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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

ICERM Workshop: Safety & Security of Deep Learning (Unstable Neural Networks)

PhD Position: Oversmoothing Regularization Models, Local Ill-Posedness, Siegen

Special Issue Submissions: Advances in Computational Integral Equations

Table of Contents: Inverse Problems

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<http://ipnet.math.msu.edu>

From: Ruth Crane ruth_crane@icerm.brown.edu [via NADIGEST]

Date: January 11, 2021

Subject: Safety and Security of Deep Learning, ONLINE, Apr 2021

Deep learning is profoundly reshaping the research directions of entire scientific communities across mathematics, computer science, and statistics, as well as the physical, biological and medical sciences. Yet, despite their indisputable success, deep neural networks are known to be universally unstable. That is, small changes in the input that are almost undetectable produce significant changes in the output. This happens in applications such as image recognition and classification, speech and audio recognition, automatic diagnosis in medicine, image reconstruction and medical imaging as well as inverse problems in general. This phenomenon is now very well documented and yields non-human-like behaviour of neural networks in the cases where they replace humans, and unexpected and unreliable behaviour where they replace standard algorithms in the sciences.

The many examples produced over the last years demonstrate the intricacy of this complex problem and the questions of safety and security of deep learning become crucial. Moreover, the ubiquitous phenomenon of instability combined with the lack of interpretability of deep neural networks makes the reproducibility of scientific results based on deep learning at stake.

For these reasons, the development of mathematical foundations aimed at improving the safety and security of deep learning is of key importance. The goal of this workshop is to bring together experts from mathematics, computer science, and statistics in order to accelerate the exploration of breakthroughs and of emerging mathematical ideas in this area.

This ICERM workshop is fully funded by a Simons Foundation Targeted Grant to Institutes.

Apply today! [https://urldefense.com/v3/__https://icerm.brown.edu/events/htw-21-ssdl/__;!!HXcXUKc!1JLeylvM8nOWxxQv5rmDjx2uAAfKXJnrBI_BDMW1fiQ2mlm2A4-tNHZAFjZWInw\\$](https://urldefense.com/v3/__https://icerm.brown.edu/events/htw-21-ssdl/__;!!HXcXUKc!1JLeylvM8nOWxxQv5rmDjx2uAAfKXJnrBI_BDMW1fiQ2mlm2A4-tNHZAFjZWInw$)

From: plato@mathematik.uni-siegen.de <plato@mathematik.uni-siegen.de>

Date: January 26, 2021

Subject: PhD Position at the University of Siegen (Germany)

PhD position at Siegen

The University of Siegen is offering a PhD position affiliated with the Department of Mathematics. It is associated with the DFG-funded research project 'Oversmoothing regularization models in light of local ill-posedness phenomena'.

The position should be filled by April 1, 2021 for a period of 3 years, with 75% of the regular working hours. Remuneration is according to the German public salary scale TV-L 13.

For more information, see the official job advertisement web site

[https://urldefense.com/v3/__https://jobs.uni-siegen.de/job/Wissenschaftlicher-Mitarbeiterin-Mathematik-57072/644302101/__;!!HXCxUKc!ghAmfsfkCh-j2JaSuhqAwS2rPWD9HYMUROb0rIQ3Oh7g7enRm8ESmVO78U1vJzBAPyS27Zo\\$](https://urldefense.com/v3/__https://jobs.uni-siegen.de/job/Wissenschaftlicher-Mitarbeiterin-Mathematik-57072/644302101/__;!!HXCxUKc!ghAmfsfkCh-j2JaSuhqAwS2rPWD9HYMUROb0rIQ3Oh7g7enRm8ESmVO78U1vJzBAPyS27Zo$)

If you have any questions, please contact Prof. R.~Plato via E-mail: plato@mathematik.uni-siegen.de

Application Deadline: February 17th 2021

Submitted by:

Robert Plato

Büro ENC B-209, Department Mathematik, Universität Siegen

Walter-Flex-Str. 3, 57068 Siegen, Tel: (0271) 740 3591

Email: plato@mathematik.uni-siegen.de

WWW: [https://urldefense.com/v3/__http://www.uni-siegen.de/fb6/aan/plato__;!!HXCxUKc!ghAmfsfkCh-j2JaSuhqAwS2rPWD9HYMUROb0rIQ3Oh7g7enRm8ESmVO78U1vJzBAMXJ-XOY\\$](https://urldefense.com/v3/__http://www.uni-siegen.de/fb6/aan/plato__;!!HXCxUKc!ghAmfsfkCh-j2JaSuhqAwS2rPWD9HYMUROb0rIQ3Oh7g7enRm8ESmVO78U1vJzBAMXJ-XOY$)

From: Alex Barnett abarnett@flatironinstitute.org [via NADIGEST]

Date: January 11, 2021

Subject: ACOM Special Issue on Integral Equations, Mar 2021

This is a reminder that we will be excited to consider article submissions from the international research community for the special issue (topical collection) "Advances in Computational Integral Equations" (ACIE), in the journal Advances in Computational Mathematics (ACOM). The deadline is approaching: March 31, 2021.

Topics of interest include: boundary integral equations, singular geometries, quadrature, randomized algorithms, high frequency waves, inverse problems, HPC, software packages, numerical analysis, time-domain...

The guest editorial board is: Stephanie Chaillat, Adrianna Gillman, Gunnar Martinsson, Michael O'Neil (chair), Alex Barnett, Mary-Catherine Kropinski, and Timo Betcke. Submissions will undergo ACOM's usual peer-review process.

For details:

[https://urldefense.com/v3/__https://resource-cms.springernature.com/springer-cms/rest/v1/content/18256174/data/v2__;!!HXCxUKc!hY60hfZwTOG2EceEpDIDbNVQooSVb9JAFV9vnoT6Cr0-WcETOTVSgHSOlaZYLpdL\\$](https://urldefense.com/v3/__https://resource-cms.springernature.com/springer-cms/rest/v1/content/18256174/data/v2__;!!HXCxUKc!hY60hfZwTOG2EceEpDIDbNVQooSVb9JAFV9vnoT6Cr0-WcETOTVSgHSOlaZYLpdL$)

[https://urldefense.com/v3/__https://www.springer.com/journal/10444__;!!HXCxUKc!hY60hfZwTOG2EceEpDIDbNVQooSVb9JAFV9vnoT6Cr0-WcETOTVSgHSOIdcB-rgY\\$](https://urldefense.com/v3/__https://www.springer.com/journal/10444__;!!HXCxUKc!hY60hfZwTOG2EceEpDIDbNVQooSVb9JAFV9vnoT6Cr0-WcETOTVSgHSOIdcB-rgY$)

From: noreply@iopscience.org

Date: December 31, 2020 at 7:53:54 PM PST

Subject: Inverse Problems, Volume 37, Number 1, January 2021

Inverse Problems January 2021 Volume 37, Number 1
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Special Issue Papers:

An ADMM-LAP method for total variation myopic deconvolution of adaptive optics retinal images
Xiaotong Chen, James L Herring, James G Nagy, Yuanzhe Xi and Bo Yu

Error analysis for filtered back projection reconstructions in Besov spaces
M Beckmann, P Maass and J Nickel

Papers:

Stability estimates for the relativistic Schrödinger equation from partial boundary data
Soumen Senapati

Non-stationary multi-layered Gaussian priors for Bayesian inversion
Muhammad Emzir, Sari Lasanen, Zenith Purisha, Lassi Roininen and Simo Särkkä

Scanning electron diffraction tomography of strain
Robert Tovey, Duncan N Johnstone, Sean M Collins, William R B Lionheart, Paul A Midgley, Martin Benning and Carola-Bibiane Schönlieb

Ultrasound modulated bioluminescence tomography with a single optical measurement
Francis Chung, Tianyu Yang and Yang Yang

Deep synthesis network for regularizing inverse problems
Daniel Obmann, Johannes Schwab and Markus Haltmeier

An inverse potential problem for subdiffusion: stability and reconstruction
Bangti Jin and Zhi Zhou

X-ray transform on Sobolev spaces
Vladimir A Sharafutdinov

Tikhonov regularization for polynomial approximation problems in Gauss quadrature points
Congpei An and Hao-Ning Wu

An inverse random source problem for the one-dimensional Helmholtz equation with attenuation
Peijun Li and Xu Wang

A mathematical model for image saturation with an application to the restoration of solar images via adaptive sparse deconvolution
S Guastavino and F Benvenuto

The maximum entropy on the mean method for image deblurring

Gabriel Rioux, Rustum Choksi, Tim Hoheisel, Pierre Maréchal and Christopher Scarvelis

Inverse initial boundary value problem for a non-linear hyperbolic partial differential equation

Gen Nakamura, Manmohan Vashisth and Michiyuki Watanabe

Recovery of coefficients for a weighted p-Laplacian perturbed by a linear second order term

Cătălin I Cârstea and Manas Kar

Recovering a quasilinear conductivity from boundary measurements

Ravi Shankar

A direct method for solving inverse Sturm–Liouville problems

Vladislav V. Kravchenko and Sergii M. Torba

<https://iopscience.iop.org/issue/0266-5611/37/1>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Conference Postponed to 2022: 10th Int. Conf. on Inverse Problems in Engineering

Conference to Be Held Online: 16th Optimization & Inverse Problems in Electromagnetism

PhD Position: Appl. Mathematics, Including Inversion Algorithms & Imaging (WIAS, Germany)

Table of Contents: Inverse Problems in Science and Engineering

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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<http://ipnet.math.msu.edu>

From: ICIPE 20 <filippo.demonte@univaq.it>

Date: Tuesday, March 30, 2021

Subject: 10th Int. Conf. on Inverse Problems in Engineering (ICIPE), May 16-20, 2021, Francavilla al Mare (Chieti), Italy. Postponed to May 15-19, 2022

Dear Inverse Colleague,

Due to ongoing COVID-19 concerns, the 10th Int. Conf. on Inverse Problems in Engineering (ICIPE), scheduled during May 16-20, 2021, has been postponed to May 15-19, 2022, in the same place, Villa Maria Hotel, Francavilla al Mare (Chieti), Italy.

As the conference has been rescheduled, the online abstract submission will again be open on October 1, 2021. The new important dates are:

Abstract submission deadline: November 14, 2021

Abstract acceptance notification: November 30, 2021

Draft paper submission deadline: February 13, 2022

Paper acceptance notification: February 27, 2022

Final paper/extended abstract submission deadline: March 13, 2022

You may find detailed information on the web site: <https://icipe20.univaq.it>. Please feel free to pass this on to all interested parties.

Best regards and Happy Easter,

Filippo de Monte

Chair of 10th ICIPE

From: OIPE2020 <oipe2020@zut.edu.pl>

Date: Wednesday, March 31, 2021

Subject: OIPE2020(1) Conference

Dear colleagues,

OIPE 2020 postponed to 2021 will be held online.

Due to the epidemiological situation of COVID-19, the International Steering Committee decided that the 16th Workshop on Optimization and Inverse Problems in Electromagnetism OIPE2020 (the old name OIPE2020 will remain unchanged) will be held online on September 6th-8th, 2021, in Szczecin, Poland.

The conference program will consist of invited lectures, oral presentations and poster sessions. The workshop will be organized by the Faculty of Electrical Engineering of West Pomeranian University of Technology, Szczecin. We invite members of the scientific community from universities, research centers and industry to attend the workshop and present their recent achievements. Abstract submission deadline is May 28th, 2021. The first call of abstract submission is available on the conference website.

Authors of accepted and presented papers will be invited to submit a full paper that will be considered for publication either in COMPEL or IJAEM, depending on the content.

New: If you are not interested in submitting an abstract, it is also possible to attend the workshop as a visiting guest for a reduced fee (possible options: workshop, one day, single session).

Please visit updated conference website <http://oipe2020.zut.edu.pl>

Jens Haueisen (chairman)
Marcin Ziolkowski, 16th Workshop Chairman

From: Heike Sill heike.sill@wias-berlin.de [via NADIGEST]
Date: March 22, 2021
Subject: PhD Position, Applied Mathematics, WIAS, Germany

WIAS invites applications for a PhD student position (f/m/d) (Ref. 21/10) in the Research Group 'Numerical Mathematics and Scientific Computing' (Head: Prof. Dr. Volker John, Supervisor: Dr. Alfonso Caiazzo) starting at May 1st, 2021 or at the earliest possible date thereafter.

The position is framed within the DFG funded project "Computational Multiscale Methods for the Inverse Estimation of Effective Properties of Poroelastic Tissue", a collaboration between the WIAS and the Chair of Computational Mathematics of the University of Augsburg (Head: Prof. Dr. Daniel Peterseim). The project aims to develop computational multiscale models and inversion algorithms to support modern clinical imaging techniques based on Magnetic Resonance Elastography (MRE). MRE combines magnetic resonance images with mathematical and physical models in order to recover, in vivo and non-invasively, information about the elastic behavior and mechanical parameters of human tissues. The purpose of the project is to develop novel mathematical descriptions of vascularized tissues and efficient computational tools for numerical simulations and for the solution of related inverse problems.

The research will build on the existing collaboration with the MRE group at the Department of Radiology of the Charite-Universitätsmedizin Berlin (Prof. Dr. Ingolf Sack) and the Department Diagnostische und Interventionelle Radiologie of the Universitätsklinikum Augsburg (Prof. Dr. med. Thomas Kroncke). We are looking for candidates with a master's degree and a strong background in computational mathematics and scientific computing, with interest in medical applications. Prior

knowledge in continuum mechanics, homogenization theory, or finite element methods are beneficial.

