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I. IPNet Digest Volume 33, Number 1 23 January 2026

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 Shrödinger bridge matching for pansharpening**

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

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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
Issue 1 - Volume 42 - Inverse Problems - IOPscience

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II. IPNet Digest Volume 33, Number 2 2 March 2026

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)
Professor of Inverse Problems
martin.benning@ucl.ac.uk
Tel. +442079074705
UCL Department of Computer Science
169 Euston Road
London
NM12AE

……

From: Romina Gaburro omina.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)

……
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 Tieyong 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 *l*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

……

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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III. IPNet Digest Volume 33, Number 3 14 April 2026

Today's Editor: Matti Lassas University of Helsinki

Today's Topics:

1. (Senior) Scientist, Graz, Austria
2. Table of contents (AIMS)
3. Table of contents (IOPScience)
4. Launch of Journal of Mathematical Learning and Computation (JMLC)

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: Melanie Moser melanie.moser@uni-graz.at
Date: Tuesday 31 March 2026
Subject: (Senior) Scientist, Graz, Austria

The Department of Mathematics and Scientific Computing at the University Graz is looking for a (Senior) Scientist (m/f/d) https://jobs.uni-graz.at/en/jobs/84626b91-03db-0157-b7f5-68cd0d34ca0a

- *Application deadline:* 12.05.2026
- *Salary Category:* B1 with PhD
- *Salary per Year (Full Time):* € 70,200.20
- *Employment Start:* As soon as possible
- *Hours per week:* 40 h/w
- *Duration of Contract:* Temporary employment with option for permanent position
- *Temporary Employment:* 6 years with possible development agreement

Your Responsibilities

- Completing the development agreement with objectives in research, teaching and administration
- Independent research and publication activities
- Proactive development, coordination, and strategic expansion of the "Living Lab Mathematics in Applications"
- Coordination of the department's industry partnerships in the framwork of the Living Lab (acquisition, third-party funding acquisition, implementation, administration, project management)
- Establishment of the Living Lab as a platform for support and networking of the department's research groups in interdisciplinary and industry projects
- Contribution to the development and quality assurance of in-house software packages, as well as integration of third-party software
- Independent teaching of courses as well as contribution to teaching and examination tasks of the institute
- Cooperation in organizational and administrative tasks as well as in evaluation measures

Your Profile

- Completed doctorate/PhD in the field of Mathematics or a closely related field
- Excellent knowledge of written and spoken English
- Proficiency in written and spoken German or willingness to acquire German within two years
- Strong software engineering competencies, e.g., confident proficiency in C++/Python, numerical algorithms, and hands-on experience with software quality assurance and maintenance
- Industry and project competencies, e.g., experience in collaborating with external partners (desirable), or the ability to coordinate projects with multiple stakeholders
- Independent working style and strong initiative
- Communication and teamwork skills, with a focus on interdisciplinary and industry contexts
- Broad interest in the application of mathematics, particularly in the institute’s research areas

Application Documents

The following documents are required for an application:

- Letter of motivation
- Academic CV
- List of publications with indication of the 5 most important ones
- Specific letter of recommendation

We Offer:

- **Meaning:** We offer meaningful work for the world of tomorrow.
- **Collaboration:** With us, you'll find interdisciplinary, cross-professional opportunities to work together.
- **Diversity:** Besides our various scientific fields and their related issius, we offer a working environment in which diversity is lived.
- Our internal continuing **education program** is as colorful as the university itself.
- **Benefits:** Of course, there are all the usual benefits, from A "access to healthcare services" to Z "Zero emission goal".
- **Flexibility:** We demonstrate flexibility not only with the various working time models but also trough the offers for the compatibility of family and career.

About us

At the University of Graz, 4700 employees work together on future questions and solutions for the world of tomorrow. Our students and researchers face the great challenges of society and carry the knowledge out. We work for tomorrow. Become part of it!

