Contents

Today's Topics:

From: Martin Stynes m.stynes@csrc.ac.cn (va nadigest)
Subject: Fractional-Derivative Conference, China, Jun 2020
Date: January 10, 2020

The 4th Conference on "Numerical Methods for Fractional-Derivative Problems" will be held at Beijing Computational Science Research Center during 4-6 June 2020. The previous three workshops on this topic, held at Beijing CSRC in 2017, 2018 and 2019, each attracted more than 100 participants. This year's conference, in addition to focusing on fractional derivative problems, will include a few talks on the closely-related area of inverse problems.

Four confirmed main speakers are Bangti Jin (London), Natalia Kopteva (Limerick), Abner Salgado (Tennessee) and Masahiro Yamamoto (Tokyo). Other main and invited speakers, and full details regarding the conference, will be listed on the conference website
  https://urldefense.com/v3/__http://www.csrc.ac.cn/en/event/workshop/2020-01-10/103.html__;!!HXCxUKc!gMSLUrZ4mrLUkm0nwknz9CfZq2o6_uhBM3z8pFIVEvwbIDQYo_kQtxPbT8l1rozt$

Some slots are still open for contributed talks; if you wish to submit a talk, then please email fdworkshop2020@csrc.ac.cn your title and abstract (between a half-page and one page) by 1 March 2020.

Registration at the conference website is now open.

From: ICIPE 20 <icipe20@strutture.univaq.it>
Subject: International Conference on Inverse Problems in Engineering (ICIPE 20), Paper submission is now open and deadline extended
Date: Sunday, January 19, 2020

Dear Inverse Colleagues,

The deadline for paper submission for the "10th International Conference on Inverse Problems in Engineering: ICIPE 20" is extended to February 15, 2020.

In order to submit your ICIPE 20 paper, please use the online submission system that is now OPEN.

You may find detailed information on the Web site: http://icipe20.univaq.it.

Submit your paper here: http://icipe20.univaq.it/wordpress/?page_id=281

Best regards,
The ICIPE 20 Organizing Committee

From: "Siltanen, M Samuli" <samuli.siltanen@helsinki.fi>
Subject: Professor position open in Helsinki
Date: Wednesday, January 8, 2020

University of Helsinki has an open position for Professor in Inverse Problems at the Department of Mathematics and Statistics. All career levels (assistant/associate/full) are considered. The deadline for applications is February 15, 2020.

Here is the official announcement:
https://www.helsinki.fi/en/open-positions/professor-or-assistantassociate-professor-in-applied-mathematics-conducting-research-on-inverse-problems.

Women and other underrepresented groups in the field of mathematics are specifically encouraged to apply.

Please share this information with anyone possibly interested in applying!

Best regards,

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: Tapio Helin <Tapio.Helin@lut.fi>
Subject: Postdoc position in uncertainty quantification and inverse problems at LUT University
Date: Wednesday, January 15, 2020

Dear colleagues,

I'm looking for a postdoctoral researcher to join our research group on Uncertainty quantification and inverse problems at the LUT School of Engineering Science in Finland. The position is for a fixed term of two years and focuses on research at the interface of inverse problems and statistics. The start date for the position is April 1, 2020, but a later date can certainly be negotiated.

Our research group at LUT focuses on applied statistics and inverse problems. We specialise in the field of Bayesian statistical inverse problems, which refers to the effort to address real-world inverse problems as Bayesian statistical estimation problems. We study how statistical errors in measured

data propagate to solutions within the complex mathematical models of inverse problems. Our group at the School of Engineering Science is part of the Centre of Excellence of Inverse Modelling and Imaging (2018-2025) selected by the Academy of Finland. For information, see https://www.lut.fi/web/en/school-of-engineering-science/research/research-groups/inverse-problems

For more information and application instructions, see https://lut.rekrytointi.com/paikat/?o=A_RJ&jgid=1&jid=309

Best regards,
Tapio Helin
Associate Professor
Computational and Process Engineering
School of Engineering Science
LUT University

From: Tuomo Valkonen <tuomov@iki.fi>
Subject: Postdoc position in Nonsmooth Optimization/Inverse Problems, University of Helsinki
Date: January 24, 2020

I am looking for a post-doctoral researcher to work on nonsmooth optimisation methods specifically for the solution of inverse problems. The position is at the Department of Mathematics and Statistics at the University of Helsinki in close contact with the Finnish Centre of Excellence in Inverse Modelling and Imaging. The starting date is negotiable, preferably in September 2020. In the first place, funding is secured until the end of August 2021. An extension is foreseen.

Enquiries: Tuomo Valkonen <tuomo.valkonen@helsinki.fi>

To apply: https://urldefense.com/v3/__https://www.helsinki.fi/en/open-positions/postdoctoral-researcher-in-optimization-for-inverse-problems__;!!HXCxUKc!mVBgqGeMiIMkNDB2fOWRsMnV6-gwg_fcejZkJX7afS6lkzCRv_Bd0A5hnHjbbvJQX6BxiNY$

From: Naoki Saito <saito@math.ucdavis.edu>
Subject: UCD4IDS Research Postdoc Position at CS/ECE, University of California, Davis
Date: Friday, January 3, 2020

Location: UC Davis Department of Computer Science or Electrical & Computer Engineering

Description:

The UC Davis TETRAPODS Institute of Data Science (UCD4IDS) funded by the NSF HDR- TRIPODS grant, is soliciting applications for a full-time UCD4IDS research postdoc position starting July 1, 2020 for joint appointment in the Department of Electrical & Computer Engineering (ECE) and Department of Computer Science (CS).

UCD4IDS seek applicants who demonstrate promise and the capability of developing cutting edge computational, mathematical, and/or statistical methodology pertaining to modern areas of data science that involve large and complex data, as well as effective teaching skills.

In particular, those candidates whose research interests are in the following three broad themes of the Institute are strongly encouraged to apply:

1) Fundamentals of machine learning directed toward biological and medical applications;

2) Optimization theory and algorithms for machine learning including numerical solvers for large-scale nontrivial learning problems; and

3) High-dimensional data analysis on graphs and networks.

Qualifications:

Applicants are required to have completed their Ph.D. in Computer Science, Electrical & Computer Engineering, or related fields, by the time of their appointment, but no earlier than July 1, 2018. The starting annual salary is $50,760 and may be adjusted according to experience level and estimated salary increase for 2020. Supplemental salary is available through teaching positions in either ECE or CS departments, and the exact amount depends on the teaching load. Appointment is renewable for a total of up to two years, upon demonstration of satisfactory performance in research.

Additional information about the UCD4IDS may be found at: https://ucd4ids.ucdavis.edu/

How To Apply

Please send cover Letter, CV, research statement, and contact information for three references to: cabustamante@ucdavis.edu

Applications will be accepted until the position is filled. Priority will be given to applications received by January 31, 2020.

The University of California, Davis, is an affirmative action/equal opportunity employer with a strong institutional commitment to the achievement of diversity among its faculty and staff.

From: IPNet <ipnet@math.msu.edu>

Subject: REU on ICE: Inverse problems, Computational methods, and the Environment
Date: January 23, 2020

The Department of Mathematics at Dartmouth College invites undergraduate student applications to participate in a summer research experience program for studying the mathematics as it relates to inverse problems, computational methods, and the environment.

The deadline to apply is March 13, 2020.

Please see https://math.dartmouth.edu/~reu/ for more complete information.

(Thank you to Hristo Linkov for suggesting this news item for the IPNet. -- Ed.)
------ end -------

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

Today's Topics:

Submissions for IPNet Digest:
   Mail to ipnet-digest@math.msu.edu

Information about IPNet:
   http://ipnet.math.msu.edu

From: Yiqiu Dong <yido@dtu.dk>
Subject: PhD course on "Computational Uncertainty Quantification for Inverse Problems"
Date: Friday, January 31, 2020

We would like to draw your attention to our forthcoming PhD course on "Computational Uncertainty Quantification for Inverse Problems".

The course will be held from 11 May to 15 May 2020 at the Technical University of Denmark.   This course is aimed at PhD students and researchers in applied mathematics and physics who want to understand and use UQ in connection with inverse problems such as image deblurring, computed tomography, and inverse scattering.

The course consists of lectures and exercises using MATLAB. The topics are: a review of computational inverse problems, Bayesian methods and UQ for inverse problems, prior modeling with Markov random fields, and recently developed MCMC methods for UQ in inverse problems.

The course ends with a mini-project done by the course participants.   The course is given by Professor Johnathan M. Bardsley from the University of Montana, and it uses the book: J. M. Bardsley, Computational Methods and Uncertainty Quantification for Inverse Problems, SIAM, 2018. Further details can be found from the website: https://kurser.dtu.dk/course/02923.

Sign up for the course by sending an email to Yiqiu Dong: yido@dtu.dk.