See here for more information: <https://wias-berlin.softgarden.io/job/9472115?l=de>

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Friday, January 29, 2021 at 2:53 AM

Subject: Inverse Problems in Science and Engineering, Contents, Available online

Inverse Problems in Science and Engineering January 2021 Volume 29, Issue 1
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X. Ferrieres , G. Klysz , V. Guihard & M. Albrand

The bi-Helmholtz equation with Cauchy conditions: ill-posedness and regularization methods
Hussien Lotfinia , Nabi Chegini & Reza Mokhtari

Optimization approach for axisymmetric electric field cloaking and shielding

G. V. Alekseev , D. A. Tereshko & Yu. V. Shestopalov

On the Kohn–Vogelius formulation for solving an inverse source problem

P. Menoret , M. Hrizi & A. A. Novotny

A reduced-order modelling for real-time identification of damages in multi-layered composite materials

Yu Liang , Xiao-Wei Gao , Bing-Bing Xu , Miao Cui & Bao-Jing Zheng

A Bayesian approach for neutral particles source estimation

C. B. Pazinato , L. B. Barichello & H. R. B. Orlande

Some new results for geometric inverse problems with the method of fundamental solutions

P. P. Carvalho , A. Doubova , E. Fernández-Cara & J. Rocha de Faria

<https://www.tandfonline.com/toc/gipe20/29/1>

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Comparative studies on the criteria for regularization parameter selection based on moving force identification

Zhen Chen , Zhen Wang , Zhihao Wang & Tommy H. T. Chan

Recovering a time-dependent potential function in a time fractional diffusion equation by using a nonlinear condition

Suzhen Jiang & Ting Wei

A spring-damping regularization of the Fourier sine series solution to the inverse Cauchy problem for a 3D sideways heat equation
Chein-Shan Liu & Chih-Wen Chang

Acoustic multi-parameter full waveform inversion based on the wavelet method
Wensheng Zhang

Inverse problem solving in semiconductor photoacoustics by neural networks
Katarina Lj. Djordjevic , Dragan D. Markushev , Žarko M. Čojbašić & Slobodanka P. Galović

Seismic inversion constrained by stress value changes
Qing Chen , Xiaowen Liu & Lei Zhang

Applying the solotone inverse method to estimate thermophysical properties of bonds and to locate internal boundaries, including regions of porosity
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<https://www.tandfonline.com/toc/gipe20/29/2>

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An inverse problem for Sturm–Liouville operators with nodal data on arbitrarily-half intervals
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A reconstruction of object properties with significant uncertainties
M. Romanovski

Use of asymptotic analysis for solving the inverse problem of source parameters determination of nitrogen oxide emission in the atmosphere
S. A. Zakharova, M. A. Davydova & D. V. Lukyanenko

Analytical solutions for some unsteady flows of fluids with linear dependence of viscosity on the pressure
Constantin Fetecau & Craig Bridges

Lipschitz stability estimate and reconstruction of Lamé parameters in linear elasticity
S. Eberle, B. Harrach, H. Meftahi & T. Rezgui

A backward problem for distributed order diffusion equation: uniqueness and numerical solution
Zhousheng Ruan & Zewen Wang

Current distribution reconstruction in switching arcs by means of regularization based on GSVD
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<https://www.tandfonline.com/toc/gipe20/29/3>

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Colour level set regularization for the electromagnetic imaging of highly discontinuous parameters in 3D

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Guaranteed a posteriori estimation of uncertain data in exterior Neumann problems for Helmholtz equation from inexact indirect observations of their solutions |

Oleksandr Nakonechnyi, Yuri Podlipenko & Yuri Shestopalov

Parameter selection of Gaussian kernel SVM based on local density of training set

Jiawei Yang, Zeping Wu, Ke Peng, Patrick N. Okolo, Weihua Zhang, Hailong Zhao & Jingbo Sun

Regularized ab initio molecular force fields for key biological molecules: melatonin and pyridoxal-5'-phosphate methylamine Schiff base (Vitamin B6)

Gulnara M. Kuramshina, Igor V. Kochikov & Svetlana A. Sharapova

Characterization of electromagnetic parameters through inversion using metaheuristic technique

Mohamed Elkattan & Aladin Kamel

Inverse heat transfer analysis to determine the temperature or phase change-dependent refractive index of semitransparent materials

Lin-Yang Wei, Hong Qi, Zhi-Tian Niu, Shuang Wen & Ya-Tao Ren

<https://www.tandfonline.com/toc/gipe20/29/4>

From: Lothar Reichel <reichel@math.kent.edu>

Date: February 26, 2021

Subject: FETNA, ToC, Vol. 53

Electronic Transactions on Numerical Analysis (ETNA) 2020 Volume 53

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Special volume for the ETNA25 conference: Recent Advances in Scientific Computing

25 years of ETNA: Past, Present, and Future

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G. Barbarino, C. Garoni, and S. Serra-Capizzano

Block generalized locally Toeplitz sequences: Theory and applications in the multidimensional case

G. Barbarino, C. Garoni, and S. Serra-Capizzano

A simplified L-curve method as error estimator

S. Kindermann and K. Raik

Transformed rank-1 lattices for high-dimensional approximation
R. Nasdala and D. Potts

A multigrid frame based method for image deblurring
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Convergence results and low-order rates for nonlinear Tikhonov regularization with oversmoothing penalty term
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Residual whiteness principle for parameter-free image restoration
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Error estimates of Gaussian-type quadrature formulae for analytic functions on ellipses - a survey of recent results
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Optimized surface parameterizations with applications to Chinese virtual broadcasting
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A subspace-accelerated split Bregman method for sparse data recovery with joint l_1 -type regularizers
V. De Simone, D. di Serafino, and M. Viola

Cubature formulae for the Gaussian weight. Some old and new rules
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Performance and stability of direct methods for computing generalized inverses of the graph Laplacian
M. Benzi, P. Fika, and M. Mitrouli

The minimal-norm Gauss-Newton method and some of its regularized variants
F. Pes and G. Rodriguez

Matrix completion for matrices with low-rank displacement
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Substitution algorithms for rational matrix equations
M. Fasi and B. Iannazzo

Finite element discretization of semilinear acoustic wave equations with kinetic boundary conditions
M. Hochbruck and J. Leibold

Krylov type methods for linear systems exploiting properties of the quadratic numerical range
A. Frommer, B. Jacob, K. Kahl, C. Wyss, and I. Zwaan

A frugal FETI-DP and BDDC coarse space for heterogeneous problems
A. Heinlein, A. Klawonn, M. Lanser, and J. Weber

<http://etna.mcs.kent.edu/volumes/2011-2020/vol53/>
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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Online Workshop: Inverse Problems and Optimisation (Exascale Inverse Problems)

Online Workshop: Estimating Functions from Data

Call for Papers: Compumag Cancun

PhD positions: Computational UQ & Inverse Problems, Technical Univ. of Denmark

Professorship: Numerical Methods for PDEs incl. Inverse Problems, TU Chemnitz, Germany

New Book: The Navier-Stokes Problem

New book: Constructive Fractional Analysis with Applications

Table of Contents: Inverse Problems & Imaging

Table of Contents: Inverse Problems

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: Simon Arridge <S.Arridge@cs.ucl.ac.uk>

Date: Monday, April 19, 2021

Subject: Online Workshop: Inverse Problems and Optimisation (Exascale Inverse Problems)

Workshop on "Inverse Problems and Optimisation" 6-7 May 2021

Inverse problems are concerned with the recovery of the parameters of a forward model given observations of data that it describes. Such problems arise in almost all fields of science when details of a postulated model, such as maps of physical properties and/or their classification into identifiable objects, have to be determined from a set of observed data. The inverse problem topic is highly cross-disciplinary, both within mathematics, encompassing aspects of pure, applied and statistics, and across subjects, including physical sciences, engineering and biology to name only a few. Inverse problems increasingly consider mappings between solutions and data in high numbers of dimensions (e.g. three in space plus time plus wavelength). Direct representations easily exceed existing computational and memory resources, and necessitate appropriate design of data structures and algorithms. In parallel, machine learning methods designed for "big data" problems are proving useful in developing data reduction approaches and representation of appropriate priors. Some of the topics of this planned workshop include scheduling and optimising parallelism for multiple forward solves as part of a nonlinear inverse problem on exascale architectures; the combination of inference-based machine learning techniques and classical model based inverse problems at scale, and their often differing hardware requirements (e.g. GPU vs CPU); using exascale computing to include uncertainty in the formulation of inverse problems.

Further Details and Registration at
<https://excalibur-sle.github.io/workshop4.html>

Best Regards
Simon Arridge and Timo Betcke

From: Sergey Dolgov <sd901@bath.ac.uk>
Date: Tuesday, April 20, 2021
Subject: Mathematics and Algorithms for Data Online Workshop: 7th May 2021

The Centre for Mathematics and Algorithms for Data (MAD) at the University of Bath (UK) is pleased to announce an online workshop to be held on Friday 7th May 2021.

The workshop focuses on function approximations in machine learning, reinforcement learning and applications.

For details about the speakers and schedule please visit <https://mathematics-and-algorithms-for-data.github.io/events/workshop2/>

Attendance is free, but please register your email following the above link, so we can send you Zoom and Gather links.

Questions can be addressed to s.dolgov@bath.ac.uk

From: Compumag <secretariat@compumag2021.com>
Date: Friday, April 9, 2021
Subject: Reminder call for papers Compumag Cancun

Dear Colleague,

This is a reminder of the call for papers for Compumag, Cancun.

Due to the Covid-19 pandemic, the conference Compumag 2021 - originally planned to take place in July 2021 - has been rescheduled for 16th-20th January 2022. The submission date has been moved to 16th June 2021. The conference will be held at the Cancun Convention Center in Cancun, Mexico.

There will be invited speakers, oral, and poster sessions. Authors with an accepted and presented digest are encouraged to submit a full paper for its possible publication in an issue of IEEE Transactions on Magnetics.

Topics of interest include mathematical modelling, static and quasi-static fields, wave propagation, electromagnetic compatibility, nano-electromagnetic computation, bio-electromagnetic computation, electromagnetic sensors, photonics, optoelectronics, material modelling, multi-physics, multi-scale modeling, optimization, numerical techniques, software

methodology, novel computational methods for electric machines and drives, and education.

The online submission of the two-page digest for Compumag Cancun is open. The following link will direct you to the conference website:

www.compumag2021.com

The conference will take place in Cancun, Mexico, that is a recognized city throughout the world for its spectacular white sand beaches, its fascinating sea in turquoise blue tones, Mayan culture, water activities, and adventure.

We are looking forward to meeting you in Cancun, Mexico in January 2022.

Sincerely,

Organizing Committee
23rd Int. Conf. on the Computation of Electromagnetic Fields (COMPUMAG)
January 16th-20th, 2022
Cancun, Mexico
www.compumag2021.com

From: Per Christian Hansen <pcha@dtu.dk>

Date: Tuesday, April 13, 2021

Subject: PhD positions, Computational UQ, Technical Univ. of Denmark

The Technical University of Denmark opens several 3-year PhD positions starting in the fall of 2021. They are part of the research project CUQI: Computational Uncertainty Quantification for Inverse problems
www.compute.dtu.dk/english/cuji.

Our goal is to create a platform for modeling and computations needed to apply UQ to a range of inverse problems in academia and industry. All PhD students will work individually and as team members supported by dedicated supervisors. Applicants are also expected to contribute to teaching, training activities, and supervision of students.

The PhD positions will focus on four areas:

- . Handling large-scale inverse problems via dimensionality reduction, surrogate modeling, multi-fidelity sampling algorithms, etc. We also study how to handle errors and uncertainties in the reconstr. model.
- . Development and use of stochastic optimization methods for efficient sampling and for handling of implicitly given priors without the need to tune the algorithm parameters.
- . Theory, algorithms and diagnostic tools for handling uncertain parameters in the likelihoods and priors via hyper-parameters and associated hyper-priors.

. Besov priors for producing piecewise smooth reconstructions and for detection of edges and interfaces, e.g., in PDE formulations of image deblurring and computed tomography.

For more details and to apply (deadline May 25), see: <https://tinyurl.com/CUQI-PhD-5>

Per Christian Hansen, Yiqiu Dong and Martin S. Andersen

Submitted by:

Professor Per Christian Hansen

Villum Investigator

Section for Scientific Computing

DTU Compute - Technical University of Denmark

Tel +45 23.65.27.98

<http://www2.compute.dtu.dk/~pcha/>

CUQI project: <https://www.compute.dtu.dk/cuqi>

From: Oliver Ernst oernst@math.tu-chemnitz.de [via NADIGEST]

Date: April 03, 2021

Subject: Faculty Position, Numerical Methods for PDEs, TU Chemnitz, Germany

The Department of Mathematics at the Technical University of Chemnitz invites applications for a W3-Professorship (tenured) in Numerical Methods for Partial Differential Equations

Successful candidates are expected to be internationally visible in an area of numerical methods for partial differential equations with a strong focus on applications, preferably related to optimization. Of special interest are also the areas of inverse problems, stochastic or random differential equations and scientific machine learning.

The official advertisement in German and English for this search is found at

[https://urldefense.com/v3/https://www.tu-chemnitz.de/verwaltung/personal/stellen/W3_Numerik_part_Diff.php;!!HXCxUKc!mcxLTWU7p2sMM-bbHGL7oQ0NTZ3RpiA-t1foXipLQc89crY6DvbUAf91jumvKaFM\\$](https://urldefense.com/v3/https://www.tu-chemnitz.de/verwaltung/personal/stellen/W3_Numerik_part_Diff.php;!!HXCxUKc!mcxLTWU7p2sMM-bbHGL7oQ0NTZ3RpiA-t1foXipLQc89crY6DvbUAf91jumvKaFM$)
and contains additional details.

The closing date is May 2, 2021.

From: Alexander Ramm <ramm@ksu.edu>

Date: Thursday, April 15, 2021

Subject: Navier-Stokes problem

Dear Colleagues,
In the book

https://www.morganclaypoolpublishers.com/catalog_Orig/product_info.php?products_id=1624

I prove that the Navier-Stokes problem is physically and mathematically wrong. This follows from the paradox: if one assumes that the initial condition is not zero and the solution exists for all $t > 0$ then one proves that the initial condition is zero.

Best regards,
Alexander Ramm

From: George Anastassiou <ganastss2@gmail.com>

Date: Thursday, April 8, 2021

Subject: please post about my new monograph

<https://link.springer.com/book/10.1007/978-3-030-71481-9>

Submitted by:

George A. Anastassiou, Ph.D

DOCTOR HONORIS CAUSA

Professor of Mathematics

Department of Mathematical Sciences

The University of Memphis, Memphis, TN 38152, USA

Editor-In-Chief JoCAAA, JCAAM, Jafa ; World Sci. Publ. Book Series: Concrete & Applicable Math. Springer Consultant-Editor in computational math books Birkhauser Consultant

Editor in A.M.Sci.

ganastss@memphis.edu

From: AIMS Updates <updates@aims-newsletter.org>

Date: Friday, March 26, 2021

Subject: New Issue IPI: Now Available Online

Inverse Problems & Imaging (IPI) June 2021 Vol. 15, No. 3
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Research Articles:

Simultaneously recovering both domain and varying density in inverse gravimetry by efficient level-set methods

Wenbin Li and Jianliang Qian

Some application examples of minimization based formulations of inverse problems and their regularization

Kha Van Huynh and Barbara Kaltenbacher

The interior transmission eigenvalue problem for elastic waves in media with obstacles
Fioralba Cakoni, Pu-Zhao Kow and Jenn-Nan Wang

Tensor train rank minimization with nonlocal self-similarity for tensor completion
Meng Ding, Ting-Zhu Huang, Xi-Le Zhao, Michael K. Ng and Tian-Hui Ma

Inverse N-body scattering with the time-dependent hartree-fock approximation
Michiyuki Watanabe

<https://www.aims sciences.org/journal/1930-8337/2021/15/3>

From: noreply@iopscience.org

Date: April 17, 2021

Subject: Inverse Problems, Volume 37, Numbers 2-4, 2021

Inverse Problems February 2021 Volume 37, Number 2
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Papers:

Unique determination for an inverse problem from the vortex dynamics
Ru-Yu Lai and Hanming Zhou

A fast homotopy algorithm for gridless sparse recovery
Jean-Baptiste Courbot and Bruno Colicchio

Lipschitz stability for an inverse source scattering problem at a fixed frequency
Peijun Li, Jian Zhai and Yue Zhao

A feasibility study of radar-based shape and reflectivity reconstruction using variational methods
Samuel Bignardi, Anthony Joseph Yezzi, Alper Yildirim, Christopher F Barnes and Romeil Sandhu

Determination of the reaction coefficient in a time dependent nonlocal diffusion process
Ming-Hui Ding and Guang-Hui Zheng

Adaptive spectral decompositions for inverse medium problems
Daniel H Baffet, Marcus J Grote and Jet Hoe Tang

The interior inverse electromagnetic scattering for an inhomogeneous cavity
Fang Zeng and Shixu Meng

Adaptive regularisation for ensemble Kalman inversion
Marco Iglesias and Yuchen Yang

A level-set approach based on reaction–diffusion equation applied to inversion problems in acoustic wave propagation

D L Lanznaster, P B de Castro, H Emmendoerfer Jr, P T R Mendonça, E C N Silva and E A Fancello

A distributed resistance inverse method for flow obstacle identification from internal velocity measurements

Jorge Aguayo, Cristóbal Bertoglio and Axel Osses

<https://iopscience.iop.org/issue/0266-5611/37/2>

Inverse Problems March 2021 Volume 37, Number 3
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Papers:

Nonlocal robust tensor recovery with nonconvex regularization

Duo Qiu, Minru Bai, Michael K Ng and Xiongjun Zhang

Inverse problem for the Schrödinger equation with non-self-adjoint matrix potential

S A Avdonin, A S Mikhaylov, V S Mikhaylov and J C Park

A projected Bouligand–Landweber iteration for non-smooth ill-posed problems

Zhenwu Fu, Yong Chen and Bo Han

Unique continuation from a generalized impedance edge-corner for Maxwell’s system and applications to inverse problems