Contact

For further information please contact Prof. Kristian Bredies (✉ kristian.bredies@uni-graz.at). **Department Website**
The University of Graz strives to increase the proportion of women in particular in management and faculty positions and therefore encourages qualified women to apply. In the event of underrepresentation, women with equal qualifications are generally given priority for admission. Especially with regard to academic staff, we welcome applications from persons with disabilities who meet the requirements of the advertised position.
Please note that in order to comply with the applicable data protection regulations, we can only accept applications via our web-based applicant tool for this vacant position: https://jobs.uni-graz.at/en/jobs/84626b91-03db-0157-b7f5-68cd0d34ca0a

……
From: Charley Denton cdenton@aimsciences.org
Date: Friday, 20 March, 2026
Subject: IPNet Digest table of contents submission

1. Determination of DN map from scattering relation for simple surfaces in low regularity
Kelvin Lam
2. An inverse scattering problem for an open sound-hard crack from phaseless data
Yuanfeng Qu and Heping Dong
3. Factorization method for near-field inverse scattering problems in elastodynamics
Chun Liu, Guanghui Hu, Tao Yin and Bo Zhang
4. Grouped tensor low-rank representation for multi-dimensional image recovery
Jun-Xian Kuang, Sheng Liu, Xi-Le Zhao, Ben-Zheng Li and Xiu-Fen Fang
5. Imaging the buried sources in a two-layered medium from the upper far-field patterns
Yan Chang, Yukun Guo and Yue Zhao
6. Electrical properties reconstruction from MRI data: theoretical and numerical aspects
Stephanie Lohrengel, Charlotte Milano and Stéphanie Salmon
7. Stability for an inverse flux and an inverse boundary coefficient problems
Mourad Choulli, Shuai Lu and Hiroshi Takase
8. Stroke classification using virtual hybrid edge detection from in silico electrical impedance tomography data
Juan Pablo Agnelli, Fernando Moura, Siiri Rautio, Melody Alsaker, Rashmi Murthy, Matti Lassas and Samuli Siltanen
9. Probing the speckle to estimate the effective speed of sound, a first step towards quantitative ultrasound imaging
Josselin Garnier, Laure Giovangigli, Quentin Goepfert and Pierre Millien
10. The Cormack inversion formula for Doppler tomography in two dimensions
Vladimir A. Sharafutdinov and Nikita A. Vaitsel

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 4, April 2026

Papers

Fused prior for large scale linear inverse problem with Gibbs bouncy particle sampler
Xiongwen Ke, Yanan Fan and Qingping Zhou

A new framework for compressed sensing by *p*-concave functionsKunsheng Zhan and Anhua Wan
Phase retrieval of quaternion signals via augmented Gauss–Newton method

Shuning Sun and Dongpo Xu
On the intensity-based inversion method for quantitative quasi-static elastographyEkaterina Sherina and Simon Hubmer

How regularization terms make invertible neural networks Bayesian point estimators
Nick Heilenkötter

On the convergence of stochastic variance reduced gradient for linear inverse problemsBangti Jin and Zehui Zhou
Simultaneous reconstruction of an obstacle and its wavenumber for the Helmholtz equation: a robust optimization approach
Thomas Bonnafont, Fabien Caubet, Nicolas Grima and Jason Tridon

Hybrid CG-Tikhonov is a filtration of the CG Lanczos vectorsDaniel Gerth and Kirk M Soodhalter

A two-point phase recovering from holographic data on a single plane
R G Novikov and V N Sivkin

Issue 4 - Volume 42 - Inverse Problems - IOPscience

……
From: info@global-sci.org
Date: Tuesday 14 April 2026
Subject: Launch of Journal of Mathematical Learning and Computation (JMLC)

Hello,

The Journal of Mathematical Learning and Computation (JMLC) https://global-sci.com/jmlc invites submissions for its focus area on Inverse Problems, Numerical Analysis, and Imaging.