Submitted by: Yiqiu Dong
Associate professor
Department of Applied Mathematics and Computer Science
Technical University of Denmark

From: Jan-F. Pietschmann <jfpietschmann@math.tu-chemnitz.de>
Subject: Chemnitz Inverse Problems Symposium 2020 @ DMV
Date: February 10, 2020

Dear collegues,

we are happy to announce this year's Chemnitz Symposium on Inverse Problems which will be part of the annual DMV-Meeting (German mathematical society) taking place in Chemnitz from

   September 14 to 17, 2020.

It will be organized by Barbara Kaltenbacher, Andrew Stuart and myself and we cordially invite you to join us.

All relevant information are summarized here:

https://urldefense.com/v3/__https://www.chemnitz-am.de/ipsym2020/__;!!HXCxUKc!hwiV_wXgp06resSKrGwjJ3TN0GwzubML02hda9Jt1hur9Zs_9ba6fPkUQUeo5hS61HtIGAo$

Note that the registration works directly via the DMV.

We would be happy to see many of you in Chemnitz this fall.

Best regards,
Barbara, Andrew and Jan

Submitted by:
Prof. Dr. Jan-Frederik Pietschmann
Faculty of Mathematics
TU Chemnitz, 09107 Chemnitz, Germany
email jfpietschmann@math.tu-chemnitz.de
phone +49 371 531 36901

From: Convegno ICIPE 2020 <icipe20@strutture.univaq.it>
Subject: I: 10th International Conference on Inverse Problems in Engineering: ICIPE 20. Registration and final paper sumission website open
Date: Friday, February 28, 2020

Dear Authors,

The registration for the "10th International Conference on Inverse Problems in Engineering: ICIPE 20" is now open and available on the web site.

The authors that have received the acceptance of their full-length papers can submit the final paper and an extended version of the related abstract via the "final paper submission website."

The "online paper submission" system will be kept open for those authors that have still to submit the draft version of their ICIPE 20 papers. Note the firm "no paper/no podium" policy of the conference.

You may find detailed information on the Web site: http://icipe20.univaq.it.

In addition, as regards the diffusion of the COVID-19 virus, it is of great concern to state that there are no problems in the region where the conference will be held. In fact, schools, public and private offices, universities, companies, and so on, are normally open. The risk zones called "red zones" are located only in the North-part of Italy, in the regions of Milan and Venice, that are 400 miles far from the conference venue and are currently guarded by the police.

Best regards,

The ICIPE 20 Organizing Committee

From: Matthias Ehrhardt <me549@bath.ac.uk>
Subject: The Mathematics of Machine Learning, August 2020, Bath, UK
Date: Friday, February 7, 2020

LMS-Bath Symposium on The Mathematics of Machine Learning
University of Bath, UK
3rd-7th August 2020
https://mathml2020.github.io/

Background
Machine learning (ML) is currently undergoing a massive expansion, due to the unprecedented availability of large amounts of data and computational power. The last decade has seen tremendous improvements in ML methods and achievements in many application areas including (bio-) medical sciences, computer vision and finance to name but a few.

Remarkably, while ML relies on mathematical models and tools, many ML algorithms do not have a rigorous mathematical foundation. One reason for this is that ML has been historically developed as a subfield of computer science rather than mathematics. Fundamental analysis questions are open, such as convergence and convergence rates, or the topology and geometry with which data should be studied.

It is essential that the mathematical community contributes to ML and provides a solid underpinning of ML methods. This Symposium will advocate the connection between ML and many mathematical disciplines, such as numerical analysis, inverse problems, optimisation, statistics, optimal transport, dynamical systems and partial differential equations, in order to shed light into the mysterious mathematical pathways of ML.

Call for Posters
In addition to the invited speakers, there is an opportunity for early career researchers to attend the Symposium and contribute a poster presentation. To apply, please submit a 1 page abstract here by 13th March 2020. Please note that places are limited, and notifications of acceptance will be sent out by 10th April 2020.

Please note that participants presenting a poster are responsible for their own accommodation, subsistence and travel costs. However, there is no registration fee for participation.

The Organising Committee:
Philip Aston, Matthias Ehrhardt, Catherine Higham, Clarice Poon

Submitted by: Matthias J Ehrhardt, PhD, Prize Fellow
Office: 6 West, 1.08, Tel: 0044 1225 38 6194
Institute for Mathematical Innovation, University of Bath, UK
https://mehrhardt.github.io

From: Ozan Öktem <ozan@kth.se>
Subject: Postdoctoral fellowship on deep learning based segmentation and CT-reconstruction
Date: February 18, 2020

Job announcement

2-year postdoctoral fellowship on deep learning based segmentation and CT-reconstruction

Deadline: 9 March 2020
Link:
https://urldefense.com/v3/__https://kth.varbi.com/en/what:job/jobID:311753/__;!!HXCxUKc!kzEPG
EU2c6tn-o8Wzj1mD9F1ye0S5G3eHaHAt_WSNNpcJs16sOg0KbLHLuZQpfqZ$

The position at the Department of Mathematics, KTH in Stockholm concerns research into usage of
develop deep learning for image joint CT-reconstruction and segmentation of forest logs. It is part of
a larger joint project with the University of Oulu, Lappeenranta-Lahti University of Technology, and
Finnos Oy on image guided optimization of the sawline processing of logs. For further information
and instructions for applying, see link above.

From: "Hohage, Thorsten" <hohage@math.uni-goettingen.de>
Subject: junior professorship "Applied mathematics in the natural sciences" at Göttingen
Date: Monday, February 24, 2020

The Institute of Numerical and Applied Mathematics at the University of Göttingen invites
applications for a

Junior Professor Position (W1) on Applied Mathematics in the Natural Sciences

to begin at the earliest possible date. We seek to appoint a researcher with an excellent Ph.D. thesis
and a core expertise in applied mathematics with relations to model-based data analysis in the
natural sciences. The successful candidate is expected to have experience in interdisciplinary
research and to support a planned collaborative research center with experimental scientists.
Connections to at least one of the research directions already represented at the institute are
desired. Teaching obligations comprise courses in the Bachelor, Master, and PhD programs of
mathematics as well as the Bachelor program "Mathematical Data Science". The university puts
emphasis on research-oriented teaching.

Application deadline is March 22, 2020.

The full job advertisement with more important information can be found at
http://www.uni-goettingen.de/de/305402.html?cid=14883

For further information, please contact Prof. Dr. Thorsten Hohage, hohage@math.uni-goettingen.de

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From: Naoki Saito <saito@math.ucdavis.edu>
Subject: UCD4IDS Postdoc in Statistics
Date: Monday, February 24, 2020

University of California, Davis Department of Statistics

Postdoctoral Position in Data Science at UC Davis

The Department of Statistics at the University of California, Davis, and the UC Davis TETRAPODS Institute of Data Science (UCD4IDS) funded by the NSF HDR-TRIPODS grant, are soliciting applications for a UCD4IDS postdoctoral employee position starting July 1, 2020.

The Department and the Institute seek applicants who demonstrate promise and the capability of developing cutting edge computational, mathematical, and/or statistical methodology pertaining to modern areas of data science that involve large and complex data, as well as effective teaching skills. In particular, those candidates whose research interests are in the following three broad themes of the Institute are strongly encouraged to apply:

1) Fundamentals of machine learning directed toward biological and medical applications; 2) Optimization theory and algorithms for machine learning including numerical solvers for large-scale nontrivial learning problems; and 3) High-dimensional data analysis on graphs and networks.

Applicants are required to have completed their Ph.D. by the time of their appointment, but no earlier than July 1, 2017. The appointment may include teaching up to three courses per academic year, which will be negotiable. The appointment will be for up to two years, renewable after the first year upon demonstration of satisfactory performance in research and teaching (if applicable).

The position will remain open until filled, but to assure full consideration please submit a cover letter, Statement of Research, Statement of Teaching, Statement of Contribution to Diversity, curriculum vitae, 2-4 letters of reference, and transcripts (if PhD obtained during 2017 or later) by March 13, 2020. Applications are submitted online through UC Recruit at https://recruit.ucdavis.edu/analyst/recruitments/JPF03387/.

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, age or protected veteran status.