Huaian Diao, Hongyu Liu, Long Zhang and Jun Zou

Recovering a potential in damped wave equation from Dirichlet-to-Neumann operator

Vladimir Romanov and Alemdar Hasanov

<https://iopscience.iop.org/issue/0266-5611/37/3>

Inverse Problems April 2021 Volume 37, Number 4
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Topical Review:

Optimal experimental design for infinite-dimensional Bayesian inverse problems governed by PDEs: a review

Alen Alexanderian

Papers:

Sparsity-based nonlinear reconstruction of optical parameters in two-photon photoacoustic computed tomography

Madhu Gupta, Rohit Kumar Mishra and Souvik Roy

Hybrid projection methods for large-scale inverse problems with mixed Gaussian priors

Taewon Cho, Julianne Chung and Jiahua Jiang

Numerical solution of an inverse random source problem for the time fractional diffusion equation via PhaseLift

Yuxuan Gong, Peijun Li, Xu Wang and Xiang Xu

Some inverse problems for wave equations with fractional derivative attenuation

Barbara Kaltenbacher and William Rundell

Parametrix for the inverse source problem of thermoacoustic tomography with reduced data

M Eller and L Kunyansky

Multi-channel Potts-based reconstruction for multi-spectral computed tomography

Lukas Kiefer, Stefania Petra, Martin Storath and Andreas Weinmann

A range-relaxed criteria for choosing the Lagrange multipliers in the iterated Tikhonov Kaczmarz method for solving systems of linear ill-posed equations

R Filippozzi, J C Rabelo, R Boiger and A Leitão

Shape reconstruction in linear elasticity: standard and linearized monotonicity method

Sarah Eberle and Bastian Harrach

Inexact Newton regularization combined with two-point gradient methods for nonlinear ill-posed problems

Bin Fan and Chuanju Xu

Total least squares problems on infinite dimensional spaces

Maximiliano Contino, Guillermina Fongi, Alejandra Maestriperi and Santiago Muro

Data-free likelihood-informed dimension reduction of Bayesian inverse problems

Tiangang Cui and Olivier Zahm

Regularisation, optimisation, subregularity

T Valkonen

Stably determining time-dependent convection–diffusion coefficients from a partial Dirichlet-to-Neumann map

Mourad Bellassoued and Oumaima Ben Fraj

Monotonicity Principle in tomography of nonlinear conducting materials

Antonio Corbo Esposito, Luisa Faella, Gianpaolo Piscitelli, Ravi Prakash and Antonello Tamburrino

Predictive risk estimation for the expectation maximization algorithm with Poisson data
Paolo Massa and Federico Benvenuto

Solving an inverse heat convection problem with an implicit forward operator by using a
projected quasi-Newton method
Dimitri Rothermel and Thomas Schuster

<https://iopscience.iop.org/issue/0266-5611/37/4>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Online Workshop: Mathematics for Detecting, Locating and Characterising Metal Objects

PhD position: Gaussian Beams for Ultrasound Tomography at UCL

PhD position: Inverse Problems at Klagenfurt University

PhD positions: Machine Learning Genoa Center (MaLGa)

Table of Contents: Inverse Problems

Table of Contents: Inverse Problems in Science and Engineering

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: Paul Ledger <p.d.ledger@keele.ac.uk>

Date: Friday, April 30, 2021

Subject: Workshop on "Mathematics for Detecting, Locating and Characterising Metal Objects", 1st June 14:00-17:00 BST.

Workshop on "Mathematics for Detecting, Locating and Characterising Metal Objects", 1st June 14:00-17:00 BST.

Researchers from Keele University, The University of Manchester and their project collaborators are jointly organising, with ICMS, an afternoon to promote their recent research developments and to build a research/end-user community for metal detection.

Sponsored by EPSRC and the Royal Society, research on the mathematical theory underpinning new developments in detecting, locating and characterising metal objects has progressed in recent years.

Application areas for this technology are widespread. Areas of interest include, but are not limited to: early detection of threat objects (e.g. knives and guns) for security screening at transport hubs and public events; identification of hidden anti-personal mines and unexploded ordnance in areas of former conflict; identification of metallic objects of value in treasure hunts and in archaeological searches; non-destructive testing and determining integrity of reinforcement in concrete structures; ensuring food safety by identification of unwanted metallic contamination; scrap sorting to identify precious metals; finding hidden cables in walls and underground; discriminating between different coins in vending machines and automated checkouts.

This afternoon event is our initial community building activity and will include:

- A series of short presentations from Keele University and The University of Manchester overviewing the research in this area
- Short metal detection challenges 'pitches' by end users - followed by breakout sessions linking these challenges and the research
- Discussion forum - how to support the activity going forward

To find out more and to register please go to

<https://www.icms.org.uk/events/event/?id=1149>

Best regards

Paul Ledger and Bill Lionheart

From: "Betcke, Marta" <m.betcke@ucl.ac.uk>

Date: Thursday, May 13, 2021

Subject: PhD studentship: Gaussian Beams for Ultrasound Tomography at UCL

PhD studentship: Gaussian Beams for Ultrasound Tomography at UCL

I would like to bring to your attention a 4 year PhD position available at University College London (UCL). The successful candidate will work with Marta Betcke, Ben Cox and Ashkan Javaherian on novel solvers based on Gaussian Beams for Ultrasound Tomography (UST).

The project is on the boundary of numerical analysis, scientific computing and inverse problems. There will be opportunities to pursue some machine learning aspects too. More details can be found under the link below

<https://www.findaphd.com/phds/project/gabus-gaussian-beam-framework-for-ultrasound-computed-tomography/?p132415>

Submitted by:

Dr Marta M. Betcke Associate Professor

Dept. Computer Science University College London 90 High Holborn WC1V 6LJ London, UK

Email: m.betcke@ucl.ac.uk Tel: +44 (0)20 3549 5568 (Direct Dial)

From: "Elena Resmerita" <elena.resmerita@aau.at>

Date: Friday, May 14, 2021

Subject: PhD position in Inverse Problems at Klagenfurt University

I would like to announce a PhD position in Inverse Problems at Klagenfurt University (application deadline: June 9):

[https://urldefense.com/v3/__https://jobs.aau.at/en/job/1-predoc-position-in-inverse-problems-all-genders-welcome/__;!!HXcXUKc!h_ecPQZ41ptAC0Ou1RcKCyny-idneoSqDqiYUJEUxAxMCCw3Rr_HsAIGBX1eS9kaAwAzajYk\\$](https://urldefense.com/v3/__https://jobs.aau.at/en/job/1-predoc-position-in-inverse-problems-all-genders-welcome/__;!!HXcXUKc!h_ecPQZ41ptAC0Ou1RcKCyny-idneoSqDqiYUJEUxAxMCCw3Rr_HsAIGBX1eS9kaAwAzajYk$)

Thank you,

Elena Resmerita

From: Machine Learning Genoa Center <malga@unige.it>

Date: Friday, May 14, 2021

Subject: PhD positions at MaLGa, Machine Learning Genoa Center

It is a pleasure to announce the call for an expression of interest for several PhD positions at the Machine Learning Genoa Center (MaLGa, <https://ml.unige.it>), University of Genoa, starting in November 2021. We cover a wide range of topics related to machine learning, from theoretical research of the mathematics of ML to the applications in real-world scenarios. More precisely, MaLGa is made of 4 units:

- Computational and Statistical Learning (ML theory and algorithms, optimization, statistical learning)
- Computational Harmonic Analysis & Machine Learning (applied harmonic analysis, inverse problems, PDE, mathematics of ML)
- Machine Learning for Data Science (biomedical data analysis, network analysis and inference for websites, time series analysis)
- Machine Learning & Vision (human pose and motion understanding, well-being estimation, object recognition, object detection and tracking)

Info and form (deadline 31/5): https://ml.unige.it/job_posts/

From: "noreply@iopscience.org" <noreply@iopscience.org>

Date: Thursday, May 6, 2021

Subject: Content, Inverse Problems, Volume 37, Number 5, May 2021

Inverse Problems May 2021 Volume 37, Number 5
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On a three-dimensional Compton scattering tomography system with fixed source
J Cebeiro, C Tarpau, M A Morvidone, D Rubio and M K Nguyen

Frame decompositions of bounded linear operators in Hilbert spaces with applications in tomography
Simon Hubmer and Ronny Ramlau

A penalty-free approach to PDE constrained optimization: application to an inverse wave problem
Alexandre Hoffmann, Vadim Monteiller and Cédric Bellis

Bayesian inversion for electromyography using low-rank tensor formats
Anna Rörich, Tim A. Werthmann, Dominik Göttsche and Lars Grasedyck

Imaging of buried obstacles in a two-layered medium with phaseless far-field data
Long Li, Jiansheng Yang, Bo Zhang and Haiwen Zhang

On Calderón's inverse inclusion problem with smooth shapes by a single partial boundary measurement
Hongyu Liu, Chun-Hsiang Tsou and Wei Yang

A model reference adaptive system approach for nonlinear online parameter identification
Barbara Kaltenbacher and Tram Thi Ngoc Nguyen

Simultaneous inversion of the potential term and the fractional orders in a multi-term time-fractional diffusion equation
L L Sun, Y S Li and Y Zhang

Computational approaches to non-convex, sparsity-inducing multi-penalty regularization
Željko Kereta, Johannes Maly and Valeriya Naumova

Quantitative PAT with simplified P N approximation
Hongkai Zhao and Yimin Zhong

The enclosure method for a generalized anisotropic complex conductivity equation

Rulin Kuan

Phaseless inverse scattering with background information
R G Novikov and V N Sivkin

Laboratory application of sampling approaches to inverse scattering
Fatemeh Pourahmadian and Hao Yue

<https://iopscience.iop.org/issue/0266-5611/37/5>

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Friday, May 14, 2021

Subject: Contents, Inverse Problems in Science and Engineering, Volume 29, Issue 5, May 2021

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Identifying an unknown source term in a heat equation with time-dependent coefficients
Nguyen Van Duc, Luong Duy Nhat Minh & Nguyen Trung Thanh

Non-linear structural parameter identification using instantaneous power flow balance approach
R. Anish & K. Shankar

Near-field subsurface tomography and holography based on bistatic measurements with variable base
Konstantin P. Gaikovitch, Yelena S. Maksimovitch & Vitaly A. Badeev

Chebyshev pseudospectral method in the reconstruction of orthotropic conductivity
Everton Boos, Vanda M. Luchesi & Fermín S. V. Bazán

An inverse problem of a simultaneous reconstruction of the dielectric constant and conductivity from experimental backscattering data
Vo Anh Khoa, Grant W. Bidney, Michael V. Klivanov, Loc H. Nguyen, Lam H. Nguyen, Anders J. Sullivan & Vasily N. Astratov

Identify the distribution of 2D residual stresses around notches based on the Willis-form equations
Zhuyou Hu, Jianing Xie, Jinlong Zhao, Yixiao Sun & Zhihai Xiang

<https://www.tandfonline.com/toc/gipe20/29/5>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Conference in Honor of M. Thamban Nair: Analysis, Inverse Problems, and Applications
Algorithm Submission Invitation: Helsinki Deblur Challenge 2021
Postdoc: Mathematics of Deep Learning at Bath+Cambridge, UK
RA/Postdoc: Background in Numerics with Interest in Inverse Problems, Keele U.
Postdoc: Bayesian Computational Imaging at the Maxwell Institute, Edinburgh, UK
PhD, Postdoc, Research Group Leader: Positions in Inverse Problems, U. Göttingen
Faculty Position: Large-Scale Inverse Problems and Data Assimilation, KU Leuven, Belgium
Faculty Position: Inverse Problems, Parameter ID, Machine Learning, U. Bremen
Table of Contents: Inverse Problems in Science and Engineering

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: Radha R <radharam@iitm.ac.in>

Date: Saturday, June 5, 2021

Subject: conference announcement

The Department of Mathematics, Indian Institute of Technology Madras, India is organizing an international conference on "Analysis, inverse problems and applications " during March 7-10, 2022.

The aim of this international conference is to bring together active researchers working in the fields of mathematical analysis, inverse problems and their applications in engineering sciences to showcase their state of the art research and exchange their innovative ideas by enlightening technical discussions.

In this conference, the well known Indian mathematician Professor M. Thamban Nair, will be honoured on the occasion of his 65th birthday.

The conference will have several invited lectures by renowned mathematicians and engineers working in the areas mentioned above. Young researchers will also be given an opportunity to share their research work by means of short presentations.

Those interested in giving short oral presentations of their research work in the areas mentioned above are requested to send the abstract (within 100 words) to [icaipa2022\[@\]gmail.com](mailto:icaipa2022[@]gmail.com)

Last date for receiving abstracts: September 30, 2021

Submitted by Conference Coordinator:

Dr. R. Radha,
Professor, Department of Mathematics,
Indian Institute of Technology Madras,
Chennai - 600036, INDIA.
Ph : 91-44- 22574620

e-mail : radharam@iitm.ac.in

From: "Siltanen, M Samuli" <samuli.siltanen@helsinki.fi>

Date: Tuesday, May 25, 2021

Subject: Helsinki Deblur Challenge 2021

Helsinki Deblur Challenge 2021 invites algorithm submissions, see <http://fips.fi/HDC2021.php>. The goal is to apply deconvolution to photographs of random text strings, and the quality of reconstruction is measured by machine-reading the resulting images with a standardized OCR software. Then it is straightforward to count the correctly identified characters. The open dataset is measured with an actual camera, and it contains 10 different levels of misfocus ranging from mild to severe. The data challenge is organised by the Finnish Inverse Problems Society FIPS.

Submitted by:

Samuli Siltanen Professor of Industrial Mathematics

Vice Dean of the Faculty of Science

University of Helsinki, Finland

Tel. +358 29 415 1420

Homepage: www.siltanen-research.net

From: Matthias Ehrhardt <me549@bath.ac.uk>

Date: Wednesday, May 26, 2021

Subject: 3-year Post-Doctoral Research Associate on the Mathematics of Deep Learning,
Bath+Cambridge, UK

3-year Post-Doctoral Research Associate on the Mathematics of Deep Learning

=====
Deadline: June 30, 2021

Links: <https://www.bath.ac.uk/jobs/Vacancy.aspx?ref=CC8323> (Bath) and

<https://www.jobs.cam.ac.uk/job/29851/> (Cambridge)

Description: We are hiring Post-Doctoral Research Associates to work in the EPSRC Programme Grant EP/V026259/1 on the "Mathematics of Deep Learning" jointly run by the University of Cambridge, the University of Bath and University College London. The successful candidate will join a close knit team hosted by all three universities and led by Profs Carola-Bibiane Schönlieb and Richard Nickl (Cambridge), Prof Chris Budd OBE and Dr Matthias Ehrhardt (Bath) and Profs Simon Arridge and Bangti Jin (UCL). This is an exceptional opportunity to conduct ambitious research at the forefront of mathematics, statistics and machine learning.

Qualifications: Applicants must have (or about to receive) a PhD degree in mathematics or statistics (or a closely related discipline). The ideal candidates will be experienced in one or more of the following areas: mathematical or computational analysis, mathematical statistics, inverse problems, machine learning, mathematical imaging, optimisation and/or data science. Experience in programming is desirable (e.g. MATLAB / Python, Tensorflow/PyTorch).

Submitted by:

Matthias J Ehrhardt, PhD

Prize Fellow and Leverhulme Early Career Fellow

Department of Mathematical Sciences

Office: 6 West, 1.08, Tel: 0044 1225 38 6194

University of Bath, UK
<https://mehrhardt.github.io>

From: Paul Ledger <p.d.ledger@keele.ac.uk>
Date: Tuesday, June 1, 2021
Subject: RA/Post-doc position at Keele University

We have open 3 year RA (post-doctoral) position at the School of Computing & Mathematics, Keele University (UK) on a new EPSRC funded project with Department of Mathematics, The University of Manchester (UK). The position would suit an Applied Mathematician/Computational Engineer/Physicist with a background in Numerics, an interest in Inverse Problems / Electromagnetics / Object Classification and good programming skills.