JMLC emphasizes the integration of mathematical structure with modern learning systems, promoting research where analysis and computation jointly drive innovation.

We seek high-quality contributions including:
• Learning-based methods for inverse problems grounded in PDEs and variational principles
• Mathematical imaging and computational reconstruction with provable properties
• Neural operators, operator learning, and PDE-constrained learning frameworks
• Structure-preserving and physics-informed deep learning methods
• Numerical analysis of learning algorithms (stability, convergence, discretization effects)
• Hybrid model- and data-driven approaches for imaging and scientific computing
• Multimodal and high-dimensional data integration with mathematical guarantees

Submissions analyzing existing ML/DL models are welcome when they provide insight into reconstruction quality, stability, or generalization, and inform improved methodologies.

JMLC particularly encourages contributions that:

• Translate mathematical theory into implementable algorithms
• Provide reproducible results with open-source code
• Bridge inverse problems, imaging science, and modern machine learning

Join us in shaping a new direction where mathematics actively drives learning and computation in data and imaging sciences.

Submissions are now open.

Best regards,
William Jin
info@global-sci.org

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IV. IPNet Digest Volume 33, Number 4 28 May 2026

Today's Editor: Matti Lassas University of Helsinki

Today's Topics:

1. PhD Position: Error Propagation and Implicit Priors, DTU, Denmar
2. Data challenge organized by the Finnish Inverse Problems Society: Helsinki Asteroid Challenge 2026
3. 5th IMA Conference on Inverse Problems from Theory to Application
4. Table of contents (AIMS)
5. Selection of Inverse Problems Young Academy (IPYA) cohort

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

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

……

From: Per Christian Hansen pcha@dtu.dk

Date: Monday 11 May 2026

Subject: PhD Position: Error Propagation and Implicit Priors, DTU, Denmark

The Technical University of Denmark has an opening for a 3-year PhD position. It is part of the project DUDE, Data Uncertainty and Design/Reconstruction Errors, headed by Prof. Per Christian Hansen.

This position focuses on analysis of the influence of data errors in iterative solvers for inverse problems. The goal is to establish a solid understanding of how data errors propagate in iterative regularization

methods such as CGLS and GMRES. In addition, we aim to interpret these methods in the framework of computational uncertainty quantification.

For more details and to
apply: https://efzu.fa.em2.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_2001/job/7344/

The applicants will work together with two postdocs in the Section for Scientific Computing. Applicants will make limited contributions to teaching/training activities and supervision of students.

The deadline of applications is June 10, 2026, at 23:59 (Danish time). -

Professor Per Christian Hansen
Villum Investigator
Section for Scientific Computing
DTU Compute - Technical University of Denmark
Tel +45 23.65.27.98
Homepage: http://people.compute.dtu.dk/pcha/
LinkedIn: https://www.linkedin.com/in/per-christian-hansen-23bb55209/
CUQI project: https://sites.dtu.dk/cuqi

……

From: Helsinki Asteroid Challenge 2026 hac2026@helsinki.fi
Date: Friday 22 May 2026
Subject: Data challenge organized by the Finnish Inverse Problems Society: Helsinki Asteroid Challenge 2026

We are happy to inform you that the new Helsinki Asteroid Challenge 2026 is now open for participation:

https://fips.fi/data-challenges/helsinki-asteroid-challenge-2026/

The goal is to recover the shape of an asteroid model from its light curves, given along several lines of sight and angles between view vector and light direction.

While this is a real inverse problem with actual asteroids, our challenge is based on 3D printed models videographer in a lab. So some of the shapes may not be so probable in space…

Please consider taking part in the HAC2026 competition. Perhaps your team will win the Grand Prize and is invited to collect it at the Inverse Days workshop in December 2026 (https://fips.fi/inverse-days-2026/).

And do feel free to spread the word!