Department of Statistics, University of California, Davis (https://statistics.ucdavis.edu/)

From: LA TORRE Davide <davide.latorre@skema.edu>
Subject: Special Issue in Optimization and Engineering - Springer
Date: Sunday, January 26, 2020

Special issue on Optimization Methods in Inverse Problems and Application to Science and Engineering

Guest Editors: H. Kunze (University of Guelph, Canada), D. La Torre (SKEMA Business School, France), M. Ruiz-Galan (University of Granada, Spain)

Deadline for submissions: July 31, 2020

1st round of review – comments to authors: September 30, 2020
Revision deadline: November 30, 2020
Submission of final version: December 31, 2020

This special issue aims at bringing together articles that discuss recent advances of optimization methods and algorithms in inverse problems and application to science and engineering. A typical inverse problem seeks to find a mathematical model that admits given observational data as an approximate solution. This sort of question is of great interest in many application areas, including biomedical engineering and imaging, remote sensing and seismic imaging, astronomy, oceanography, atmospheric sciences and meteorology, chemical engineering and material sciences, computer vision and image processing, ecology, economics, environmental systems, physical systems. Very often an inverse problem appears in the form of a parameter estimation problem, it can be formulated as an optimization model, and then solved using different optimization algorithms and techniques. All papers included in this special issue will consider aspects of numerical analysis, mathematical modeling, and computational methods. Potential topics include but are not limited to the following:

Inverse Problems Algorithms
Inverse Problems for Ordinary and Differential Equations
Inverse Problems using Nonsmooth Optimization
Inverse Problems using Multicriteria Optimization
Fractal-based Inverse Problems
Shape Optimization
Inverse Optimization
Inverse Problems in Image Analysis
Regularization Techniques

https://www.opte-journal.com/index.php?page=sis

From: Umberto Villa uvilla@wustl.edu [via nadigest]
Date: February 04, 2020
Subject: Introducing hIPPYlib, a python-based inverse problems solver library

We are pleased to announce the availability of hIPPYlib, an extensible software framework for solving large-scale deterministic and Bayesian inverse problems governed by partial differential equations (PDEs) with (possibly) infinite-dimensional parameter fields. The development of this project is being supported by the National Science Foundation.

The current version of hIPPYlib is 3.0 and can be downloaded from:
https://urldefense.com/v3/__https://hippylib.github.io__;!!HXCxUKc!nkU7nExnZZTsFrzzxEEo5rdwAR AucxawAPtDLLnWF9bNvfNbevHn7c5p9ZSNlzEq$

This computational tool implements state-of-the-art scalable adjoint-based algorithms for PDE-based deterministic and Bayesian inverse problems. It builds on FEniCS for the discretization of the PDE and on PETSc for scalable and efficient linear algebra operations and solvers.

For more details, please check out the manuscript:
https://urldefense.com/v3/__http://arxiv.org/abs/1909.03948__;!!HXCxUKc!nkU7nExnZZTsFrzzxEEo 5rdwARAucxawAPtDLLnWF9bNvfNbevHn7c5p9UrdrroL$

For additional resources and tutorials please check out the teaching material from the 2018 Gene Golub SIAM Summer School on ``Inverse Problems: Systematic Integration of Data with Models

under Uncertainty" available at
https://urldefense.com/v3/__http://g2s3.com__;!!HXCxUKc!nkU7nExnZZTsFrzzxEEo5rdwARAucxawA
PtDLLnWF9bNvfNbevHn7c5p9bnDlb85$.

Umberto Villa, Noemi Petra and Omar Ghattas

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https://iopscience.iop.org/issue/0266-5611/35/12

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Special Issue: Special Issue in Memory of Professor Armin Lechleiter, 1982–2018
Fioralba Cakoni, Houssem Haddar and Andreas Kirsch

Special Issue Papers:

Analysis of shape optimization problems for unsteady fluid-structure interaction
Johannes Haubner, Michael Ulbrich and Stefan Ulbrich

A Nash game based variational model for joint image intensity correction and registration to deal with varying illumination
Anis Theljani and Ke Chen

Geometric numerical integration of the assignment flow
Alexander Zeilmann, Fabrizio Savarino, Stefania Petra and Christoph Schnörr

Differential imaging of local perturbations in anisotropic periodic media
Thi-Phong Nguyen

Deep unfolding of a proximal interior point method for image restoration
C Bertocchi, E Chouzenoux, M-C Corbineau, J-C Pesquet and M Prato

Papers:

Explicit power laws in analytic continuation problems via reproducing kernel Hilbert spaces
Yury Grabovsky and Narek Hovsepyan

Solving inverse bioheat problems of skin tumour identification by dynamic thermography
J Iljaž, L C Wrobel, T Gomboc, M Hriberšek and J Marn

Electro-magnetoencephalography for a spherical multiple-shell model: novel integral operators with singular-value decompositions
S Leweke, V Michel and A S Fokas

Sparse reconstructions of acoustic source for inverse scattering problems in measure space
Xueshuang Xiang and Hongpeng Sun

The fixed angle scattering problem and wave equation inverse problems with two measurements
Rakesh and Mikko Salo

Identification of the degradation coefficient for an anomalous diffusion process in hydrology
Guang-Hui Zheng and Ming-Hui Ding

Orthogonal function series formulas for inversion of the spherical Radon transform
Sunghwan Moon

Uniqueness of solution of an inverse source problem for ultrahyperbolic equations
Fikret Gölgeleyen and Masahiro Yamamoto

Inverse problems with partial data for elliptic operators on unbounded Lipschitz domains
Jussi Behrndt and Jonathan Rohleder

Imaging with highly incomplete and corrupted data
Miguel Moscoso, Alexei Novikov, George Papanicolaou and Chrysoula Tsogka

Applications of kinetic tools to inverse transport problems
Qin Li and Weiran Sun

https://iopscience.iop.org/issue/0266-5611/36/3

Table of Contents

Cheng, Xiaoliang / Yuan, Lele / Liang, Kewei

Two closed novel formulas for the generalized inverse A T,S (2) of a complex matrix with given rank
Sheng, Xingping

The problem of determining the one-dimensional kernel of viscoelasticity equation with a source of explosive type
Durdiev, Durdimurod Kalandarovich / Totieva, Zhanna Dmitrievna

Inverse problems for a class of linear Sobolev type equations with overdetermination on the kernel of operator at the derivative
Fedorov, Vladimir Evgenyevich / Ivanova, Natalia Dmitrievna

Isospectral sets for transmission eigenvalue problem
Yang, Chuan-Fu / Buterin, Sergey A.

Stability estimate for an inverse problem of the convection-diffusion equation
Bellassoued, Mourad / Rassas, Imen

The enclosure method for the heat equation using time-reversal invariance for a wave equation
Ikehata, Masaru

Joint inversion of compact operators
Mead, Jodi L. / Ford, James F.

Inverse problem of breaking line identification by shape optimization
Ghilli, Daria / Kunisch, Karl / Kovtunenko, Victor A.

The backward problem of parabolic equations with the measurements on a discrete set
Cheng, Jin / Ke, Yufei / Wei, Ting

Optimal convergence rates for inexact Newton regularization with CG as inner iteration
Neubauer, Andreas

https://www.degruyter.com/view/j/jiip.2020.28.issue-1/issue-files/jiip.2020.28.issue-1.xml
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From: Filippo De Monte <filippo.demonte@univaq.it>
Subject: I: 10th Int. Conf. on Inverse Problems in Engineering (ICIPE 20), May 18-21, 2020, Francavilla al Mare (Chieti), Italy: Postponed to May 2021
Date: Monday, March 16, 2020

10th Int. Conf. on Inverse Problems in Engineering (ICIPE 20), May 18-21, 2020, Francavilla al Mare (Chieti), Italy:
Postponed to May 2021

Dear inverse colleague,

Considering the influence of coronavirus outbreak and transport restriction, also in order to protect the health and safety to all of our participants, we have to announce regretfully that The 10th Int. Conf. on Inverse Problems in Engineering (ICIPE 20), scheduled during May 18-21, 2020 will be postponed to May 2021 in the same place, Villa Maria Hotel, Francavilla al Mare (Chieti), Italy. The exact period will be communicated shortly.

Hopefully, see you in Italy next year!

Best regards,

The ICIPE 20 Organizing Committee

From: igwmc <igwmc@mines.edu>
Subject: HYDRUS Short Course June 22-24, 2020
Date: Monday, March 2, 2020

Hello,

We would like to notify you of an upcoming short course for 2020:

Course:
Modeling Water Flow and Contaminant Transport in Soils and Groundwater
using the HYDRUS Software Packages

This course begins with a detailed conceptual and mathematical description of water flow and solute transport processes in the vadose zone, followed by a brief overview of the use of finite element techniques for solving the governing flow and transport equations. Special attention is given to the highly nonlinear nature of the governing flow equation. Alternative methods for describing and modeling the hydraulic functions of unsaturated porous media are also described. Hands-on computer sessions will provide participants an opportunity to become familiar with the Windows-based HYDRUS-1D and HYDRUS (2D/3D) software packages. Emphasis will be on the preparation of input data for a variety of applications, including flow and transport in a vadose zone, subsurface drip irrigation, flow and transport to a tile drain, and two-dimensional leachate migration from a landfill through the unsaturated zone into groundwater. Calibration will be discussed and demonstrated by means of a one-dimensional inverse problem.

Date: Monday, June 22 - Wednesday, June 24, 2020

Location: Colorado School of Mines Golden, Colorado

This course will be capped at 20 participants, so register early to ensure your spot!

For more information and to register, please see the HYDRUS website.

Questions? Contact: igwmc@mines.edu

To stay up to date on additional upcoming short courses in 2020, please check our website.

Thank you.