For further details and to apply please see
<https://www.jobs.ac.uk/job/CGI810/research-associate>
Paul Ledger

From: "Pereyra, Marcelo" <M.Pereyra@hw.ac.uk>
Date: Tuesday, June 1, 2021
Subject: POSTDOC: Postdoc in Bayesian computational imaging at the Maxwell Institute in Edinburgh, UK (36-month fixed term contract)

Dear colleagues,

We are looking for outstanding candidates for a 3-year postdoc position to work on Project BLOOM: Bayesian computation for low-photon imaging, at the prestigious Maxwell Institute for Mathematical Sciences in Edinburgh, UK.

This an ambitious 4-year project involving 2 postdocs and 2 PhD students, with the aim of developing new computational imaging methodology to solve challenging inverse problems related to low-photon imaging. The proposed computational imaging methods will be used to support the development of new quantum-enhanced imaging technologies that exploit the quantum nature of light in order to dramatically advance imaging sciences. Several exciting applications will be studied during the project, such as low-photon multispectral single-pixel imaging, high-resolution passive tomography using high-energy photons, and single-photon 3D LIDAR with array sensors.

The research work will be rooted in the Bayesian statistical paradigm and tightly combine ideas from modern optimisation, machine learning, and computational statistics to develop radically new forms of computational imaging methodology specialised for these challenging inverse problems. The project will be developed in partnership with the Heriot-Watt Institute for Sensors, Signals and Systems, and in close collaboration with the UK Quantum Technology Hub in Quantum Enhanced Imaging, ENS Paris Saclay, the University of Illinois, and the industrial partner Leonardo UK. The project is funded by UKRI EPSRC (EP/V006134/1 and EP/V006177/1).

We are particularly keen to encourage applicants with a strong computational imaging or image processing profile. The successful candidate will integrate a multidisciplinary team and work closely with the lead investigators Marcelo Pereyra, Kostas Zygalakis, and Yoann Altmann. A demonstrable ability to produce academic writing of the highest publishable quality is essential. The position is 36-month fixed-term contract.

For more information, please see <http://www.macs.hw.ac.uk/~mp71/bloom.html>. Candidates can make informal enquiries about this position to Marcelo Pereyra (m.pereyra@hw.ac.uk) and Yoann Altmann (y.altmann@hw.ac.uk). The job advert will close on 28/06/2021.

Best wishes,
Marcelo Pereyra

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From: "Hohage, Thorsten" <hohage@math.uni-goettingen.de>

Date: Wednesday, June 16, 2021

Subject: PhD, Postdoc, and Research Group Leader Positions at University of Göttingen

The following positions in Inverse Problems are advertised at the University of Göttingen, Germany:

- 2 PhD positions for 3 years in the Research Training Group 2088 in the field of regularization theory for statistical inverse problems (project B01 and B02) starting October 1 or earlier. Deadline for applications is June 30. For details, see <https://www.uni-goettingen.de/de/305402.html?cid=100865>

- 1 postdoc position for 2 years in the group of Thorsten Hohage starting August 1. Deadline for applications is June 30. For details, see <https://www.uni-goettingen.de/de/305402.html?cid=100866>

- 1 Research Group Leader Position in CRC 1456. It will be equipped with one PhD position (75% TV-L E13) for three years. Moreover, there is the opportunity to hire student assistants. The position should be filled as soon as possible and ends on 31.12.2024. Deadline for applications is June 30. For details, see <https://www.uni-goettingen.de/de/305402.html?cid=100846>

From: Wim Michiels Wim.Michiels@cs.kuleuven.be [via NADIGEST]

Date: June 10, 2021

Subject: Faculty Position, KU Leuven, Belgium

Faculty Position, Numerical Methods for Large-Scale Inverse Problems and Data Assimilation, KU Leuven, Belgium

The research unit NUMA, Department of Computer Science, invites applications for a full-time faculty position. The unit covers many aspects of numerics, incl. approximation theory, numerical integration, numerical (multi)linear algebra, numerical PDEs, uncertainty quantification, optimization and control, discrete optimization and scheduling, data science, HPC and applied numerical mathematics. The recent surge in advanced techniques for data acquisition gives rise to computational tasks of a complexity beyond numerical simulation as integrating measurement data

in complex models requires specific numerical algorithms. In the simplest setting, finding the "best" model parameters given some measurement data is an optimization problem. However, demands of practical applications often go far beyond this optimization: one can, for instance, also be interested in quantifying the uncertainty on the resulting optimum, the remaining modeling error with respect to the physical system, or the evolution of the model as a function of time. The new faculty position aims to strengthen NUMA's position in scientific computing towards a data rich environment. The successful candidate is expected to develop a research program in inverse problems and data assimilation, ensure high-quality education within the area of mathematical engineering, and be prepared to provide scientific, social and administrative services.

For further details, contact information and the application procedure (deadline October 11), follow the link:

[https://urldefense.com/v3/__https://www.kuleuven.be/personeel/jobsite/jobs/60021670?hl=en&lang=en__;!!HXCxUKc!imuMdfN_O4A_p5m16cRO2T819x7yQuzIJO162e6Nph1hL_QdHeInrFVQ4d6pcnf\\$](https://urldefense.com/v3/__https://www.kuleuven.be/personeel/jobsite/jobs/60021670?hl=en&lang=en__;!!HXCxUKc!imuMdfN_O4A_p5m16cRO2T819x7yQuzIJO162e6Nph1hL_QdHeInrFVQ4d6pcnf$)

From: Andreas Rademacher arademac@uni-bremen.de [via NADIGEST]

Date: June 09, 2021

Subject: Full Professor Position, Applied and Industrial Math, Univ of Bremen

The Mathematics and Computer Science Department at the University of Bremen is hiring a Full Professor in the field of Applied and Industrial Mathematics (salary grade W3). We are looking for a mathematician (f/m/d) highly recognized in the field of applied and industrial mathematics and with special interest in applications. The professorship is embedded into the Center for Industrial Mathematics (ZeTeM). Participation in the center's leadership is desirable. The scientific focus of this professorship is preferably in the area of inverse problems, parameter identification, or mathematical methods in machine learning. The research profile should provide links to the existing research topics of ZeTeM, of the Department, as well as of the university's high-profile areas. We are searching for a personality with an excellent publication record in the fields mentioned above, who has proven her or his ability to bridge the gap between theory, applied research, and industrial practice. The appointed person will independently represent these fields in research, teaching, and applications. Experience in heading research teams, strategic planning of these teams, and, most important, in acquisition and implementation of R&D projects on national and international scale is a prerequisite.

For application details, see:

[https://urldefense.com/v3/__https://www.uni-bremen.de/en/university/the-university-as-an-employer/job-vacancies-__;!!HXCxUKc!imuMdfN_O4A_p5m16cRO2T819x7yQuzIJO162e6Nph1hL_QdHeInrFVQ4fiSDLEH\\$1/job/657?cHash=2cfd1321c07809bf6a4292d2bd5b3007](https://urldefense.com/v3/__https://www.uni-bremen.de/en/university/the-university-as-an-employer/job-vacancies-__;!!HXCxUKc!imuMdfN_O4A_p5m16cRO2T819x7yQuzIJO162e6Nph1hL_QdHeInrFVQ4fiSDLEH$1/job/657?cHash=2cfd1321c07809bf6a4292d2bd5b3007)

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Sunday, May 23, 2021

Subject: Inverse Problems in Science and Engineering, Volume 29, Issues 6-7

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Deadline Extended: Int'l Workshop on Optimization & Inverse Problems in Electromagnetism

Call for Participation: SIAM Conference on Imaging Science, TU Berlin

Updated Info: SIAM One World Imaging and Inverse Problems Seminar

Postdoc Position: Research Areas Include Bayesian Inverse Problems, EPFL, Switzerland

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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: OIPE2020 <oipe2020@zut.edu.pl>

Date: Thursday, July 1, 2021

Subject: OIPE 2020(1) paper submission

Dear colleagues,

In response to several requests, the deadline for submitting papers to OIPE 2020 Conference has been deferred by one week to 7th July 2021.

You will find all relevant information on the revised web page:

<http://oipe2020.zut.edu.pl/>

Paper submission can be completed using the Easychair system available on:

<http://oipe2020.zut.edu.pl/digest-submission/>

Kind regards,

Jens Haueisen (Chairman) Marcin Ziolkowski, 16th Workshop Chairman

From: "The Organisers, One World IMAGINE Seminar" <vpsaseminar@cityu.edu.hk>

Date: July 4, 2021

Subject: SIAM Conference on Imaging Science (IS22) - Call for Participation

Dear All,

The call for participation for the SIAM Conference on Imaging Science (IS22) is now open!

Conference: SIAM Conference on Imaging Science (IS22)

Sponsoring Organizations: Humboldt-Universität zu Berlin, Technische Universität Berlin, and Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany

This is the conference of the SIAM Activity Group on Imaging Science.

Location:

Technische Universität Berlin

Berlin, Germany

Dates:

March 22 - 25, 2022

The Call for Participation is available at <https://www.siam.org/conferences/cm/conference/is22>

Submission Deadlines:

September 6, 2021 - 11:59 p.m. Eastern Time: Minisymposium Proposal Submissions

September 20, 2021 - 11:59 p.m. Eastern Time: Contributed Lecture, Poster, and Minisymposium Presentation Abstracts

Travel Fund Application Deadline:

September 6, 2021

Please visit <https://www.siam.org/conferences/cm/submissions-and-deadlines/is22-submissions-deadlines> for detailed submission information.

Organizing Committee Co-Chairs:

- Michael Hintermüller, Weierstrass Institute Berlin and Humboldt-Universität zu Berlin, Germany
- Tobias Schäffter, Physikalisch-Technische Bundesanstalt - Berlin, Technische Universität Berlin and Einstein Center Digital Future, Germany
- Gabriele Steidl, Technische Universität Berlin, Germany

Organizing Committee:

- Andrea L. Bertozzi, University of California, Los Angeles, U.S.
- Mariya Doneva, Philips Research, Germany
- Jalal Fadili, ENSICAEN, CNRS, France
- Alfred O. Hero, University of Michigan, U.S.
- Ron Kimmel, Technion - Israel Institute of Technology, Israel
- Jan Modersitzki, University of Lübeck, Germany
- Audrey Repetti, Heriot Watts University, U.K.
- Otmar Scherzer, University of Vienna, Austria
- Zuowei Shen, National University of Singapore, Singapore
- Wotao Yin, University of California, Los Angeles, U.S.
- Hongkai Zhao, Duke University, U.S.

Invited Plenary Speakers:

- Mirela Ben-Chen, Technion - Israel Institute of Technology, Israel
- Liliana Borcea, University of Michigan, U.S.
- Katie Bouman, California Institute of Technology, U.S.
- Joan Bruna, Courant Institute of Mathematical Sciences, New York University, U.S.

- Andrew Fitzgibbon, Microsoft, United Kingdom
- Jin-Keun Seo, Yonsei University, Korea
- Joachim Weickert, Saarland University, Germany
- Minitutorials will take place the day prior to the conference, Monday, March 21, 2022.
- Minitutorial #1: Amir Beck, Tel Aviv University, Israel
- Minitutorial #2 Michael Unser, University of Lausanne, Switzerland

#SIAMIS22

For additional information, contact the SIAM Conference Department (meetings@siam.org).

Very best regards,

The organisers

(Eric Bonnetier, Luca Calatroni, Raymond Chan, Fadil Santosa, Carola-Bibiane Schönlieb)

From: "The Organisers, One World IMAGINE Seminar" <vpsaseminar@cityu.edu.hk>

Date: July 5, 2021

Subject: SIAM One World Imaging and Inverse Problems Seminar

Dear Colleagues,

Thank you for your participation in the One World IMAGINE seminar series. Launched in April 2020, our thought of creating the seminar is to keep the community of researchers working on inverse problems and imaging together during the pandemic when travel was restricted. In the months that followed, we had many excellent talks that kept us abreast of the latest developments in our field, and we were able to “see” each other in spite of the distances and time zones. We have just finished our third season of the seminar series. The seminar will resume in September. In the meantime, we want to let you know that there will be personnel changes. Raymond Chan, Fadil Santosa and Carola Schoenlieb will be stepping down. We are pleased to announce that Jennifer Mueller, Michael Ng, and a third person (to be confirmed) will be joining Luca Calatroni and Eric Bonnetier as organizers. As usual, please contact the organizers if you have suggestions for speakers, and we look forward to seeing you in the Fall for another season of the One World IMAGINE seminar.

With best regards,

Raymond Chan, Fadil Santosa, and Carola Bibiane Schoenlieb

From: Assyr Abdulle assyr.abdulle@epfl.ch [via NADIGEST]

Date: June 13, 2021

Subject: Postdoc Position, NA/Computational Mathematics, EPFL, Switzerland

A postdoc in the group of Assyr Abdulle (Chair of Computational Mathematics and Numerical Analysis, ANMC) is available to work within the research areas of the Chair: multiscale methods for deterministic and stochastic differential equations, Bayesian inverse problems, homogenization methods, parameter inference for stochastic problems, machine learning methods for multiscale dynamics (see

[https://urldefense.com/v3/__http://www.epfl.ch/labs/anmc/__;!!HXCxUKc!n8nxIOl0Ju4fepa58zPSZTWe1LzRKNjhReHaR4Fuqsb3INsVBqXdrfVqazi4NhBZ\\$](https://urldefense.com/v3/__http://www.epfl.ch/labs/anmc/__;!!HXCxUKc!n8nxIOl0Ju4fepa58zPSZTWe1LzRKNjhReHaR4Fuqsb3INsVBqXdrfVqazi4NhBZ$)

for recent research developments). Expertise in one of the above area with a strong theoretical background is expected. The position is available immediately for 12 months with possibilities of renewal. Application should be sent by email to assy.abdulle@epfl.ch, including the names and email addresses of three recommendation letter writers (but letters should NOT be sent in the first instance).

From: noreply@iopscience.org

Date: June 19, 2021

Subject: Inverse Problems, Volume 37, Number 6, June 2021

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A deterministic-statistical approach to reconstruct moving sources using sparse partial data
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<https://iopscience.iop.org/issue/0266-5611/37/6>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Workshop: 2nd Alps-Adriatic Inverse Problems Workshops (Chemnitz Symposium On Tour)

Workshop: Optimization Techniques for Inverse Problems, ONLINE

Symposium: Chemnitz Finite Element Symposium with Inverse Problems Emphasis, Germany

Workshop: 2nd Workshop in Industrial Mathematics including Inverse Problems, Catania, Italy

Postdoc Positions: KU Leuven (ERC Advanced grant E-DUALITY)

Postdoc Position: Mathematics of Deep Learning, University College London

Research Associate: Data-Driven Low-Dose CT, Cambridge, UK

Postdoc Position: Num. Analysis of PDEs including Inverse Problems, Hong Kong Polytechnic U

Postdoc Position: Applied Inverse Problems, University of Leeds

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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: "Kaltenbacher, Barbara" <Barbara.Kaltenbacher@aau.at>

Date: Monday, August 2, 2021

Subject: 2nd Alps-Adriatic Inverse Problems Workshops = Chemnitz Symposium on tour in Klagenfurt

Dear Colleagues,

We invite you to submit a talk abstract at the "2nd Alps-Adriatic Inverse Problems Workshops" - a Chemnitz Symposium on tour at the Department of Mathematics of the Alpen-Adria-Universität Klagenfurt which will be organized on September 22-24, 2021:

<https://aaip2021.aau.at/>

The aim of this workshop is to gather scientists working on the theory and applications of inverse problems in academia and industry, in order to present their research, exchange ideas, and start new collaborations. Scientists at an early stage of the career (PhD students, postdocs) are particularly encouraged to participate.

