weinmann](#)

[Analysis of beam hardening streaks in tomography](#)

[Alexander Katsevich](#)

[Identifying point sources for biharmonic wave equation from the scattered fields at sparse sensors](#)

[Xiaodong Liu, Qingxiang Shi and Jing Wang](#)

[Why the noise model matters: a performance gap in learned regularization](#)

[Sebastian Banert, Christoph Brauer, Dirk Lorenz and Lionel Tondji](#)

[Pseudo-random illumination microscopy \(P-RIM\)](#)

Pierre Barbault, Jérôme Idier, Marc Allain, Thomas Mangeat, Simon Labouesse and Anne Sentenac

[Microlocal analysis of non-linear operators arising in Compton CT](#)

James W Webber and Sean Holman

[On the inverse transmission eigenvalue problem with a piecewise refractive index](#)

Tao Liu, Kang Lyu, Guangsheng Wei and Chuan-Fu Yang

[Deep prior sparse representation for full waveform inversion](#)

Hongyu Qi, Yang Li, Zhenwu Fu and Bo Ha

[The implementation in STIR of four analytical algorithms for 2D PET and 2D SPECT reconstruction](#)

Dimitra Kyriakopoulou, Athanassios S Fokas and Kris Thieleman

[Issue 2 - Volume 42 - Inverse Problems - IOPscience](#)

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