Lisa Gallagher, PhD
Assistant Director, IGWMC
-- Integrated GroundWater Modeling Center Colorado School of Mines 1516 Illinois St. BE121 Golden, CO 80401 Tel: 303-273-3103 / Fax: 303-384-2037 email: igwmc@mines.edu

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From: Kim Knudsen <kiknu@dtu.dk>
Subject: IPNET: PhD position at DTU
Date: Friday, March 6, 2020

PhD position in Computational Uncertainty Quantification for Hybrid Inverse Problems

Dear all,

We are looking for a talented PhD student that can help us understand, how uncertainty can be modelled and quantified for Hybrid Inverse Problems such as photo-acoustic or acousto-electric tomography.

The successful candidate will be hired and enrolled at DTU Compute. The project is associated with the research initiative CUQI financed by the Villum Foundation, and in collaboration with the Department of Applied Physics at the University of Eastern Finland, Kuopio Campus.

Applications must be submitted ONLINE by May 1, 2020. See the full call at https://www.dtu.dk/english/About/JOB-and-CAREER/vacant-positions/job?id=6133fbca-d511-4796-b644-1ffc2b154b10.

For further information, please contact Kim Knudsen (kiknu@dtu.dk).

Submitted by: Kim Knudsen
Associate Professor, PhD
Head of DTU Compute PhD School
Dir. 45 25 3026
kiknu@dtu.dk
Matematiktorvet
Building 303b, room 106
2800 Kgs. Lyngby
www.dtu.dk
------ end -------

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

Today's Topics:
    Zoom Webinars on Imaging and Inverse Problems (IMAGINE)
    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: Fadil Santosa <santo002@umn.edu>
Subject: Zoom Webinars on Imaging and Inverse Problems (IMAGINE)
Date: April 14, 2020

The current COVID-19 global situation is making traveling impossible and causing the cancellation of conferences and seminars all around the world. Inspired by the idea of the Probability, PDE, MINDS and MADS One World seminars, our One World IMAGing and INvErse problems (IMAGINE) seminar series aims to provide a forum for exchange of ideas and networking for scientists world-wide working in the field of mathematical imaging and applied inverse problems.

IMAGINE topics
Talks of this seminar series will focus on the mathematical modelling, analysis and computational aspects of image processing and applied inverse problems together with their application to real-world problems.

Dates, times and format
 * IMAGINE seminars will run on Wednesdays, starting from April 22 2020.
* Seminars will start at 4pm France time (UTC+2: 7am US west coast, 10am US east coast, 10pm Beijing..), click here for conversion in your local time.
* Seminars will take the format of Zoom Webinars.
* Seminars will be 45 minute long, with 15 minutes for questions moderated by the hosts of the call.

Organizers:
Eric Bonnetier, Université Grenoble-Alpes, France
Luca Calatroni, CNRS, Université Côte d'Azur, France
Raymond Chan, CityU, Hong Kong
Fadil Santosa, University of Minnesota, USA
Carola-Bibiane Schoenlieb, University of Cambridge, UK

For more information, and to subscribe to the IMAGINE mailing list, please consult the seminar website:
https://urldefense.com/v3/__https://sites.google.com/view/oneworldimagine__;!!HXCxUKc!k0sRYGl oOIV-02ng3TvIXzKpJwpnnIyzm9Ww15ElLfH0_KVM8gS7MOD_lmRo_dMd$

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

                Table of Contents

Momentum ray transforms, II: range characterization in the Schwartz space
Venkateswaran P Krishnan, Ramesh Manna, Suman Kumar Sahoo and Vladimir A Sharafutdinov

On the two-step estimation of the cross-power spectrum for dynamical linear inverse problems
Elisabetta Vallarino, Sara Sommariva, Michele Piana and Alberto Sorrentino

Consistency of a phase field regularisation for an inverse problem governed by a quasilinear Maxwell system
Kei Fong Lam and Irwin Yousept

The two-point gradient methods for nonlinear inverse problems based on Bregman projections
M Zhong and W Wang

The low rank approximations and Ritz values in LSQR for linear discrete ill-posed problem
Zhongxiao Jia

Unique continuation of the normal operator of the x-ray transform and applications in geophysics
Joonas Ilmavirta and Keijo Mönkkönen

An image sharpening operator combined with framelet for image deblurring
Jingjing Liu, Yifei Lou, Guoxi Ni and Tieyong Zeng

https://iopscience.iop.org/issue/0266-5611/36/4
------ end -------

From: Todd Quinto <Todd.Quinto@tufts.edu>
Date: Friday, May 1, 2020
Subject: Inverse Problems workshop against COVID-19 May 7

The International Centre for Mathematical Sciences (ICMS) in Edinburgh, UK, is hosting a web meeting on May 7 to catalyze activity by applied mathematicians on electron tomography of the coronavirus.

This will be a virtual seminar hosted by the ICMS from 9:00 a.m. to about 12:30 EDT on Thursday May 7th. We hope especially that people with an interest in Machine Learning and Bayesian inverse problems and uncertainty quantification will get involved as well as other areas of inverse problems.

Alan Roseman (School of Biological Science, UoM) will give an introduction to the problems we face imaging the coronavirus SARS-CoV-2 that causes Covid-19, then Ozan Öktem from KTH Royal Institute of Technology, Stockholm will give a talk on inverse problems in electron tomography, followed by a discussion chaired by Todd Quinto from Tufts and Alan Roseman on the mathematical and biological challenges.

The meeting will be held on Zoom and moderated by ICMS. Registration is via the link https://www.icms.org.uk/V_ITC.php

Please circulate to anyone who may be interested.

Questions can be addressed to todd.quinto@tufts.edu

Submitted by:
Eric Todd Quinto
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E-MAIL: Todd.quinto@tufts.edu
https://math.tufts.edu/faculty/equinto/
------ end -------

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

Today's Topics:

Submissions for IPNet Digest:
    Mail to ipnet-digest@math.msu.edu

Information about IPNet:
     http://ipnet.math.msu.edu

From: OIPE2020 <oipe2020@zut.edu.pl>
Date: Thursday, May 7, 2020
Subject: OIPE2020 Conference

Dear colleagues,

Due to the epidemiological situation of COVID-19, the International Steering Committee decided that the conference will be postponed to 2021. Consultations are currently ongoing to determine a specific date. We apologize for any inconvenience, but we believe that 2021 will be much more appropriate and safe for all participants. We will inform you as soon as we set a new conference date. Please also follow our website.

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

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From: Alfio Borzi <alfio.borzi@mathematik.uni-wuerzburg.de>
Date: May 12, 2020
Subject: New Book - Modelling with ODEs: A Comprehensive Approach

Dear Colleagues,

It is my pleasure to tell you about the new book :

Modelling with Ordinary Differential Equations: A Comprehensive Approach

by Alfio Borzi

(Chapman and Hall/CRC Press, 2020
388 Pages - 57 B/W Illustrations
ISBN 9780815392613)

This book should represent a new paradigm in the usual understanding and teaching of modelling with ordinary differential equations (ODEs). In fact, in addition to addressing different topics ranging

from the general theory of ODEs, stability properties of solutions, limit cycles and synchronisation, and the fundamental topic of the calculus of variation, the book discusses the solution of inverse problems with ODEs that appear in the calibration of differential models. Furthermore, assuming that an adequate model of a given phenomenon is available, the book provides an introduction to optimal control tools that are required to design control mechanisms for the model to perform a given task. These tools are further extended to address problems of competition and cooperation that are modelled in the framework of differential games. The book is completed with a chapter on different stochastic processes and stochastic differential equations, and a final chapter on neural networks to solve ODE problems and related parameter identification problems.

As far as possible, the book aims to be self-contained, presenting a large variety of topics related to modelling with ODEs together and in a unified manner. For this purpose, many theoretical results are proved, many illustrative examples complement the text, and numerical methods are discussed to solve problems arising in the different chapters (a suite of codes is available online).

Please, for more details, see

https://urldefense.com/v3/__https://www.routledge.com/Modelling-with-Ordinary-Differential-Equations-A-Comprehensive-Approach/Borzi/p/book/9780815392613?utm_source=crcpress.com&utm_medium=referral__;!!HXC xUKc!iQwkSkD4FjE1NgxGhkIRlt368JDLD2Qrl4dR5P5H5cMaWT60xDzDM98Og6nV8_mSR0vrRFc$

With my best regards and many thanks

Alfio

Contents:

1. Introduction.
2. Elementary solution methods for simple ODEs.
3. Theory of ordinary differential equations.
4. Systems of ordinary differential equations.
5. Ordinary differential equations of order n.
6. Stability of ODE systems.
7. Boundary and eigenvalue problems.
8. Numerical solution of ODE problems.
9. ODEs and the calculus of variations.
10. Optimal control of ODE models.
11. Inverse problems with ODE models.
12. Differential games.
13. Stochastic differential equations.
14. Neural networks and ODE problems.

From: Gerlind Plonka-Hoch plonka@math.uni-goettingen.de [via NADIGEST]
Date: May 07, 2020
Subject: PhD Positions, Applied Mathematics and Stochastics

The Research Training Group RTG 2088 "Discovering Structure in Complex Data" at the Georg-August-University Goettingen offers two positions for Ph.D. candidates beginning a soon as possible. The salary is in accordance with the German public service salary scale (E13 TV-L) with 75 % for up to three years.