The workshop will be held in hybrid form.

We will possibly not be able to accommodate talks by each participant. If selection is necessary, we will prefer in person talks, but remaining slots will be assigned for online presentations.

Important Dates:

Registration: August 16, 2021

Abstract submission: August 16, 2021

Acceptance of abstract: August 23, 2021

We are looking forward to your participation or attendance.

Best regards,
Elena Resmerita and Barbara Kaltenbacher

From: Marco Prato <marco.prato@unimore.it>
Date: Tuesday, August 3, 2021
Subject: Workshop: Optimization Techniques for Inverse Problems, ONLINE

OIP2020-21 Online Workshop - Optimization Techniques for Inverse Problems
September 6-7, 2021: <http://www.oip2020.unimore.it/>

This workshop is made by a limited number of extended talks held by international experts in numerical optimization and inverse problems. Due to the ongoing situation and foreseeable difficulties in global travelling, the workshop will be held online with live sessions.

Confirmed speakers:

- Luca Calatroni, CNRS, Université Côte d'Azur, Inria Sophia Antipolis-Méditerranée
- Emilie Chouzenoux, Université Paris-Saclay
- Daniela di Serafino, Università di Napoli "Federico II"
- Marco Donatelli, Università dell'Insubria
- Zdenek Dostal, Technical University of Ostrava
- Elena Loli Piccolomini, Università di Bologna
- Ignace Loris, Université Libre de Bruxelles
- Serena Morigi, Università di Bologna
- Benedetta Morini, Università di Firenze
- Peter Ochs, University of Tübingen
- Simone Rebegoldi, Università di Firenze
- Samuli Siltanen, University of Helsinki
- Alessandro Verri, Università di Genova

The workshop will be held in virtual format via the Zoom platform. The registration to the OIP2020 workshop is free but mandatory. The registration deadline is August 31, 2021.

Submitted by:
Prof. Marco Prato
Dipartimento di Scienze Fisiche, Informatiche e Matematiche
Università di Modena e Reggio Emilia
Via Campi 213/b 41125 Modena (Italy)
Tel: +39 059 205 5185
Fax: +39 059 205 5216
cdm.unimo.it/home/matematica/prato.marco
www.oasis.unimore.it

From: Oliver Ernst oernst@math.tu-chemnitz.de [via NADIGEST]
Date: August 02, 2021
Subject: Chemnitz Finite Element Symposium, Germany, Sep 2021

This year's Chemnitz Finite Element Symposium will take place September 6-8, 2021 on the TU Chemnitz campus, with an online option for participants unable to attend in person due to COVID-19 restrictions. Scientific topics of the FE symposium cover all aspects of finite elements with special emphasis this year on inverse problems, discontinuous Galerkin methods and nonlinear PDEs.

Invited Speakers:

- Paola Antonietti (Politecnico di Milano)
- Dietmar Gallistl (Uni Jena)
- Erik Burman (UCL)

Deadlines:

- August 13, 2021 for registration and abstract submission

The registration form and further information can be found at

[https://urldefense.com/v3/__https://www.chemnitz-am.de/cfem2021__;!!HXCxUKc!n9AVtw8URumqLijE_-yaadp-JvuhTXlpaxSGyAql5t_MV1xAO_XLiLHVjPkECVF\\$](https://urldefense.com/v3/__https://www.chemnitz-am.de/cfem2021__;!!HXCxUKc!n9AVtw8URumqLijE_-yaadp-JvuhTXlpaxSGyAql5t_MV1xAO_XLiLHVjPkECVF$)

From: WIM2021 Organization Committee onkara.jadhav1993@gmail.com [via NADIGEST]

Date: July 27, 2021

Subject: Industrial Mathematics, Italy, Oct 2021

We are pleased to announce this Call for Abstracts for the 2nd Workshop in Industrial Mathematics - WIM2021 - to be held in Catania, Italy from October 20-22, 2021.

The workshop will feature a wide range of exciting talks, discussions, and networking opportunities with experts and researchers in the mathematical fields of 'Optimization and Inverse Problems', 'Coupled Systems' and 'Reduced Order Methods'. The focus on industrial applications will be specifically addressed during an industry-featured session, hosting speakers with direct experience in industrial mathematics.

Confirmed plenary speakers: Peter Benner (MPI Magdeburg), Pasqualina Fragneto (ST Microelectronics), Jan S. Hesthaven (EPF Lausanne), Barbara Kaltenbacher (Univ. Klagenfurt), Jan ter Maten (TU Eindhoven), Wil Schilders (Eindhoven University), Claudia Totzeck (Univ. Wuppertal).

The Organizing Committee is inviting the community to submit abstracts for oral presentations. All abstracts must be sent as a PDF file via e-mail to wim2021@romsoc.eu. Deadline for submission: September 13th, 2021.

The workshop will be held in a hybrid format: participants have the option to attend virtually or in-person (we recommend participation on-site).

For more details, please visit our website at

[https://urldefense.com/v3/__https://www.romsoc.eu/wim-2021/__;!!HXCxUKc!jiAXN9a3Ev_arorsqGwB7PPgSbXGtdwfWbi0sudUaeUns_3SLXOt6xo_I2F5Bs0q\\$](https://urldefense.com/v3/__https://www.romsoc.eu/wim-2021/__;!!HXCxUKc!jiAXN9a3Ev_arorsqGwB7PPgSbXGtdwfWbi0sudUaeUns_3SLXOt6xo_I2F5Bs0q$)

From: Johan Suykens <johan.suykens@esat.kuleuven.be>

Date: Thursday, July 8, 2021

Subject: Postdoc positions KU Leuven (ERC Advanced grant E-DUALITY)

The research group KU Leuven ESAT-STADIUS is currently offering 2 Postdoc (1 year, extendable) positions within the framework of the ERC (European Research Council) Advanced Grant E-DUALITY [https://urldefense.com/v3/__http://www.esat.kuleuven.be/stadius/E__;!!HXCxUKc!kVEAuRzimy3Quetz6PWda0UmJAyLEac4nAWcqD3VR5nZoJtujSDR-6BX7KCZHJeTIBZb6uM\\$](https://urldefense.com/v3/__http://www.esat.kuleuven.be/stadius/E__;!!HXCxUKc!kVEAuRzimy3Quetz6PWda0UmJAyLEac4nAWcqD3VR5nZoJtujSDR-6BX7KCZHJeTIBZb6uM$) (PI: Johan Suykens) on Exploring Duality for Future Data-driven Modelling.

Within this ERC project E-DUALITY we aim at realizing a powerful and unifying framework (including e.g. kernel methods, support vector machines, deep learning, networks, tensor-based models and others) for handling different system complexity levels, obtaining optimal model representations and designing efficient algorithms.

The research positions relate to the following possible topics:

- 1- Duality principles
- 2- Multiple data sources and coupling schemes
- 3- Manifold learning and semi-supervised schemes
- 4- Optimal prediction schemes
- 5- Scalability, on-line updating, interpretation and visualization
- 6- Mathematical foundations
- 7- Matching model to system characteristics

For further information and on-line applying, see

[https://urldefense.com/v3/__https://www.kuleuven.be/personeel/jobsite/jobs/60043434__;!!HXCxUKc!kVEAuRzimy3Quetz6PWda0UmJAyLEac4nAWcqD3VR5nZoJtujSDR-6BX7KCZHJeTHIVj2Jc\\$](https://urldefense.com/v3/__https://www.kuleuven.be/personeel/jobsite/jobs/60043434__;!!HXCxUKc!kVEAuRzimy3Quetz6PWda0UmJAyLEac4nAWcqD3VR5nZoJtujSDR-6BX7KCZHJeTHIVj2Jc$)
(click EN for English version).

The research group ESAT-STADIUS

[https://urldefense.com/v3/__http://www.esat.kuleuven.be/stadius__;!!HXCxUKc!kVEAuRzimy3Quetz6PWda0UmJAyLEac4nAWcqD3VR5nZoJtujSDR-6BX7KCZHJeTcT0MV34\\$](https://urldefense.com/v3/__http://www.esat.kuleuven.be/stadius__;!!HXCxUKc!kVEAuRzimy3Quetz6PWda0UmJAyLEac4nAWcqD3VR5nZoJtujSDR-6BX7KCZHJeTcT0MV34$) at the university KU Leuven Belgium provides an excellent research environment being active in the broad area of mathematical engineering, including data-driven modelling, neural networks and machine learning, nonlinear systems and complex networks, optimization, systems and control, signal processing, bioinformatics and biomedicine.

From: Simon Arridge <S.Arridge@cs.ucl.ac.uk>

Date: Thursday, August 5, 2021

Subject: postdoc position at UCL on Mathematics of Deep Learning

The Department of Computer Science at University College London is inviting applications from excellent candidates for a three year Research Associate position starting in January 2022 in the EPSRC Programme Grant EP/V026259/1 on the "Mathematics of Deep Learning" (Maths4DL). Maths4DL is a joint programme run by the University of Bath, the University of Cambridge and the University College London, and the successful candidate will join a close knit team hosted by all three universities and led by Prof Chris Budd OBE and Dr Matthias Ehrhardt (Bath), Profs Carola Schoenlieb and Richard Nickl (Cambridge), and Profs Simon Arridge and Bangti Jin (UCL).

The salary will be in the range of £36,028- £43,533 depending upon age and experience.

This is an exceptional opportunity to conduct ambitious research at the forefront of mathematics, statistics and machine learning. There are generous funds available for conference attendance, travel, computer equipment, training and career development.

The Vision and Ambition of Maths4DL is to develop a comprehensive mathematical, statistical and computational framework that addresses i) the foundational challenges on interpretability of the trained Deep Neural Networks (DNN), ii) robustness and generalisation of DNN on test data, iii) statistical confidence in DNN-outputs and iv) computational challenges with large-scale models and high-dimensional training data.

The three university team which the successful candidate will join, combines leading expertise in deep learning, interdisciplinary mathematics, statistics, Artificial Intelligence (AI), Partial Differential Equations (PDEs), optimal transport, optimisation, environmental modelling, numerical analysis, geometric integration, scientific computing, image processing, probability, and inverse problems.

Duties of the research associate include developing and conducting individual and collaborative research objectives, proposals and projects as part of the overall work of the Maths4DL programme. The research associate must be able to communicate material of a technical nature and be able to build internal and external contacts. They may be asked to assist in the supervision of student projects, the development of student research skills, provide instruction and plan/deliver seminars relating to the research area of Maths4DL.

Applicants must have (or be about to receive) a PhD degree in mathematics or statistics (or a closely related discipline). The ideal candidates will be experienced in one or more of the following areas: inverse problems, machine learning, mathematical imaging, mathematical or computational analysis, optimisation and/or data science. Experience in programming is desirable (e.g. MATLAB / Python, Tensorflow / PyTorch).

The University actively supports equality, diversity and inclusion and encourages applications from all sections of society. We particularly welcome applications from women and/or candidates from a BAME background for this vacancy, as they are currently under-represented at this level in our Department.

Limit of tenure: 3 years, starting January 30 2022

Closing date: 30th September 2021

Further details and application procedure, see :
<https://bit.ly/2VeLuLH>

From: Carola-Bibiane Schönlieb <cbs31@cam.ac.uk>

Date: Sunday, August 8, 2021

Subject: Research Associate in data-driven low-dose CT in Cambridge, UK

Dear all,

A position exists for a Research Associate position at the University of Cambridge to work on a project entitled 'Revolutionizing Medical Imaging (ReImagine) through Ubiquitous, Low-Dose, Automated Computed Tomography Diagnostic Systems' funded through the EPSRC Transformative Healthcare Technologies scheme in the Department of Applied Mathematics and Theoretical Physics.

Application deadline: 7th of September 2021

More details:

[https://urldefense.com/v3/__https://www.jobs.cam.ac.uk/job/30908/__;!!HXCxUKc!nB0sP4suuwVONcRPEMoQKi2gsvGc6w_pYXWdv90WBz-QGH9IwXvwjFYhmnrC1DsNSxVZ03Y\\$](https://urldefense.com/v3/__https://www.jobs.cam.ac.uk/job/30908/__;!!HXCxUKc!nB0sP4suuwVONcRPEMoQKi2gsvGc6w_pYXWdv90WBz-QGH9IwXvwjFYhmnrC1DsNSxVZ03Y$)

All the best,
Carola Schönlieb

[https://urldefense.com/v3/__http://www.damtp.cam.ac.uk/research/cia/__;!!HXCxUKc!nB0sP4suuwVONcRPEMoQKi2gsvGc6w_pYXWdv90WBz-QGH9IwXvwjFYhmnrC1DsNW57OBIs\\$](https://urldefense.com/v3/__http://www.damtp.cam.ac.uk/research/cia/__;!!HXCxUKc!nB0sP4suuwVONcRPEMoQKi2gsvGc6w_pYXWdv90WBz-QGH9IwXvwjFYhmnrC1DsNW57OBIs$)

From: Buyang Li buyang.li@polyu.edu.hk [via NADIGEST]

Date: July 07, 2021

Subject: Postdoc Position, Numerical Analysis, Hong Kong Polytechnic Univ

Applications are invited for a two-year postdoctoral fellow position in Numerical Analysis of PDEs, at Department of Applied Mathematics, The Hong Kong Polytechnic University. The supervisor of the postdoctoral fellow will be Dr. Buyang Li. Candidates with research experience in numerical analysis, PDEs, inverse problems, differential geometry, machine learning, are all welcome to apply. Renewal for the third year is also possible.

Application procedure: Please send your CV (with a list of publication and reference names) to Dr.

Buyang Li via the E-mail address:

buyang.li@polyu.edu.hk

From: Daniel Lesnic D.Lesnic@leeds.ac.uk [via NADIGEST]

Date: July 28, 2021

Subject: Postdoc Position, Applied Inverse Problems

6 month post-doc position at the University of Leeds in Applied Inverse Problems, see:

[https://urldefense.com/v3/__https://jobs.leeds.ac.uk/EPsMA1041__;!!HXCxUKc!jiAXN9a3Ev_arorsqGwB7PPgSbXGtdwfWbi0sudUaeUns_3SLXOt6xo_I8kYx0XI\\$](https://urldefense.com/v3/__https://jobs.leeds.ac.uk/EPsMA1041__;!!HXCxUKc!jiAXN9a3Ev_arorsqGwB7PPgSbXGtdwfWbi0sudUaeUns_3SLXOt6xo_I8kYx0XI$)

(deadline for applications 24 August 2021)

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Saturday, July 17, 2021

Subject: Inverse Problems in Science and Engineering, Volume 29, Issue 8, August 2021 is now available online on Taylor & Francis Online

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Application of a class of iterative algorithms and their accelerations to Jacobian-based linearized EIT image reconstruction

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Grid methods for Bayes-optimal continuous-discrete filtering and utilizing a functional tensor train representation

Colin Fox, Sergey Dolgov, Malcolm E. K. Morrison & Timothy C. A. Molteno

<https://www.tandfonline.com/toc/gipe20/29/8>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

New Book: Inverse Problems and Carleman Estimates

PhD/Postdocs: Math Modeling, Ultrasound Imaging at Univ. of Vienna

PhD Position: Plasmonic Resonances/Inverse Problems at Göttingen

PhD/Postdoc: Online Optimisation, Inverse Problems at the Univ. of Helsinki

Postdoc: Uncertainty Quantification, Inverse Problems at RWTH Aachen

PhD Position: Inverse Problems at Norwegian Univ of Life Sciences

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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: Mikhail Klibanov <mklibanv@uncc.edu>

Date: Thursday, August 26, 2021

Subject: Inverse Problems and Carleman Estimates: a new book

Dear Colleagues,

I am happy to inform you that a new book on Inverse Problems is very recently published by De Gruyter. This book is available online at <http://www.degruyter.com/books/978-3-11-074541-2> and through other distributors (like Amazon etc.). The retail price of your book is EUR 159.95 / USD 183.99 / GBP 145.50.