Best regards,

The HAC2026 team

……

From: Conferences Department, Conferences@ima.org.uk

Date: Tuesday 26 May 2026

Subject: IPNet Digest

5th IMA Conference on Inverse Problems from Theory to Application
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/

Best wishes

Conferenes Department

……

From: Charley Denton cdenton@aimsciences.org

Date: Friday, 8 May, 2026

Subject: IPNet Digest table of contents submission

Prediction of discontinuous surface heat flux based on the calibration integral equation method with Bayesian regularization

Changnian Pu, Zhichao Yu, Xiang Xu and Hongchu Chen

Optimization-based transionospheric SAR autofocus with screen projection precursor

Mikhail Gilman and Semyon Tsynkov

Fast reconstruction approaches for photoacoustic tomography with smoothing Sobolev/Matérn priors

Jaakko Kultima, Ronny Ramlau, Teemu Sahlström and Tanja Tarvainen

Direct sampling methods for acoustic sources: Advancing to quantitative identification from qualitative probes

Xiaodong Liu and Qingxiang Shi

A forward-model-free iterative method for the inverse obstacle scattering problems in three dimensions

Yan Chang, Yukun Guo and Deyue Zhang

Determining a magnetic Schrödinger equation by a single far-field measurement

Chaohua Duan and Zhen Xue

Weak adversarial networks for interface optimal design problems under physical constraints

Gang Bao, Dong Wang and Boyi Zou

A direct comparison of fast 3D CGO-based algorithms for electrical impedance tomography: texp and t0 vs. the "tB method" on simulated and experimental data

Emily J. Corcoran and Sarah J. Hamilton

Determination of multiple parameters in a time-fractional diffusion-wave equation from sparse data

Yun Zhang and Xiaoli Feng

Time-dependent optimal assignment control for traffic flow at network junctions

Jinda Yang, Dong Wang and Xiao-Ping Wang

Inverse Problems and Imaging

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

From: Barbara Katenbacher barbara.kaltenbacher@aau.at

Date: 16 May 2026

Subject: Selection of Inverse Problems Young Academy (IPYA) cohort

On behalf of the IPYA Selection Committee (Antonio Leitao, Barbara Kaltenbacher, Cristiana Sebu, Frank Werner, Johannes Schwab, Jonathan Eduardo Chirinos Rodriguez, Kui Ren, Mikko Salo, Mikyoung Lim, Peiyun Li), it is my great pleasure to inform you that the new IPYA cohort has been selected:

Alessandro Felisi
Bowen Li
Fuqun Han
Harshit Bajpai
Jaeyoung Yoon
Margaret Duff
Nicholas Nelsen
Peiyi Chen
RuiRui Wu
Samira Kabri
Shi Chen
Tianjiao Wang
Tobias Wolf
Woojoo Lee
Zak Shumaylov
Divyansh Agrawal

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V. IPNet Digest Volume 33, Number 5 09 June 2026

Today's Editor: Matti Lassas University of Helsinki

Today's Topics:

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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: Romina Gaburro omina.Gaburro@ul.ie
Date: Thursday 28 May 2026
Subject: 2026 International Summer School on Inverse Problems in Geophysics - extended deadline

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.

The lectures will be given by:

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.

Extended registration deadline: June 30, 2026.

For informal information please email one of the organisers below.

Best wishes,
Romina Gaburro
on behalf or the organisers:
Alessandro Comunian (alessandro.comunian@unimi.it),
Romina Gaburro (romina.gaburro@ul.ie),
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Romina Gaburro
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From: Matti Lassas matti.lassas@helsinki.fi
Date: Thursday 4 June 2026
Subject: Two Postdoctoral Researchers in Mathematical Inverse Problems at the University of Helsink

ERC-funded Postdoctoral Researcher Positions in Mathematical Inverse Problems at the University of Helsinki

Applications are invited for two postdoctoral researchers in mathematical inverse problems at the University of Helsinki. The position will be funded by the ERC advanced grant project *InversePDE - Geometric Methods in Inverse Problems for Partial Differential Equations* and the Centre of Excellence on Inverse Modelling and Imaging, led by Professor Matti Lassas.