The research projects in this RTG focus on new mathematical concepts in statistics, optimization, and inverse problems. Detailed information for the PhD positions can be found at

https://urldefense.com/v3/__https://www.uni-goettingen.de/de/305402.html?cid=100683__;!!HXCxUKc!hrYiWxaPRpUroLzEJFEnHsUpK5TuCqfcjbfwL1VEfy7R0phUjzFeCVsPiZbUhtFy$

From: Simon Arridge <S.Arridge@cs.ucl.ac.uk>
Date: Tuesday, May 12, 2020
Subject: PhD in Inverse Problems for Phase Contrast X-Ray CT at UCL

Project Description

A multidisciplinary consortium from UCL comprising the Advanced X-Ray Imaging group in the Department of Medical Physics and Biomedical Engineering, the Photonic Innovations Lab in the Department of Electronic and Electrical Engineering, and the Centre for Inverse Problems in Computer Science has received strategic funding from UKRI (Nikon-UCL Prosperity Partnership on Next-Generation X-Ray Imaging) to support a partnership tasked with developing disruptive approaches to the use of x-rays in science, industry, medicine and security.

Our prime industrial partner is Nikon X-Tek Systems and additional industrial partners include ISDI, Scintacor and Quantum Detectors. Other partners include the Swiss Federal Laboratories for Materials Science and Technology and three synchrotrons (Diamond, Elettra and the ESRF).

The Centre for Inverse Problems is leading the image reconstruction aspects of the consortium and we are looking a suitable PhD student to join our team. The student will develop innovative reconstruction algorithms involving phase retrieval, compressed sensing, deep learning, and large scale optimisation. The PhD project will involve detailed mathematical and computation development and will work closely with the experimental teams to ensure translation to real applications will be realised. Comprehensive training in the key elements of the research programme will be provided.

The partnership places a high priority in integrating all activities so appointed PhD candidates will be expected to work across multiple research groups, spend time both in academia and in industry, and participate in experiments at synchrotrons.

All studentships will be available for up to 4 years; candidates must have a UK first class or 2:1 honours degree, an MSc, or their international equivalent in physics, engineering, mathematics or a comparable subject. Studentships are available to UK and to all EU students regardless of whether they have resided in the UK in the previous 3 years.

Interested candidates should contact Prof Simon Arridge (s.arridge@ucl.ac.uk) to discuss the details of the project.

Details and application links at :

https://www.findaphd.com/phds/project/phd-position-in-image-reconstruction-for-next-generation-x-ray-tomography/?p121378

From: Giovanni S Alberti <giovanni.alberti@unige.it>
Date: Saturday, May 23, 2020
Subject: PhD and Postdoc positions in Applied Analysis at the University of Genoa

It is a pleasure to announce the call for one PhD student and one Postdoc in Applied Analysis at the Department of Mathematics of the University of Genoa, Italy. The main research themes will be inverse problems, PDE, applied harmonic analysis and machine learning. Candidates who are familiar with one or more of these topics are encouraged to apply.

The start of the positions is planned in Autumn 2020, and the duration of the contracts is 3 years. At this stage, perspective candidates are only asked to complete an expression of interest (link for PhD and link for postdoc). For more details visit https://ml.unige.it/jobs-posts.html.

All the research activities will be carried out at the University of Genoa within MaLGa, a newly established machine learning center at the University of Genoa. The center carries out research in different aspects of machine learning, from theoretical to applied aspects. Today the center counts 10 faculties and 30 PhD students/postdocs and provides a lively and dynamic work environment.

Please feel free to circulate this announcement.

Best wishes

Giovanni S. Alberti
Machine Learning Genoa (MaLGa) Center
Department of Mathematics
University of Genoa

From: "noreply@iopscience.org" <noreply@iopscience.org>
Date: May 6, 2020
Subject: Inverse Problems, Volume 36, Numbers 2 and 5, 2020

Inverse Problems   February 2020   Volume 36, Number 2
                          Table of Contents

Preface:

Generalized Radon transforms and applications in tomography
Gaik Ambartsoumian and Eric Todd Quinto

Preface to special issue on joint reconstruction and multi-modality/multi-spectral imaging
Simon R Arridge, Martin Burger and Matthias J Ehrhardt

Special Issue Papers:

Factorization of the translation kernel for fast rigid image alignment
Aaditya Rangan, Marina Spivak, Joakim Andén and Alex Barnett

CGO-Faddeev approach for complex conductivities with regular jumps in two dimensions
Ivan Pombo

Cryo-EM reconstruction of continuous heterogeneity by Laplacian spectral volumes
Amit Moscovich, Amit Halevi, Joakim Andén and Amit Singer

Dynamic inverse wave problems—part I: regularity for the direct problem
Thies Gerken and Simon Grützner

Dynamic inverse wave problems—part II: operator identification and applications
Thies Gerken

Inverse problems for nonlinear quasi-hemivariational inequalities with application to mixed boundary value problems
Stanisław Migórski, Akhtar A Khan and Shengda Zeng

Papers:

Image reconstruction through metamorphosis
Barbara Gris, Chong Chen and Ozan Öktem

Determining both the source of a wave and its speed in a medium from boundary measurements
Christina Knox and Amir Moradifam

Reconstruction of the principal coefficient in the damped wave equation from Dirichlet-to-Neumann operator
Vladimir Romanov and Alemdar Hasanov

Uniqueness in inverse cavity scattering problems with phaseless near-field data
Deyue Zhang, Yinglin Wang, Yukun Guo and Jingzhi Li

Density matrix reconstructions in ultrafast transmission electron microscopy: uniqueness, stability, and convergence rates
Cong Shi, Claus Ropers and Thorsten Hohage

A denoising model adapted for impulse and Gaussian noises using a constrained-PDE
L Afraites, A Hadri and A Laghrib

Compton scattering tomography in translational geometries
James Webber and Eric L Miller

Persistent homology detects curvature
Peter Bubenik, Michael Hull, Dhruv Patel and Benjamin Whittle

Fast acoustic source imaging using multi-frequency sparse data
Ala Alzaalig, Guanghui Hu, Xiaodong Liu and Jiguang Sun

Sparse reconstructions from few noisy data: analysis of hierarchical Bayesian models with generalized gamma hyperpriors
Daniela Calvetti, Monica Pragliola, Erkki Somersalo and Alexander Strang

Inverse transport problem in fluorescence ultrasound modulated optical tomography with angularly averaged measurements
Wei Li, Yang Yang and Yimin Zhong

Sparsity and level set regularization for near-field electromagnetic imaging in 3D
A J Hiles and O Dorn

Sharp stability estimate for the geodesic ray transform
Yernat M Assylbekov and Plamen Stefanov

Recovery of singularities for the weighted cone transform appearing in Compton camera imaging
Yang Zhang

Half-inverse Sturm–Liouville problem on a time scale
A Sinan Ozkan and İbrahim Adalar

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Inverse Problems   May 2020   Volume 36, Number 5
                          Table of Contents

Special Issue Papers:

Sampled limited memory methods for massive linear inverse problems
Julianne Chung, Matthias Chung, J Tanner Slagel and Luis Tenorio

Tomographic reconstruction with spatially varying parameter selection
Yiqiu Dong and Carola-Bibiane Schönlieb

Discrete total variation of the normal vector field as shape prior with applications in geometric inverse problems
Ronny Bergmann, Marc Herrmann, Roland Herzog, Stephan Schmidt and José Vidal-Núñez

Total variation of the normal vector field as shape prior
Ronny Bergmann, Marc Herrmann, Roland Herzog, Stephan Schmidt and José Vidal-Núñez

Papers:

The quadratic Wasserstein metric for inverse data matching
Björn Engquist, Kui Ren and Yunan Yang

Projected Newton method for noise constrained Tikhonov regularization
J Cornelis, N Schenkels and W Vanroose

Solving phase retrieval via graph projection splitting
Ji Li and Hongkai Zhao

Global uniqueness in a passive inverse problem of helioseismology
A D Agaltsov, T Hohage and R G Novikov

One-bit compressed sensing via ℓ_p $(0 < p < 1)$-minimization method
Jingyao Hou, Jianjun Wang, Feng Zhang and Jianwen Huang

Semivariogram methods for modeling Whittle–Matérn priors in Bayesian inverse problems

Richard D Brown, Johnathan M Bardsley and Tiangang Cui

Stability of the inverse source problem for the Helmholtz equation in R3
Adrian Kirkeby, Mads T R Henriksen and Mirza Karamehmedović

An inverse source problem for distributed order time-fractional diffusion equation
Chunlong Sun and Jijun Liu

$\ell 1 - \alpha\ell 2$ minimization methods for signal and image reconstruction with impulsive noise removal
Peng Li, Wengu Chen, Huanmin Ge and Michael K Ng