AUTHORS: Michael V. Klibanov and Jingzhi Li

TITLE: Inverse Problems and Carleman Estimates: Global Uniqueness, Global Convergence and Experimental Data

PUBLISHER: De Gruyter

DATE OF PUBLICATION: 2021

About this book

This book summarizes the main analytical and numerical results of Carleman estimates. In the analytical part, Carleman estimates for three main types of Partial Differential Equations (PDEs) are derived. In the numerical part, first numerical methods are proposed to solve ill-posed Cauchy problems for both linear and quasilinear PDEs. Next, various versions of the convexification method are developed for a number of Coefficient Inverse Problems.

Author information

M.V. Klibanov, University of North Carolina, Charlotte, USA;

Jingzhi Li, Southern University of Science and Technology, Shenzhen, China

Best regards, Michael Klibanov

Mikhail V. Klibanov

Ph.D. and Doctor of Science in Mathematics

Professor
Department of Mathematics and Statistics
University of North Carolina a Charlotte
Charlotte, NC 28223, USA
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<https://clas-math.uncc.edu/michael-klibanov/>

From: Min Hadler <min.hadler@univie.ac.at>
Date: Thursday, August 12, 2021
Subject: PhD- and Postdoc Position in Mathematical Modeling, University of Vienna

Dear Colleagues,

We would like to announce a open PhD research position and a Postdoc position in Mathematical Modeling at the Faculty of Mathematics at University of Vienna. Please find the announcements attached. Many thanks for your support!

Kind regards,
Min Hadler

https://www.csc.univie.ac.at/files/CDL_Postdoc_Position.pdf

https://www.csc.univie.ac.at/files/CDL_PhD%20Position.pdf

[https://urldefense.com/v3/__http://www.csc.univie.ac.at/__;!!HXCxUKc!mITBAElhn2kHNI9torlTHbJdtNvgrYIPMzps4w6YiOEoIJRoU-s0pQuchpY17_1cv2L5b60\\$](https://urldefense.com/v3/__http://www.csc.univie.ac.at/__;!!HXCxUKc!mITBAElhn2kHNI9torlTHbJdtNvgrYIPMzps4w6YiOEoIJRoU-s0pQuchpY17_1cv2L5b60$)

[https://urldefense.com/v3/__http://mathematik.univie.ac.at/__;!!HXCxUKc!mITBAElhn2kHNI9torlTHbJdtNvgrYIPMzps4w6YiOEoIJRoU-s0pQuchpY17_1cxRltNWo\\$](https://urldefense.com/v3/__http://mathematik.univie.ac.at/__;!!HXCxUKc!mITBAElhn2kHNI9torlTHbJdtNvgrYIPMzps4w6YiOEoIJRoU-s0pQuchpY17_1cxRltNWo$)

Submitted by: Mag.a Min Hadler
Faculty of Mathematics
University of Vienna
Oskar-Morgenstern-Platz 1
A-1090 Vienna
T +43-1-4277-55771
E min.hadler@univie.ac.at

From: "Hohage, Thorsten" <hohage@math.uni-goettingen.de>
Date: Tuesday, August 31, 2021
Subject: PhD position on Plasmonic Resonances/Inverse Problems at Göttingen

The Collaborative Research Center (CRC) 1456 Mathematics of Experiment: The challenge of indirect measurements in the natural sciences at the Georg-August-University Göttingen offers the position of a PhD student (75% TV-L E13) for three years starting Oct. 15, 2021. The researcher will work on the project C01 "Density matrix reconstructions in ultrafast free electron optics" in the research group of Thorsten Hohage, co-supervised by Claus Ropers regarding physical aspects. Depending on the interests of the candidate different directions of research are possible. One focus could be the numerical and analytical study of plasmonic resonances described by Maxwell's equations and

inference on such resonances from experimental data. Another potential focus is the design and analysis of algorithms for inverse problems with matrix-valued unknowns.

Your profile:

- You hold a MSc degree (or equivalent) in mathematics or a related field.
- You have a background in inverse problems, partial differential equations or optimization.
- You are interested to work in an interdisciplinary team with an experimental lab and ideally have some background knowledge of physics.
- You are fully proficient in written and spoken English.

Your application including a curriculum vitae, a letter of motivation, copies of your certificates and contact information of at least two references should be submitted to the online application platform https://lotus2.gwdg.de/uni/uzdv/perso/knr_100841.nsf by September 21, 2021.

Submitted by:

Prof. Dr. Thorsten Hohage
Institut für Numerische und Angewandte Mathematik
Georg-August Universität Göttingen
<http://ip.math.uni-goettingen.de/>

From: "Tuomo Valkonen" <tuomov@iki.fi>

Date: September 13, 2021

Subject: PhD student or postdoc in online optimisation / inverse problems at the University of Helsinki

I have available at the University of Helsinki a position for a PhD student or a postdoc to work on online optimisation for dynamic inverse problems. The simplest example of such a problem is video reconstruction while more advanced application problems include industrial and other process monitoring, such as the flow of a fluid in a tube to detect impurities. Depending on the chosen candidate's wishes, the work can either involve the development and numerical study of online optimisation methods, or the analytical study of relevant problems.

For details see [https://urldefense.com/v3/__https://www2.helsinki.fi/en/open-positions/phd-student-or-postdoctoral-researcher-in-online-optimization-for-dynamic-inversion__;!!HXcXUKc!gsJMoZw5dcy4Q-TkQZ5480F0i6X-MzNm2aRR_k8wZPScK4VT-ct2Cg_i1b4DTNx62bB5GM\\$](https://urldefense.com/v3/__https://www2.helsinki.fi/en/open-positions/phd-student-or-postdoctoral-researcher-in-online-optimization-for-dynamic-inversion__;!!HXcXUKc!gsJMoZw5dcy4Q-TkQZ5480F0i6X-MzNm2aRR_k8wZPScK4VT-ct2Cg_i1b4DTNx62bB5GM$).

From: Raul Tempone tempone@uq.rwth-aachen.de [via NADIGEST]

Date: August 19, 2021

Subject: Postdoc Positions, UQ, RWTH Aachen

The Alexander von Humboldt Chair of Mathematics for Uncertainty Quantification (MATH4UQ) of Prof. Raul Tempone at RWTH Aachen invites applications for several postdoctoral positions. The successful candidates will perform mathematical and computational research and become an active part of an international research network with a wide scope and high visibility. The main scope of the MATH4UQ Chair is to develop efficient numerical methods for solving forward and inverse problems, including optimal control and optimal experimental design, involving stochastic and random differential equations. Successful candidates should hold a Ph.D. degree in mathematics, computer science, computational engineering sciences, or related fields. They should have expertise in at least one of the following areas: uncertainty quantification, machine learning, data science, numerical analysis, stochastic optimal control, stochastic optimization, optimal experimental design,

inverse problems as well as stochastic simulation and approximation. The position comes with a teaching duty.

Required: Ph.D. degree in mathematics, computer science, computational engineering sciences, or related fields, High motivation, the ability to carry out research independently as well as to work in interdisciplinary teams, Proficiency in written and spoken English.

Desired: Experience in performing collaborative research, Experience teaching in German, proficiency in written and spoken German.

What we offer: Wide scope, world-class interdisciplinary scientific research within a highly connected and motivated team.

Applications must contain a letter of motivation, a CV including a list of publications, and copies of degree certificates, along with contact details of at least two academic referees. Please forward your application package to Prof. Tempone at tempone@uq.rwth-aachen.de. For full consideration, please apply by September 30, 2021. However, applications will be accepted until the positions are filled.

From: Ole Elvetun ole.elvetun@nmbu.no [via NADIGEST]

Date: August 18, 2021

Subject: PhD Position, Inverse Problems, Norwegian Univ of Life Sciences

The Faculty of Science and Technology at the Norwegian University of Life Sciences (NMBU) has a vacant PhD-position related to the project Problem-dependent regularization techniques. The PhD position is for a period of 3 years, or up to 4 years if teaching and other work duties are agreed.

In the project we seek a better understanding of inverse problems when the forward operator has a non-trivial null space, and we will analyze the potential of applying problem-dependent regularization to inverse problems involving EEG and ECG data.

We will furthermore investigate the properties of the technique as a feature selection method in machine learning.

The PhD position is placed in the Norwegian government pay scale position code 1017. PhD fellows are normally placed in pay grade 54 (NOK 491.200,-) (approx. 47.000 EUR/year) on the Norwegian Government salary scale upon employment and follow ordinary meriting regulations.

Deadline: September 30th, 2021.

For further information and to apply, see

[https://urldefense.com/v3/__https://www.jobbnorge.no/en/available-jobs/job/210224/phd-position-within-applied-__;!!HXcXUKc!jUwvN2STvB6bCs5iFwNosTu0a48y1DcGBttsQix5w-IICPPOpXTI2ZPwnNH29Gy\\$](https://urldefense.com/v3/__https://www.jobbnorge.no/en/available-jobs/job/210224/phd-position-within-applied-__;!!HXcXUKc!jUwvN2STvB6bCs5iFwNosTu0a48y1DcGBttsQix5w-IICPPOpXTI2ZPwnNH29Gy$)
mathematics

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Wednesday, August 25, 2021

Subject: Inverse Problems in Science and Engineering, Volume 29, Issue 9, September 2021 is now available online on Taylor & Francis Online

Inverse analysis of the time-dependent heat flux in stagnation point flow of incompressible fluid impinging on a cylinder with uniform surface suction-blowing using Levenberg–Marquardt method
M. Montazeri, H. Mohammadiun, M. Mohammadiun, M. H. Dibae Bonab & M. Vahedi

Study of a fixed-lag Kalman smoother for input and state estimation in vibrating structures
Ulrika Lagerblad, Henrik Wentzel & Artem Kulachenko

Time-dependent lowest term estimation in a 2D bioheat transfer problem with nonlocal and convective boundary conditions
Fermín S. V. Bazán, Mansur I. Ismailov & Luciano Bedin

Inverse nodal problem for a conformable fractional diffusion operator
Yaşar Çakmak

A modified quasi-boundary value method for a backward problem for the inhomogeneous time conformable fractional heat equation in a cylinder
Shuping Yang, Xuemin Xue & Xiangtuan Xiong

Estimation of bivariate probability distributions of nanoparticle characteristics, based on univariate measurements
Orkun Furat, Uwe Frank, Matthias Weber, Simon Wawra, Wolfgang Peukert & Volker Schmidt

<https://www.tandfonline.com/toc/gipe20/29/9>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Deadline Approaching: Introductory Online Workshop on Inverse Problems

Save the Date: 10th Int'l Conf. on Inverse Problems in Engineering, Italy

Research Fellowship Position: Inverse Problems for Wave Equations, UCL

Table of Contents: Inverse Problems in Science and Engineering

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: Venky Krishnan <vkrishnan@tifrbng.res.in>

Date: Monday, September 20, 2021

Subject: Introductory online workshop on Inverse Problems

Dear Colleagues,

We are organizing an introductory online workshop on Inverse Problems during October 25-29, 2021. There will be introductory two-hour long lectures on 10 different topics, suitable for graduate students, postdocs and others interested in inverse problems. The list of topics and speakers is available on the workshop web page. If interested, please complete the application (link on the web page) so the Zoom link can be sent to you. The workshop is being organized under the auspices of the International Centre for Theoretical Sciences, Bangalore, India.

Venky Krishnan TIFR Centre for Applicable Mathematics, Bangalore, India
Rakesh, University of Delaware, USA

From: ICIPE 20 <filippo.demonte@univaq.it>

Date: Monday, September 27, 2021

Subject: 10th ICIPE, save-the-date May 15-19, 2022 – Announcement

Dear Inverse Colleagues,

The covid-19 emergency seems to be partially and hopefully over!

On behalf of the Organizing Committee, we are pleased to inform you that the “10th International Conference on Inverse Problems in Engineering” will be held in-person on May 15-19, 2022, in Francavilla al Mare (Chieti), Italy, Villa Maria Hotel.

A Green Pass is required!

ICIPE intends to be a global forum for researchers and engineers to present and discuss recent innovations and new techniques in Applied and Fundamental Inverse Analysis. We will also be honoring Professor James V. Beck, for his outstanding contributions to parameter estimation and inverse heat transfer analysis. The online abstract submission will be open on October 1 and close on November 30, 2021. Draft manuscripts will be due by mid-February 2022.

Abstracts already submitted in 2019 and 2020 are properly kept. Similarly, draft papers and final papers/extended abstracts already submitted in 2020 and 2021 are properly kept!

We would be grateful if you could disseminate this save-the-date email and conference flyer to your colleagues. The conference website is: <https://icipe20.univaq.it>.

Download the flyer: https://mcusercontent.com/af0e3a32f06e691ff1c775d2e/files/1eb163ef-66b2-1a09-ee51-8c653914e723/flyer_icipe_2022_v1.pdf

We are looking forward to meeting you at 10th ICIPE!

With our best regards,

Filippo de Monte (University of L'Aquila, Italy), Conference Chair
Keith A. Woodbury (University of Alabama, USA), ICIPE Steering Committee
Kirk Dolan (Michigan State University, USA), IPS Steering Committee

From: Erik Burman e.burman@ucl.ac.uk [via NADIGEST]

Date: September 22, 2021

Subject: Research Fellowship Position, Inverse problems for wave equations, UCL

Applications are invited for a full-time EPSRC funded Research Fellow position at the Department of Mathematics, UCL. The successful candidate will work with Professor Erik Burman on the project "Computational methods for inverse problems subject to wave equations in heterogeneous media".

Applicants are expected to have good understanding either of the design and analysis of finite element methods or of the wave equations and associated inverse problems. It is desirable that candidates have interest and research experience with at least some of the following subjects: theory of finite element methods, error analysis of numerical methods, knowledge of stabilised finite element methods or discontinuous Galerkin methods, stability analysis of ill-posed problems, Carleman estimates. Experience of some computational finite element package (fenics, freefem etc) and their application to the numerical approximation of solutions to partial differential equations, is also highly valued.

This post is available from 15 February 2022 or as soon as possible thereafter. This post is funded for 3 years in the first instance.

Further information and details of how to apply can be found at

https://atsv7.wcn.co.uk/search_engine/jobs.cgi?owner=5041390&ownertype=fair&jcode=1879082&vt_template=965&adminview=1

The closing date for applications is 24th of October. Informal enquiries may be addressed to Professor Erik Burman, email: e.burman@ucl.ac.uk

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Wednesday, September 22, 2021

Subject: Inverse Problems in Science and Engineering, Volume 29, Issue 10, October 2021 is now available online on Taylor & Francis Online

Inverse Problems in Science and Engineering October 2021 Volume 29, Issue 10
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A local meshless procedure to determine the unknown control parameter in the multi-dimensional inverse problems
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Dispersion–current adjoint functions for monitoring accidental sources in 3D transport equations
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Regularization of the boundary control method for numerical solutions of the inverse problem for an acoustic wave equation
A. Timonov

Solution of the symmetric band partial inverse eigenvalue problem for the damped mass spring system
Suman Rakshit & Biswa Nath Datta

<https://www.tandfonline.com/toc/gipe20/29/10>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

CORRECTION: Introductory Online Workshop on Inverse Problems

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

[The correct website information has been included below. -Ed.]

From: Venky Krishnan <vkrishnan@tifrbng.res.in>
Date: Monday, September 20, 2021
Subject: Introductory online workshop on Inverse Problems

Dear Colleagues,

We are organizing an introductory online workshop on Inverse Problems during October 25-29, 2021. There will be introductory two-hour long lectures on 10 different topics, suitable for graduate students, postdocs and others interested in inverse problems. The list of topics and speakers is available on the workshop web page. If interested, please complete the application (link on the web page) so the Zoom link can be sent to you. The workshop is being organized under the auspices of the International Centre for Theoretical Sciences, Bangalore, India.