Position description

The postdoctoral positions are for around two years (ending in November 2028) with a possible extension to a 3rd year. Starting date may be between August 1, 2026-January 1, 2027. The positions have a 6-month trial period at the beginning of the employment.

The InversePDE project studies inverse problems for partial differential equations (PDEs) and geometric inverse problems. A typical inverse problem is the determination of the coefficient functions of a PDE from indirect data. The project aims to obtain unique solvability and stability results for inverse problems and to develop solution algorithms for these problems that are based on machine learning. The project will study inverse problems for linear and non-linear hyperbolic and elliptic PDEs by applying analysis, differential geometry, microlocal analysis, and probabilistic methods. The project will also combine methods of machine learning, in particular neural networks, and manifold learning techniques, with the mathematical theory of inverse problems to invent new algorithms that are rigorously guaranteed to work.

The University of Helsinki seeks to promote an equitable and inclusive working environment and welcomes applicants of any gender, linguistic and cultural background, or minority group.

Qualifications

We are looking for post-doctoral researchers interested in working on inverse problems and their applications and/or in rigorous methods in neural networks and other machine learning methods for partial differential equations. We also welcome applications from postdocs who have not earlier worked on the above topics but are interested in extending their expertise to new fields.

The postdoctoral researcher shall hold a relevant doctoral degree by the start date of employment have the ability to conduct independent scholarly work. Additionally, no more than five years should have elapsed since the completion of a doctoral degree, excluding periods of family leave or equivalent absences. Excellent written and verbal communication skills in English are a necessity in the position.

The **application deadline is June 15, 2026** (at 23:59 UTC +3)

Read more here for instructions on how to apply.

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From: noreply@iopscience.org
Date: Wednesday 3 June 20, 2026
Subject: Inverse Problems, Volume 42, Number 5, May 2026

Papers

Boundary control and Calderón type inverse problems in non-local heat equation
Saumyajit Das

General decomposition pursuit algorithm for linear inverse problems
Yun-Bin Zhao, Zhong-Feng Sun, Xin Liu and Quan Yu

Conditional stability for an inverse problem of a fully discrete stochastic hyperbolic equation
Bin Wu, Xu Zhu, Wenwen Zhou and Zewen Wang

A learning-based hybrid reconstruction scheme for an inverse boundary value problem
Junjian Fang, Shiwei Sun and Haibing Wang

Numerical analysis of simultaneous reconstruction of initial condition and potential in subdiffusion
Xu Wu, Jiang Yang and Zhi Zhou

Rothe's method in direct and time-dependent inverse source problems for a semilinear pseudo-parabolic equation
Karel Van Bockstal, Khonatbek Khompysh and Arshyn Altybay

A computationally efficient finite element method for shape reconstruction of inverse conductivity problems
Lefu Cai, Zhixin Liu, Minghui Song and Xianchao Wang

Consistency of variational inference for Besov priors in non-linear inverse problems
Shaokang Zu, Junxiong Jia and Zhiguo Wang

An interpretable neural network for diffeomorphic image registration: theory and application
Huan Han, Haoran Hao, Junping Wei and Yimin Zhang

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From: noreply@iopscience.org
Subject: Inverse Problems, Volume 42, Number 6, June 2026

Papers

Stability analysis of a new curl-based full field reconstruction method in 2D isotropic nearly-incompressible elasticity
Nagham Chibli, Martin Genet and Sébastien Imperiale

A reformulation of the equation error approach for direct inversion from full-field interior data
Quinn T Kolt, Mobina Ghorbaninejad and Olalekan A Babaniyi

Locally-supervised global image restoration
Benjamin Walder, Daniel Toader, Robert Nuster, Günther Paltauf, Peter Burgholzer, Gregor Langer, Lukas Krainer and Markus Haltmeier
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