Reduced order models for spectral domain inversion: embedding into the continuous problem and generation of internal data
L Borcea, V Druskin, A Mamonov, S Moskow and M Zaslavsky

On existence and regularity of a terminal value problem for the time fractional diffusion equation
Nguyen Huy Tuan, Tran Bao Ngoc, Yong Zhou and Donal O'Regan

Data completion method for the Helmholtz equation via surface potentials for partial Cauchy data
Matthieu Aussal, Yosra Boukari and Houssem Haddar

A new class of accelerated regularization methods, with application to bioluminescence tomography
Rongfang Gong, Bernd Hofmann and Ye Zhang

A Bayesian filtering approach to layer stripping for electrical impedance tomography
D Calvetti, S Nakkireddy and E Somersalo

On the local Lipschitz stability of Bayesian inverse problems
Björn Sprungk

A partial data problem in linear elasticity
Moritz Doll, André Froehly and René Schulz

https://iopscience.iop.org/issue/0266-5611/36/5

Inverse Problems in Science and Engineering   May 2020   Volume 28, Issue 5
Table of Contents

Editorial:
Celebration of 90th birthday of James Vere Beck
Keith A. Woodbury

Articles:
Calculation of the inverse kinematics solution of the 7-DOF redundant robot manipulator by the firefly algorithm and statistical analysis of the results in terms of speed and accuracy
Serkan Dereli & Raşit Köker

Reliability assessment and data inversion using a surrogate model of wave propagation in functionally graded materials
Marcos A. Capistrán, Pham Chi Vinh & Tran Thanh Tuan

Finite dimensional iteratively regularized Gauss–Newton type methods and application to an inverse problem of the wave tomography with incomplete data range
O. V. Karabanova, M. Yu. Kokurin & A. I. Kozlov

Numerical solution of the inverse problem of thermal diagnostics of friction in a system of radial sliding bearings with an account of rotation of the shaft
N. P. Starostin & R. S. Tikhonov

Inversing fracture parameters using early-time production data for fractured wells
Zixi Guo, Yiyu Chen, Xiang Zhou & Fanhua Zeng

Rotating machinery health evaluation by modal force identification
Tobias Souza Morais, Leandro de Souza Leão, Aldemir Ap Cavalini Jr & Valder Steffen Jr

A shape design problem in determining the optimal geometry of wavy-shaped inverted fins
Cheng-Hung Huang & Po-Wei Tung

A new method based on polynomials equipped with a parameter to solve two parabolic inverse problems with a nonlocal boundary condition
J. Hajishafieiha & S. Abbasbandy

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

Submissions for IPNet Digest:
    Mail to ipnet-digest@math.msu.edu

Information about IPNet:
     http://ipnet.math.msu.edu

From: Kaltenbacher, Barbara <Barbara.Kaltenbacher@aau.at>
Subject: Job announcement at the University of Klagenfurt, Austria
Date: May 28, 2020

Dear colleagues,

I am happy to announce that the Austrian Science Fund (FWF) has granted the doc.funds doctoral
school Modeling - Analysis - Optimization of discrete, continuous, and stochastic systems:
https://urldefense.com/v3/__http://www.math.aau.at/doctoralschool__;!!HXCxUKc!m1QMQ-
lDnOgycs0b5tlF4jtAtd26AyJVg1LHkuajZ5EzzdTpIje7qrKwfAR69iZINvivDJI$

For this doctoral school we announce 12 doctoral positions - the announcement can be found at
https://urldefense.com/v3/__https://www.aau.at/wp-content/uploads/2020/05/324-20_12_A-
Text_Senior-Scientist-Dokt.stellen-doc.funds_glob_FWF_STAT.pdf__;!!HXCxUKc!m1QMQ-
lDnOgycs0b5tlF4jtAtd26AyJVg1LHkuajZ5EzzdTpIje7qrKwfAR69iZI4lNcakA$

So if you know any potential candidates, we would be very pleased if you could forward this
announcement to them or if you could recommend them to us.

Thank you very much and best wishes,
Barbara Kaltenbacher

From: "Zhang, Ruming (IANM)" <ruming.zhang@kit.edu>
Subject: Job offer for publication
Date: Thursday, June 4, 2020

Doctoral Researcher (f/m/d) in Applied Mathematics, 75% "High order numerical methods for
acoustic scattering problems with locally perturbed periodic structures"

Job description

The project is funded by the German Research Foundation (DFG), starts on October 01, 2020. The
aim of this project is to design high order numerical methods to simulate time-harmonic acoustic
scattering problems, which are modelled by Helmholtz equations, in three-dimensional spaces.

Numerical analysis and numerical experiments will be carried out to investigate both the convergence and efficiency of the newly proposed numerical methods.

We seek for an ambitious doctoral researcher with strong interest in the numerical methods for partial differential equations. The position is to be started on October 01, 2020. You will have the opportunity to attend conferences, workshops and summer schools. Engagement in teaching is encouraged.

The doctoral researcher will be integrated into the Collaborative Research Center (CRC) 1173 "Wave Phenomena" (waves.kit.edu). The CRC provides an inspiring, attractive, interdisciplinary, and internationally recognized scientific environment with access to excellent facilities of the KIT, a wide scope of advanced training options within our integrated research training group, and flexible working time models. The CRC aims at the implementation of equal opportunities; it promotes diversity and supports persons with childcare or eldercare responsibilities as well as persons with disabilities. Funds for travel and guests are available through the CRC.

Personal qualification

The following qualifications are required:

·   Excellent Master or an equivalent degree in Applied Mathematics
·   Strong background in numerical methods for partial differential equations
·   Very good knowledge of programming (MATLAB, C++, ...)
·   If possible, basic knowledge of parallel computing
·   We expect excellent writing and oral communication skills in English along with the ability to work independently within an international team.
·   Applications should include a cover letter, a curriculum vitae,
·   a statement of research interest, contact information for two referees, and copies of degree certificate(s)

Salary
Salary category E13, depending on the fulfillment of professional and personal requirements.

Organizational unit
Institute for Applied and Numerical Mathematics (IANM)

Starting date
01.10.2020

Contract duration
limited to three years

Application up to
30.06.2020

Contact person in line-management
For further information, please contact Dr. Ruming Zhang, email: ruming.zhang@kit.edu, or Ms. Laurette Lauffer, email: laurette.lauffer@kit.edu

Application
Please apply online using the following link:
http://www.pse.kit.edu/karriere/joboffer.php?id=34389&language=en

Personnel Support is provided by
Ms Brückner Telefon: +49 721 608-42016,
Kaiserstr. 12, 76131 Karlsruhe

We prefer to balance the number of employees (f/m/d). Therefore we kindly ask female applicants to apply for this job.

If qualified, severely disabled persons will be preferred.

Submitted by: Ruming Zhang

From: CMIH admin <cmihadmn@hermes.cam.ac.uk> on behalf of CMIH Admin <cmih@maths.cam.ac.uk>
Subject: Postdoc position in Data Science for Healthcare at Cambridge University
Date: June 12, 2020

I am writing on behalf of Professor Carola Schönlieb to invite applications for a Post Doctoral Research Associate to work in the EPSRC Cambridge Mathematics of Information in Healthcare Hub (CMIH) at the University of Cambridge.

The Hub is a collaboration between mathematics, statistics, computer science, medicine, and clinicians, and aims to develop rigorous and clinically practical algorithms for analysing healthcare data for personalised diagnosis and treatment as well as target identification and validation at the population level. Furthermore, this will focus on some of the most challenging public health problems, namely: cancer, cardiovascular disease, and dementia.

Applicants must have (or be about to receive) a PhD degree in mathematics or statistics (or a closely related discipline). The ideal candidate will be experienced in one or more of the following areas: statistical shape analysis, functional data analysis, longitudinal data analysis, machine learning, inverse problems, computational analysis, optimisation and/or data science. Experience in parallel computing and C programming skills are desirable.

The closing date for applications is 12th July 2020.

Informal enquiries can be made to: LE23160@maths.cam.ac.uk

For further information and application instructions please visit
http://www.jobs.cam.ac.uk/job/25962/

Many thanks, Josh

Submitted by:
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www.cmih.maths.cam.ac.uk

Inverse Problems in Science and Engineering   June 2020   Volume 28, Issue 6, June 2020

Table of Contents

https://www.tandfonline.com/toc/gipe20/28/6

Inverse Problems   June 2020   Volume 36, Number 6

Table of Contents

Zhipeng Yang, Xinping Gui, Ju Ming and Guanghui Hu

------ end -------

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

Today's Topics:

Submissions for IPNet Digest:
    Mail to ipnet-digest@math.msu.edu

Information about IPNet:
     http://ipnet.math.msu.edu

From: Jan-F. Pietschmann <jfpietschmann@math.tu-chemnitz.de>
Subject: Chemnitz Symposium @ DMV - Now online
Date: July 19, 2020

Dear all,
this is a brief update on this year's Chemnitz Symposium on Inverse Problems, taking place as part
the the annual DMV-Meeting. As some of you may already know, the DMV-Meeting will take place
online and so will our symposium. I am writing you since finally the DMV registration page is online

   https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Furldefense.com%2Fv3%2F_
_https%3A%2F%2Fwww.tu-
chemnitz.de%2Fmathematik%2Fdmv2020%2Fregistration.php__%3B!!HXCxUKc!iz5d8XZQOnXJTm1_
cBReClWoqyYGEgNOYgwD4Zmdi5KmaRFrcQlvP2qm1ad4As6e%24&data=01%7C01%7Clamm%4
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0&sdata=wkVf%2Bd%2FYxWiQAIhYlWnIOIOyqyz8bMjkMf1J9spyCv4%3D&reserved=0

The DMV still asks for a (reduced) fee to cover costs for Zoom-Licences, technical assistance, etc.