For more information, please visit: <https://www.icts.res.in/discussion-meeting/ip2021>

Venky Krishnan TIFR Centre for Applicable Mathematics, Bangalore, India
Rakesh, University of Delaware, USA

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Postdoctoral Positions: Related to Inverse Problems at LUT University

Asst. Professor: Comp Mathematics, including Inverse Problems, at Auburn U.

Postdoc Position: Machine Learning, Digital Twins, at UT Austin

Table of Contents: Electronic Transactions on Numerical Analysis

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: Tapio Helin <Tapio.Helin@lut.fi>

Subject: Postdoctoral positions related to inverse problems at LUT University

Date: Friday, October 8, 2021

Dear all,

we invite applications to 5 open positions for postdoctoral researchers in applied mathematics and machine learning at LUT University, Finland. The positions are fixed term varying between 2 to 4 years and all are well-suited for applicants having background in inverse problems research (some of them directly related). In particular, inverse problem experts working with machine learning, numerical or statistical methods are highly encouraged to apply!

The deadline for applications is October 31. More information about positions and contact persons is available at

[https://urldefense.com/v3/__https://lut.rekrytointi.com/paikat/?o=A_RJ&jgid=1&jid=563__;!!HXCxUKc!iEVfBtE1JtXtmacUNklz-gYL_GWrJBmcxG5Xwc9r6j1yyNVmCRizMIEt7oY8PzFMuHUcPUo\\$](https://urldefense.com/v3/__https://lut.rekrytointi.com/paikat/?o=A_RJ&jgid=1&jid=563__;!!HXCxUKc!iEVfBtE1JtXtmacUNklz-gYL_GWrJBmcxG5Xwc9r6j1yyNVmCRizMIEt7oY8PzFMuHUcPUo$)

Best regards,
Tapio Helin

Submitted by: Tapio Helin
Associate Professor
Computational Engineering
School of Engineering Science
LUT University
tapio.helin@lut.fi
+358 50 475 0767

From: T.T. Phuong Hoang tzh0059@auburn.edu [via NADIGEST]

Date: September 29, 2021

Subject: Tenure-Track Assistant Professor Position, Comp Mathematics,
Auburn Univ

The Department of Mathematics and Statistics in the College of Sciences and Mathematics (COSAM) at Auburn University invites applications for a tenure-track Assistant Professor in Computational Mathematics for nine-month appointments beginning on August 16, 2022.

Areas of interest include, but are not limited to, scientific computing and numerical analysis in machine learning and deep learning, computational biology, computational physics, and inverse problems and optimization. The candidate is also expected to demonstrate a strong commitment to high quality teaching at the undergraduate and graduate levels, as well as mentoring undergraduate and graduate students.

Interested candidates can find more information about the position as well as submit their applications at

[https://urldefense.com/v3/__https://www.auemployment.com/postings/25375__!!HXCxUKc!!uKcVhCZbip2JbMyyc54r_g9reMaRRV2tGdazYplclMz5XB0eWXRQJuggS77BQV4\\$](https://urldefense.com/v3/__https://www.auemployment.com/postings/25375__!!HXCxUKc!!uKcVhCZbip2JbMyyc54r_g9reMaRRV2tGdazYplclMz5XB0eWXRQJuggS77BQV4$)

Review of applications will begin November 1, 2021 and continue until the position is filled.

Auburn University is an R1 University and one of the nation's premier land, sea, and space grant institutions. It maintains high levels of research activity and high standards for teaching excellence. Auburn University is understanding of and sensitive to the family needs of faculty, including dual-career couples. Auburn University is an EEO/Vet/Disability Employer and committed to building an inclusive and diverse community.

From: Tan Bui tanbui@oden.utexas.edu [via NADIGEST]

Date: October 05, 2021

Subject: Postdoc Position, ML/Digital Twins, Oden Institute, UT Austin

A postdoc position is immediately available in Tan Bui-Thanh's research group on Machine Learning for Digital Twin (DT).

Responsibility: Develop model-constrained machine learning approaches engineering and science applications that are governed by Partial differential Equations (or their discretizations). Develop algorithms for monitoring and quantifying uncertainty for DT.

Qualifications: PhD research was in the field of inverse problems and/or uncertainty quantification and/or machine learning methods.
- Strong in applied mathematics and computation.

Duration: The position can be renewed annually, up to three years.

Please contact Tan Bui-Thanh at tanbui@oden.utexas.edu for questions/concerns about the position.

From: Lothar Reichel <reichel@math.kent.edu>
Subject: ToC, ETNA, vol. 54
Date: October 6, 2021

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V. Noferini, L. Robol, and R. Vandebril

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<https://etna.math.kent.edu/volumes/2021-2030/vol54/>

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Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Ph.D. Studentships: Statistical Applied Mathematics, Bath, UK
PhD Position: Inverse Problems with Besov Prior, DTU, Denmark
University Assistant with Doctorate: Imaging/Inverse Problems, Graz, Austria
PhD Studentship: Inverse Problems + Machine Learning, Bath, UK
Postdoc Position: Deep Learning & Inverse Problems, BCAM
Postdoc Position: Image Processing & Analysis, Univ of Coimbra
Table of Contents: Inverse Problems in Science and Engineering

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: Matthias Ehrhardt <me549@bath.ac.uk>

Date: Thursday, October 21, 2021

Subject: Fully-funded PhD studentships in Statistical Applied Mathematics, Bath, UK

EPSRC Centre for Doctoral Training in Statistical Applied Mathematics (SAMBa)

The Centre for Doctoral Training in Statistical Applied Mathematics (go.bath.ac.uk/samba) offers a 4 year PhD programme, including an MRes qualification earned during the first year of training. Throughout the PhD you'll be working at the interface of statistics with applied and computational mathematics, and delivering high quality applied and applicable research.

SAMBa offers at least 10 fully-funded studentships starting in October each year.

SAMBa has a current cohort of 85 students whose thesis topics range from problems which are industrially motivated, to more abstract problems, and which use deterministic, probabilistic, statistical and computational mathematical tools. The department of Mathematical Sciences at Bath provides an excellent research environment and the SAMBa cohort offers invaluable peer support.

The first year of SAMBa will consist of courses, projects and symposia tailored to the individual student, together with Integrative Think Tanks. ITTs are intensive, week-long events where students work in collaboration with academics and industrialists to synthesise relevant

mathematical formulations for solving industrial and cross-disciplinary problems.

Each student will choose a supervisor or supervisory team and finalise a thesis proposal by the end of year 1. They will work on PhD research in years 2-4. Graduates from SAMBa will be ready to work in leading academic and industrial roles, collaborating with individuals from different backgrounds, and communicating effectively to both experts and nonexperts.

To find out if your application is likely to result in an interview, and to speed up the process, please send an expression of interest to the Centre Coordinator, Helena Lake, at samba@bath.ac.uk

Your expression of interest should include:

- * a short statement (250 words) explaining your motivation for applying to SAMBa
- * a 2-page CV which includes your academic and work experience, your nationality and country of residence (for the past three years, not including full-time education)
- * scans of your academic transcript(s)
- * information on where you heard about SAMBa

To apply formally to SAMBa, follow the process through our Doctoral College (<https://www.bath.ac.uk/guides/how-to-apply-for-doctoral-study/>).

All applications will be reviewed rapidly and promising applicants will be invited to an interview online. Successful applicants will hold, or will be expecting, a first or high upper second class honours degree (or equivalent) in mathematics, or in a subject with substantial mathematical content.

Submitted by: Matthias J Ehrhardt, PhD
Reader and Leverhulme Early Career Fellow
Department of Mathematical Sciences
Office: 6 West, 1.08, Tel: 0044 1225 38 6194
University of Bath, UK
<https://mehrhardt.github.io>

From: Yiqiu Dong <yido@dtu.dk>

Date: Wednesday, November 3, 2021

Subject: PhD Position on inverse problems with Besov prior, DTU, Denmark

PhD Position on inverse problems with Besov prior, DTU, Denmark

The Technical University of Denmark has an opening for a 3-year PhD position. The position is part of the research project
CUQI, Computational Uncertainty Quantification for Inverse Problems

(<https://www.compute.dtu.dk/english/cuqi>).

This position focuses on handling inverse problems with Besov priors. In the CUQI project we will use Besov priors that are suited for producing piecewise smooth reconstructions and for detection of edges and interfaces. This involves the use of linear combinations of wavelets/frames with random coefficients. The project requires knowledge of functional analysis and numerical computation and, preferably, harmonic analysis. Moreover, experience with inverse problems or Bayesian inference will be a plus.

For more details and to apply:

<https://www.dtu.dk/english/About/JOB-and-CAREER/vacant-positions/job?id=d5c22773-a1c2-470e-9d04-e32aed78fafa> .

The applicants will work in a team of PhD students, postdocs and faculty members in the Section for Scientific Computing, and they must contribute with research towards the overall goals of the CUQI project. Applicants are expected to give limited contributions to teaching and training activities as well as supervision of students.

The deadline of applications is 15 December 2021 at 23:59 (Danish time).

From: "Moser, Melanie (melanie.moser@uni-graz.at)" <melanie.moser@uni-graz.at>

Date: Tuesday, November 9, 2021

Subject: University Assistant with doctorate, Graz, Austria

At the University of Graz, researchers and students work across a broad disciplinary spectrum to enlarge our knowledge, and find strategies to deal with challenges our society is confronted with and to shape tomorrow's world. The University of Graz is a place which combines high quality academic research and teaching, where achievement is rewarded, careers are promoted, and social diversity is encouraged – all within a modern, award-winning working environment. Our motto: We work for tomorrow. Join us!

The Institute of Mathematics and Scientific Computing is looking for a

University Assistant with doctorate (m/f/d)

(<https://uni-graz.jobbase.io/job/zji7cui1u9jhuokv9srmvy37x8ze8m>)

40 hours a week

fixed-term employment for 6 years

position to be filled as of now)

Your duties

- Research in the field of applied mathematics with emphasis on the analysis and the numerics of problems in mathematical image processing, inverse problems and data sciences

- Collaboration in interdisciplinary cooperation projects and third-party funded projects
- Independent teaching of courses in the field of applied mathematics, supervision of students and holding of examinations
- Independent implementation of courses and proportionate holding of examinations
- Support of students
- Participation in organizational and administrative tasks as well as in evaluation measures

Your Profile

- Doctoral degree in a mathematical branch of study
- Solid knowledge of one of the following fields: mathematical methods in image processing, inverse problems, numerical algorithms for imaging and inverse problems
- Knowledge in one or more of the following fields: functional analysis, continuous mathematical optimization, algorithmic solution of minimization problems, mathematical foundations of machine learning, mathematical data sciences (desirable)
- Ability for integration into the institute's research profile and in particular into interdisciplinary cooperation projects
- Ability to teach in German language
- Capacity for teamwork, organizational talent and ability to communicate
- Scientific publication activity according to academic age
- Didactic aptitude for participation in teaching
- Excellent command of written and spoken English

Our Offer

Classification

Salary scheme of the Universitäten-KV (University Collective Agreement): B1

Minimum Salary

The minimum salary as stated in the collective agreement and according to the classification scheme is EUR 3.945,90 gross/month (for full-time employment). This minimum salary may be higher due to previous employment periods eligible for inclusion and other earnings and remunerations.

We offer you a job with a lot of responsibility and variety. You can expect an enjoyable work climate, flexible work hours and numerous possibilities for further education and personal development. Take advantage of the chance to enter into a challenging work environment full of team spirit and enthusiasm for your job.

Application deadline: 08.12.2021

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. Especially with regard to academic staff, we welcome applications from persons with disabilities who meet the requirements of the advertised position. Applicants with proof of

COVID-19 vaccination will be given preference if equally qualified. For further information, please refer to our general application regulations.

From: Matthias Ehrhardt <me549@bath.ac.uk>

Date: Wednesday, November 10, 2021

Subject: Fully-funded PhD studentship in Inverse Problems+Machine Learning, Bath, UK

The UKRI Centre for Doctoral Training in Accountable, Responsible and Transparent AI (ART-AI <https://cdt-art-ai.ac.uk/>) at the University of Bath is inviting applications for a fully funded PhD studentship based in the Department of Computer Science and under the joint supervision of Dr Mohammad Golbabaee (Computer Science dep, <https://mgolbabaee.wordpress.com/>) and Dr Matthias Ehrhardt (Mathematics dept., <https://mehrhardt.github.io/>). The position is an opportunity to conduct cutting-edge research at the intersection of computational medical imaging, machine learning and mathematical analysis, with the possibility of collaboration with world leading healthcare industries.

This project is concerned with the development of interpretable and transparent machine/deep learning algorithms for image reconstruction in medical imaging.

In this project you will bridge this gap by developing new algorithms and analysis techniques for computational medical imaging towards transparent and reliable solutions. You are expected to further advance current developments within this theme including (but not limited to) reliable generative models to capture prior knowledge about data and their transparent and inspectable integration within model-based image reconstruction algorithms.

For more information, see

<https://www.findaphd.com/phds/project/interpretable-and-transparent-machine-learning-algorithms-for-medical-image-computing/?p107106>

Submitted by: Matthias J Ehrhardt, PhD
Reader and Leverhulme Early Career Fellow
Department of Mathematical Sciences
Office: 6 West, 1.08, Tel: 0044 1225 38 6194
University of Bath, UK
<https://mehrhardt.github.io>

From: Idoia Hernandez recruitment@bcmath.org [via NADIGEST]

Date: November 04, 2021

Subject: Postdoc Fellowship Position, Deep Data-Driven Computing

Deep Learning, Data-Driven Computing, Partial Differential Equations,
Inverse Problems

Deadline for application: 29th November 2021 at 14:00 (CET)

Applications must be submitted on-line at:

[https://urldefense.com/v3/ http://www.bcamath.org/en/research/job ;!!HXCxUKc!mNizOnS64E7iv9j1GAHaTnysckIOh2wcyRV_3qdarVnB0XRt9CNqhlrRWM6Vec3a\\$](https://urldefense.com/v3/http://www.bcamath.org/en/research/job_!!HXCxUKc!mNizOnS64E7iv9j1GAHaTnysckIOh2wcyRV_3qdarVnB0XRt9CNqhlrRWM6Vec3a$)

Requirements: Applicants must have their PhD completed before the contract starts.

Skills: Good interpersonal skills. A proven track record in quality research, as evidenced by research publications in top scientific journals and conferences. Demonstrated ability to work independently and as part of a collaborative research team. Ability to present and publish research outcomes in spoken (talks) and written (papers) form. Ability to effectively communicate and present research ideas to researchers and stakeholders with different backgrounds. Fluency in spoken and written English. The preferred candidate will have: Strong background in the numerical solution of Partial Differential Equations and/or Deep Learning techniques. Background in Inverse Problems. Good programming skills in Python and preferably, also Tensorflow. Interest and disposition to work in interdisciplinary groups.

From: Isabel Figueiredo isabelf@mat.uc.pt [via NADIGEST]

Date: October 28, 2021

Subject: Postdoc Position, Computational Mathematics, Univ of Coimbra

Postdoctoral position in computational mathematics at University of Coimbra (focusing on image processing and analysis - with applications in medicine) in the framework of the interdisciplinary research project "Multi-Cam Capsule Endoscopy Imagery: 3d Capsule Location and Detection of Abnormalities", with reference POCI-01-0145-FEDER-028960, of FCT - Portuguese national funding agency for science, research and technology

([https://urldefense.com/v3/ https://www.fct.pt/index.phtml.en ;!!HXCxUKc!mNizOnS64E7iv9j1GAHaTnysckIOh2wcyRV_3qdarVnB0XRt9CNqhlrRWM6Vec3a\\$](https://urldefense.com/v3/https://www.fct.pt/index.phtml.en_!!HXCxUKc!mNizOnS64E7iv9j1GAHaTnysckIOh2wcyRV_3qdarVnB0XRt9CNqhlrRWM6Vec3a$)).

Applicants should have a PhD in Mathematics or Computational Sciences and Engineering (degree obtained until the end of May 2020).

Applications : October 29 - November 30, 2021.

Duration : 7 months (possibility of renewal).

Starting date : January 2022.

Location : Department of Mathematics of the Faculty of Sciences and Technology at the University of Coimbra.

Official

announcement: [https://urldefense.com/v3/ https://euraxess.ec.europa.eu/jobs/702310](https://urldefense.com/v3/https://euraxess.ec.europa.eu/jobs/702310)

[;!!HXCxUKc!mNizOnS64E7iv9j1GAHaTnysckIOh2wcyRV_3qdarVnB0XRt9CNqhlrRWHhGsTTQ\\$](mailto:!!HXCxUKc!mNizOnS64E7iv9j1GAHaTnysckIOh2wcyRV_3qdarVnB0XRt9CNqhlrRWHhGsTTQ$)

Contact for further information: Isabel M. Narra Figueiredo

https://urldefense.com/v3/http://www.mat.uc.pt/*isabelf/Postdoccall2021.html ;fg!!HXCxUKc!mNizOnS64E7iv9j1GAHaTnysckIOh2wcyRV_3qdarVnB0XRt9CNqhlrRWN_xQTYM\$

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Friday, October 29, 2021

Subject: Inverse Problems in Science and Engineering, Volume 29, Issue 11, November 2021 is now available online on Taylor & Francis Online

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<https://www.tandfonline.com/toc/gipe20/29/11>

----- end -----

Today's Editor: Patricia (Patti) K. Lamm, Michigan State University

Today's Topics:

Conference: 3rd IMA Conference on Inverse Problems, Edinburgh ICMS

Special Issue: Helsinki Deblur Challenge 2021

New Book: Systems with Persistent Memory: Controllability, Stability, ID

Postdocs: Algorithmic Solutions in Electron Microscopy, Imaging; NIH

PhD Position: Regularization, Local Ill-Posedness Phenomena; Siegen

University Assistant: Image Processing, Inverse Processing; Graz

Multiple Positions: Numerical Analysis, incl. Inverse Problems; Arup

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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

<https://ipnet.math.msu.edu/>

From: "Pereyra, Marcelo" <M.Pereyra@hw.ac.uk>

Date: Wednesday, November 24, 2021

Subject: 3rd IMA Conference on Inverse Problems, Edinburgh ICMS, 3-5 May 2022

We are delighted to invite colleagues to the 3rd IMA Conference on Inverse Problems, which will take place in Edinburgh at the ICMS on 3-5 May 2022. This conference will bring together the applied mathematics, statistics, machine learning, engineering, physics and industrial communities around the topic of inverse problems to discuss recent developments and open challenges in theory, methodology, computational algorithms, and applications. Please see the conference webpage for more details

<https://ima.org.uk/18111/3rd-ima-conference-on-inverse-problems-from-theory-to-application/>

There is a call for contributed oral and poster presentations (this only requires a short abstract of 100 words, by 7 January 2022). We hope to see many of you in Edinburgh soon.

Best wishes,

Marcelo Pereyra on behalf of the conference committee.

Submitted by: Dr Marcelo Pereyra | Associate Professor in Statistics | Maxwell Institute for Mathematical Sciences & School of Mathematical and Computer Sciences Heriot-Watt University Room CM T.17 | Colin Maclaurin Building | Heriot-Watt University | Edinburgh EH14 4AS | United Kingdom

Email: m.pereyra@hw.ac.uk | Telephone: +44 (0) 131 451 3211 | Web

site: <http://www.macs.hw.ac.uk/~mp71/>

[Updated conference website supplied by Pamela Bye, Conferences and Administration Officer. -ed]

From: "Siltanen, M Samuli" <samuli.siltanen@helsinki.fi>

Date: Thursday, December 2, 2021
Subject: Helsinki Deblur Challenge 2021

Inverse Problems and Imaging: Special issue on the Helsinki Deblur Challenge (HDC2021).
<https://www.aims sciences.org/journal/1930-8337>
Guest editors: Markus Juvonen, Fernando Silva de Moura and Samuli Siltanen.

The theme of the special issue is Helsinki Deblur Challenge HDC2021, which produced amazing results on severely misfocused photographs. The quality of reconstructions was measured in a specific way: automatically recognising random text strings from the deblurred images, and counting the number of correctly identified characters. The winning team managed to recover over 70% of characters that looked hopelessly lost to the human eye. The results can be seen here:
<http://fips.fi/HDC2021.php>

The HDC2021 dataset serves as a standard test bench for deconvolution algorithms. All the HDC2021 data is openly available, and every algorithm that took part in the challenge is published in a GIT repository.

The special issue is open for submissions also for teams who did not take part in the original challenge. Please consider applying your deconvolution methods on the HDC2021 data and submitting the results to IPI. If you have questions about the special issue, or consider submitting, please send email to samuli.siltanen@helsinki.fi with subject line "HDC2021 Special Issue".

The deadline for submissions is May 31, 2022.

From: Luciano Pandolfi <luciano.pandolfi@formerfaculty.polito.it>
Date: Thursday, December 2, 2021
Subject: New book

Systems with Persistent Memory: Controllability, Stability, Identification
(Springer, Interdisciplinary Applied Mathematics 54)

[https://urldefense.com/v3/__https://link.springer.com/book/10.1007/978-3-030-80281-3__;!!HXCxUKc!ncWiRlx3nla0sPpdgaLYCF0bsbGcQuo0cy_ly7EQMkOSFck8prg9AlbG5-koh-JSUGRdmmE\\$](https://urldefense.com/v3/__https://link.springer.com/book/10.1007/978-3-030-80281-3__;!!HXCxUKc!ncWiRlx3nla0sPpdgaLYCF0bsbGcQuo0cy_ly7EQMkOSFck8prg9AlbG5-koh-JSUGRdmmE$)

CHAPTER 1: Preliminary Considerations and Examples

This chapter presents preliminary considerations and examines well posedness and controllability properties of systems with persistent memory in one space dimension

CHAPTER 2: Operators and Semigroups for Systems with Boundary Inputs

This chapters introduces preliminary information on the functional analytic methods used in the study of nonhomogeneous boundary control systems via semigroup methods

CHAPTER 3: The Heat Equation with Memory and its Controllability

This chapter studies the heat equation with memory (well posedness

and controllability) both via semigroup methods and via frequency domain methods which can be used in particular to systems with fractional integrals and derivatives

CHAPTER 4: The Wave Equation with Memory and its Controllability

This chapter studies well posedness and controllability of the wave equation with memory both with Dirichlet and Neumann boundary controls

CHAPTER 5: The Stability of the Wave Equation with Persistent Memory

This chapter shows the use of frequency domain methods, energy methods and semigroup methods in the study of the stability of systems with memory

CHAPTER 6: Dynamical Algorithms for Identification Problems

This chapter shows the use of dynamical algorithms for the identification of the memory kernel and of an elastic coefficient for systems with persistent memory, by using boundary measurements

CHAPTER 7: Final Miscellaneous Problems

This concluding chapter direct the attention of the reader to some important problems not treated in the book. In particular, the effect of nonlinearity; memory on the boundary; numerical methods

Submitted by: Prof. Luciano Pandolfi
Retired from the Politecnico di Torino,
Dipartimento di Scienze Matematiche "G. L. Lagrange"
Corso Duca degli Abruzzi 24, 10129 Torino, Italy
luciano.pandolfi@formerfaculty.polito.it

From: "Elmlund, Hans (NIH/NCI) [E]" <hans.elmlund@nih.gov>
Date: Friday, November 19, 2021
Subject: Postdoctoral research/collaboration opportunities @ NIH

Dear All,

I am Hans Elmlund, Senior Investigator @ NIH and my lab develops algorithmic solutions to address the increasing demands for quantitative and computational approaches in electron microscopy, integrative structural biology and materials science. I am seeking to recruit fellows with a PhD. degree in quantitative science (preferably mathematics, computer science, physics, statistics, engineering, materials science, theoretical chemistry, medical imaging or bioinformatics) that are keen to apply their skills to develop structural methodologies that may be applied to accelerate discovery across multiple disciplines and make a significant impact on biomedical and materials research world-wide. The job ad can be found here:

<https://ccr.cancer.gov/careers/post-doctoral-fellow-electron-microscopy-image-processing-algorithm-development/24314>

I am also interested in collaborating with mathematicians with an interest in ill-posed inverse problem and large-scale optimization. If you need more information, please get back to me.

With best wishes,

HANS ELMLUND PhD
Senior Investigator

National Institutes of Health
National Cancer Institute—Frederick Campus
1050 Boyles St, Fredrick MD 21702
United States of America
T: +1(301)846-5670
M: +1(240)739-9079
E: hans.elmlund@nih.gov
simplecryoem.com

From: Robert Plato <plato@mathematik.uni-siegen.de>
Date: Monday, November 22, 2021
Subject: PhD Position at the University of Siegen (Germany)

PhD position at Siegen

The University of Siegen is offering a PhD position affiliated with the Department of Mathematics. It is associated with the DFG-funded research project 'Oversmoothing regularization models in light of local ill-posedness phenomena'.

The position should be filled by March 1, 2022 for a period of 2 years and 8 months, with 75% of the regular working hours. Remuneration is according to the German public salary scale TV-L 13.

For more information, see the official job advertisement web site
[https://urldefense.com/v3/__https://jobs.uni-siegen.de/job/Wissenschaftlicher-Mitarbeiterin-Mathematik-57072/741050301/__;!!HXCxUKc!md5Zc3qvIY4tMUKdbdtKVY2mkWrNSZk3XtH-Z_GSzh5BZV4KSJlZHjwEfrqMZU1oxqyu7Dk\\$](https://urldefense.com/v3/__https://jobs.uni-siegen.de/job/Wissenschaftlicher-Mitarbeiterin-Mathematik-57072/741050301/__;!!HXCxUKc!md5Zc3qvIY4tMUKdbdtKVY2mkWrNSZk3XtH-Z_GSzh5BZV4KSJlZHjwEfrqMZU1oxqyu7Dk$)

If you have any questions, please contact Prof. R. Plato via E-Mail: plato@mathematik.uni-siegen.de

Application Deadline: December 10, 2021

Submitted by: Robert Plato
Büro ENC B-209, Department Mathematik, Universität Siegen
Walter-Flex-Str. 3, 57068 Siegen, Tel: (0271) 740 3591
Email: plato@mathematik.uni-siegen.de
WWW: [https://urldefense.com/v3/__http://www.uni-siegen.de/fb6/aan/plato__;!!HXCxUKc!md5Zc3qvIY4tMUKdbdtKVY2mkWrNSZk3XtH-Z_GSzh5BZV4KSJlZHjwEfrqMZU1ofVEQt_8\\$](https://urldefense.com/v3/__http://www.uni-siegen.de/fb6/aan/plato__;!!HXCxUKc!md5Zc3qvIY4tMUKdbdtKVY2mkWrNSZk3XtH-Z_GSzh5BZV4KSJlZHjwEfrqMZU1ofVEQt_8$)

From: "Moser, Melanie (melanie.moser@uni-graz.at)" <melanie.moser@uni-graz.at>
Date: Wednesday, December 15, 2021
Subject: University Assistant with doctorate, Graz, Austria

At the University of Graz, researchers and students work across a broad disciplinary spectrum to enlarge our knowledge, and find strategies to deal with challenges our society is confronted with and to shape tomorrow's world. The University of Graz is a place which combines high quality academic research and teaching, where achievement is rewarded, careers are promoted, and social diversity is encouraged – all within a modern, award-winning working environment. Our motto: We work for tomorrow. Join us!

The Institute of Mathematics and Scientific Computing is looking for a University Assistant with doctorate (m/f/d)

<https://uni-graz.jobbase.io/job/gh0utgb23azjo30ypzz0l89n26omwm>

40 hours a week

fixed-term employment for 1 year

position to be filled as of now

Your duties

- Research in the field of applied mathematics with emphasis on the analysis and the numerics of problems in mathematical image processing, inverse problems and data sciences
- Collaboration in interdisciplinary cooperation projects and third-party funded projects
- Independent teaching of courses in the field of applied mathematics, supervision of students and holding of examinations
- Participation in organizational and administrative matters

Your Profile

- Doctoral degree in a mathematical branch of study
- Solid knowledge of one of the following fields: mathematical methods in image processing, inverse problems, numerical algorithms for imaging and inverse problems
- Knowledge in one or more of the following fields: functional analysis, continuous mathematical optimization, monotone operator theory, regularization theory, optimal transport, mathematical data science (desirable)
- Ability for integration into the institute's research profile and in particular into interdisciplinary cooperation projects
- Capacity for teamwork, organizational talent and ability to communicate
- Ability to teach in German language
- Very good knowledge of English required

Our Offer

Classification

Salary scheme of the Universitäten-KV (University Collective Agreement): B1

Minimum Salary

The minimum salary as stated in the collective agreement and according to the classification scheme is EUR 3.945,90 gross/month (for full-time employment). This minimum salary may be higher due to previous employment periods eligible for inclusion and other earnings and remunerations.

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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.

Especially with regard to academic staff, we welcome applications from persons with disabilities who meet the requirements of the advertised position.

Applicants with proof of COVID-19 vaccination will be given preference if equally qualified. For further information, please refer to our general application regulations.

From: Ramaseshan Kannan ramaseshan.kannan@arup.com [via NADIGEST]

Date: November 17, 2021

Subject: Multiple Positions, Algorithms and Numerical Analysis, Arup

Arup

[https://urldefense.com/v3/__https://www.arup.com/__;!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55CkK79DO\\$](https://urldefense.com/v3/__https://www.arup.com/__;!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55CkK79DO$)

is a global engineering firm working within the built environment.

We are behind the design of several landmark structures around the world such as the Beijing Olympic stadiums, Sydney Opera House and Queensferry Crossing.

We have opportunities within our Algorithms and Numerical Analysis team. They are both to do with new mathematics and software that is closely related to sustainability and net zero within the built environment.

Specifically, we are seeking:

- Someone with a research background in inverse problems/uncertainty quantification/probability.

[https://urldefense.com/v3/__https://jobs.arup.com/jobs/numerical-algorithms-developer-and-research-manager-](https://urldefense.com/v3/__https://jobs.arup.com/jobs/numerical-algorithms-developer-and-research-manager-8170__;!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55EO3KHbU$)

[8170__;!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55EO3KHbU\\$](https://urldefense.com/v3/__https://jobs.arup.com/jobs/numerical-algorithms-developer-and-research-manager-8170__;!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55EO3KHbU$)

- A senior C++ developer with significant experience creating numerical analysis software

[https://urldefense.com/v3/__https://jobs.arup.com/jobs/senior-numerical-software-developer-
B-technical-lead-](https://urldefense.com/v3/__https://jobs.arup.com/jobs/senior-numerical-software-developer-B-technical-lead-8173__;4oCT!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55FQVeoPk$)

[8173__;4oCT!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55FQVeoPk\\$](https://urldefense.com/v3/__https://jobs.arup.com/jobs/senior-numerical-software-developer-**B-technical-lead-8173__;4oCT!!HXCxUKc!lfaezqmK0SvrvK0rLbRqIZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55FQVeoPk$)

Please apply directly on the website. I'm happy to answer questions about the roles or have an informal conversation if it helps.

From: "alerts@tandfonline.com" <alerts@tandfonline.com>

Date: Friday, December 17, 2021

Subject: Inverse Problems in Science and Engineering, Volume 29, Issue 12, December 2021 is now available online on Taylor & Francis Online

Inverse Problems in Science and Engineering December 2021 Volume 29, Issue 12

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Call For Papers George S. Dulikravich

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