Please make sure to select "Chemnitz Symposium" at the very first step if you want to register.

Despite the fact that online-meetings lack many positive aspects of real meetings, under the given
circumstances this still seems the best solution. Therefore, we are happy if many of you decide to
participate in this format and hope to see many of you in person soon again.

Best regards,
Barbara, Andrew and Jan

Submitted by:
Prof. Dr. Jan-Frederik Pietschmann
Faculty of Mathematics
TU Chemnitz, 09107 Chemnitz, Germany
email jfpietschmann@math.tu-chemnitz.de
phone +49 371 531 36901

From: Simon Arridge <S.Arridge@cs.ucl.ac.uk>
Date: Saturday, July 4, 2020
Subject: Research Fellow in Image Reconstruction for Next Generation X-Ray Tomography

Research Fellow in Image Reconstruction for Next Generation X-Ray Tomography, - Ref:1868021

UCL Department / Division: Computer Science
Location of position: London
Grade: 7
Hours: Full Time
Salary (inclusive of London allowance): £35,965 - £40,062 per annum

Duties and Responsibilities:

A multidisciplinary consortium from UCL comprising the Advanced X-Ray Imaging group in the Department of Medical Physics and Biomedical Engineering, the Photonic Innovations Lab in the Department of Electronic and Electrical Engineering, and the Centre for Inverse Problems in Computer Science has received strategic funding from UKRI (Nikon-UCL Prosperity Partnership on Next-Generation X-Ray Imaging) to support a partnership tasked with developing disruptive approaches to the use of x-rays in science, industry, medicine and security.

The research fellow will develop innovative reconstruction algorithms involving phase retrieval, compressed sensing, deep learning, and large scale optimisation. The project will involve detailed mathematical and computation development and the successful applicant will work closely with the experimental teams to ensure that translation to real applications will be realised.

The duration of the post is 01 October 2020 to 31 May 2022 in the first instance.

Key Requirements:

Applicants must hold, or be about to receive, a PhD in computer science, mathematics, physics, or a closely related field in engineering sciences. Good programming skills in a high-level language e.g. C, C++, Python. Interest in imaging science, inverse problems and machine learning.

Appointment at Grade 7 is dependent upon having been awarded a PhD; if this is not the case, initial appointment will be at Research Assistant Grade 6B (salary £31,479 - £33,194 per annum) with payment at Grade 7 being backdated to the date of final submission of the PhD thesis.

Further Details:
A job description and person specification together with links for making an application can be accessed at

https://atsv7.wcn.co.uk/search_engine/jobs.cgi?owner=5041404&ownertype=fair&jcode=1868021&vt_template=965&adminview=1

For an informal discussion about this position, please contact Prof Simon Arridge at S.Arridge@cs.ucl.ac.uk

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From: Alireza Doostan doostan@colorado.edu (via NADIGEST)
Date: June 26, 2020

Subject: Postdoc Positions, UQ, Machine Learning, and CFD

Applications are invited for multiple postdoctoral positions available immediately in the Smead Aerospace Engineering Sciences Department at the University of Colorado, Boulder.

Position 1. The appointees will conduct fundamental research in broad areas of data-driven modeling, uncertainty quantification, and machine learning, with a particular focus on multi-fidelity modeling, generative modeling, transfer learning, deep neural networks, and inverse problems. Applicants must have a Ph.D. in areas related to computational sciences or engineering and at least one of the aforementioned areas. The positions are for the duration of one year with the possibility of extension to three years. The appointee will be working with Prof. Alireza Doostan and a team of experts on large-scale, multi-physics, and multi- scale modeling of complex systems and their HPC implementations. The interested candidates should submit a CV, a brief (max one page) statement of research interests, and contact information of two references to Prof. Doostan (doostan@colorado.edu). Questions about these positions may be directed to Prof. Doostan.

Position 2. The appointee will conduct fundamental research in computational fluid dynamics, fluid-structure interaction, and massively parallel simulation. Experience with GPU both for the fluid dynamics simulation and data science/analytics is also valued. Applicants must have a Ph.D. in areas related to computational science, applied math, or engineering. The position is for the duration of one year with the possibility of extension to three years. The appointee will be working with Prof. Kenneth Jansen and a team of experts collaborating on large-scale, multi-physics, multi-scale modeling of porous and high energy materials, as well as their implementation on systems approaching exascale performance. The interested candidates should submit a CV, a brief (max one page) statement of research interests, and contact information of two references to Prof. Kenneth Jansen (kenneth.jansen@colorado.edu). Questions about this position may be directed to Prof. Jansen.

From: rondall jones <rejones7@msn.com>
Date: Wednesday, July 1, 2020
Subject: Updated Linear Matrix Solver Web Site

I or a colleague at Sandia Labs have spoken twice at the annual inverse problem conferences about my package of automatic-regularizing solvers for linear matrix equations. I recently re-released the C++ library for these solutions, with minor improvements. At the same time I released a very similar package for Python. Both are available at www.rejones7.net .

Both the C++ and Python sub-sites have Guides for use, relevant tutorials, and examples suitable for students and others of solving linear systems, both easy and difficult.

Ron Jones
Rejones7@msn.com

From: "noreply@iopscience.org" <noreply@iopscience.org>
Reply-To: "noreply@iopscience.org" <noreply@iopscience.org>
Date: Saturday, July 11, 2020
Subject: Inverse Problems, Volume 35, Numbers 6,7; Volume 36, Number 7

Inverse Problems   June 2019   Volume 35, Number 6
                Table of Contents

Special Issue Papers

\ell_0-minimization methods for image restoration problems based on wavelet frames
Jian Lu, Ke Qiao, Xiaorui Li, Zhaosong Lu and Yuru Zou

Learning the invisible: a hybrid deep learning-shearlet framework for limited angle computed tomography
Tatiana A Bubba, Gitta Kutyniok, Matti Lassas, Maximilian März, Wojciech Samek, Samuli Siltanen and Vignesh Srinivasan

Rayleigh quotient minimization for absolutely one-homogeneous functionals
Tal Feld, Jean-François Aujol, Guy Gilboa and Nicolas Papadakis

Nonlinear optimization for mixed attenuation polyenergetic image reconstruction
Yunyi Hu, James G Nagy, Jianjun Zhang and Martin S Andersen

Papers

Near-field linear sampling method for an inverse problem in an electromagnetic waveguide
Peter Monk, Virginia Selgas and Fan Yang

Functions of constant geodesic x-ray transform
Joonas Ilmavirta and Gabriel P Paternain

The influence of numerical error on parameter estimation and uncertainty quantification for advective PDE models
John T Nardini and D M Bortz

On an inverse potential problem for a fractional reaction–diffusion equation
Barbara Kaltenbacher and William Rundell

Optimal convergence rates for sparsity promoting wavelet-regularization in Besov spaces
Thorsten Hohage and Philip Miller

https://iopscience.iop.org/issue/0266-5611/35/6

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Inverse Problems   November 2019   Volume 35, Number 11
                          Table of Contents

Special Issue Papers

Analysis and automatic parameter selection of a variational model for mixed Gaussian and salt-and-pepper noise removal
Luca Calatroni and Kostas Papafitsoros

Using sparse control methods to identify sources in linear diffusion-convection equations
E Casas and K Kunisch

Near-field imaging of locally perturbed periodic surfaces

Xiaoli Liu and Ruming Zhang

Inverse elastic scattering problems with phaseless far field data
Xia Ji and Xiaodong Liu

Photoacoustic tomography with direction dependent data: an exact series reconstruction approach
Gerhard Zangerl, Sunghwan Moon and Markus Haltmeier

Reconstruction of a local perturbation in inhomogeneous periodic layers from partial near field measurements
Alexander Konschin and Armin Lechleiter

Tailored interior and boundary parameter transformations for iterative inversion in electrical impedance tomography
Robert Winkler

Sampled Tikhonov regularization for large linear inverse problems
J Tanner Slagel, Julianne Chung, Matthias Chung, David Kozak and Luis Tenorio

Papers

Identification of space distributed coefficients in an indirectly transmitted diseases model
Aníbal Coronel, Fernando Huancas and Mauricio Sepúlveda

Identifying a fractional order and a space source term in a time-fractional diffusion-wave equation simultaneously
Kaifang Liao and Ting Wei

The broken ray transform: additional properties and new inversion formula
Michael R Walker II and Joseph A O'Sullivan

A priori estimates of attraction basins for nonlinear least squares, with application to Helmholtz seismic inverse problem
Hélène Barucq, Guy Chavent and Florian Faucher

Transform-based particle filtering for elliptic Bayesian inverse problems
S Ruchi, S Dubinkina and M A Iglesias

Reconstruction and stable recovery of source terms and coefficients appearing in diffusion equations
Yavar Kian and Masahiro Yamamoto

On the identification of a nonlinear term in a reaction–diffusion equation
Barbara Kaltenbacher and William Rundell

Identification of an unknown shear force in the Euler–Bernoulli cantilever beam from measured boundary deflection
Alemdar Hasanov, Onur Baysal and Cristiana Sebu

Inverting the local geodesic ray transform of higher rank tensors
Maarten V de Hoop, Gunther Uhlmann and Jian Zhai

Sparse inverse covariance matrix estimation via the \ell_0-norm with Tikhonov regularization

Xinrui Liu and Na Zhang

Sparsity promoting regularization for effective noise suppression in SPECT image reconstruction
Wei Zheng, Si Li, Andrzej Krol, C Ross Schmidtlein, Xueying Zeng and Yuesheng Xu

Convergent numerical methods for parabolic equations with reversed time via a new Carleman estimate
Michael V Klibanov and Anatoly G Yagola

Recovery of pressure and wave speed for photoacoustic imaging under a condition of relative uncertainty
Sebastián Acosta

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Table of Contents

Special Issue Papers

A note on the minimization of a Tikhonov functional with ℓ^1-penalty
Fabian Hinterer, Simon Hubmer and Ronny Ramlau

A joint reconstruction and lambda tomography regularization technique for energy-resolved x-ray imaging
James W Webber, Eric Todd Quinto and Eric L Miller

A convex inversion framework for identifying parameters in saddle point problems with applications to inverse incompressible elasticity
Baasansuren Jadamba, Akhtar A Khan, Michael Richards and Miguel Sama

Papers

Convergence rates of Tikhonov regularizations for elliptic and parabolic inverse radiativity problems
De-Han Chen, Daijun Jiang and Jun Zou

Analysis of a heuristic rule for the IRGNM in Banach spaces with convex regularization terms
Zhenwu Fu, Qinian Jin, Zhengqiang Zhang, Bo Han and Yong Chen

The Calderón problem for the fractional magnetic operator
Li Li

On an inverse Robin spectral problem
Matteo Santacesaria and Toshiaki Yachimura

Mathematical modeling for 2D light-sheet fluorescence microscopy image reconstruction
Evelyn Cueva, Matias Courdurier, Axel Osses, Victor Castañeda, Benjamin Palacios and Steffen Härtel

Continuous limits for constrained ensemble Kalman filter
Michael Herty and Giuseppe Visconti

Optimal experimental design under irreducible uncertainty for linear inverse problems governed by PDEs
Karina Koval, Alen Alexanderian and Georg Stadler

Inverse scattering for the one-dimensional Helmholtz equation with piecewise constant wave speed
Sophia Bugarija, Peter C Gibson, Guanghui Hu, Peijun Li and Yue Zhao

Numerical schemes to reconstruct three-dimensional time-dependent point sources of acoustic waves
Bo Chen, Yukun Guo, Fuming Ma and Yao Sun

A Bayesian-based approach to improving acoustic Born waveform inversion of seismic data for viscoelastic media
Kenneth Muhumuza, Lassi Roininen, Janne M J Huttunen and Timo Lähivaara

A revisit on Landweber iteration
Rommel Real and Qinian Jin

Uniqueness of an inverse source problem in experimental aeroacoustics
Thorsten Hohage, Hans-Georg Raumer and Carsten Spehr

Heuristic discrepancy principle for variational regularization of inverse problems
Huan Liu, Rommel Real, Xiliang Lu, Xianzheng Jia and Qinian Jin

Carleman estimates for a stochastic degenerate parabolic equation and applications to null controllability and an inverse random source problem
Bin Wu, Qun Chen and Zewen Wang

Semiclassical inverse spectral problem for seismic surface waves in isotropic media: part I. Love waves
Maarten V de Hoop, Alexei Iantchenko, Robert D van der Hilst and Jian Zhai

Semiclassical inverse spectral problem for seismic surface waves in isotropic media: part II. Rayleigh waves
Maarten V de Hoop, Alexei Iantchenko, Robert D van der Hilst and Jian Zhai

https://iopscience.iop.org/issue/0266-5611/36/7

Table of Contents

Wells' identification and transmissivity estimation in porous media
Hend Ben Ameur , Nejla Hariga-Tlatli & Wafa Mansouri

Verification of sequential function specification method with intermittent spray cooling

Xiao Zhao , Yuxin Zhao , Zhichao Yin & Bo Zhang

Identification of obstacles immersed in a stationary Oseen fluid via boundary measurements
Andreas Karageorghis & Daniel Lesnic

Pseudospectral method for a one-dimensional fractional inverse problem
Maryam Karimi & Mahmoud Behroozifar

Computing ill-posed time-reversed 2D Navier–Stokes equations, using a stabilized explicit finite difference scheme marching backward in time
Alfred S. Carasso

Real-time inverse solution of the composites' cure heat transfer problem under uncertainty
K. I. Tifkitsis & A. A. Skordos

Accelerated alternating minimization algorithm for Poisson noisy image recovery
Anantachai Padcharoen , Duangkamon Kitkuan , Poom Kumam , Jewaidu Rilwan & Wiyada Kumam

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Inverse Problems in Science and Engineering   August 2020   Volume 28, Issue 8
Table of Contents

Real-time reconstruction of moving point/dipole wave sources from boundary measurements
Takashi Ohe

Dynamic analysis and identification of multiple fault parameters in a cracked rotor system equipped with active magnetic bearings: a physical model based approach
Nilakshi Sarmah & Rajiv Tiwari

Solving a nonlinear inverse Sturm–Liouville problem with nonlinear convective term using a boundary functional method
Chein-Shan Liu , Botong Li & Shilong Liu

A conjugate-gradient approach to the parameter estimation problem of magnetic resonance advection imaging
Simon Hubmer , Andreas Neubauer , Ronny Ramlau & Henning U. Voss

A generalized Newton iteration for computing the solution of the inverse Henderson problem
Fabrice Delbary , Martin Hanke & Dmitry Ivanizki

Characterization of a vertical crack using Laser Spot Thermography
Gabriele Inglese , Roberto Olmi & Agnese Scalbi

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

Today's Topics:

Submissions for IPNet Digest:
    Mail to ipnet-digest@math.msu.edu

Information about IPNet:
     http://ipnet.math.msu.edu

From: Martin Holler <martin.holler@uni-graz.at>
Subject: Job announcement: PhD Position
Date: July 28, 2020

Dear Colleagues,

I would like to draw your attention to the following job announcement for a PhD position.

Best regards,
Martin Holler

 ****

The Institute of Mathematics and Scientific Computing at the University
of Graz is looking for a

*** Project Assistant without doctorate ***

(30 hours a week; fixed-term employment for the period of 3 years;
position to be filled as of October 1st 2020)

The position is part of a research project on machine learning
approaches for data-driven cardiopulmonary resuscitation. The project
will be realized in close collaboration with the University Hospital
Graz, and aims at a better understanding of the physiological conditions
of patients during such interventions. To achieve this, we will develop
parameter identification techniques for differential-equation-based
physiological models as well as machine learning approaches, both of
which can build on a unique data set of vital measurements available at
the University Hospital Graz.

Applicants are expected to have a Master's degree in Mathematics,
Computer Science or a related field, solid knowledge in applied
mathematics and good programming knowledge, ideally in Python.

The position comes with the possibility to work on a relevant

dissertation and the classification of this position according to the University Collective Agreement is B1.

More details can be found at https://urldefense.com/v3/__https://jobs.uni-graz.at/en/MB/203/99/6149__;!!HXCxUKc!meWqJyXMFeTtiThotMx-rZBMrJsFxa86lj1t8S9NSKqoL1gYZqbl8fu2nxC8AHHP1rb2z9o$

Application Deadline: August 19th 2020.

Submitted by:
Martin Holler
Institute for Mathematics and Scientific Computing
University of Graz
Heinrichstraße 36 A-8010 Graz
Tel.:+43 316 380 5156
Mail: martin.holler@uni-graz.at
Web: https://urldefense.com/v3/__http://imsc.uni-graz.at/hollerm__;!!HXCxUKc!meWqJyXMFeTtiThotMx-rZBMrJsFxa86lj1t8S9NSKqoL1gYZqbl8fu2nxC8AHHPFlkLU-c$

From: Joachim Weickert weickert@mia.uni-saarland.de [via NADIGEST]
Date: August 07, 2020
Subject: Professor Position, Mathematical Data Analysis, Univ Saarbrucken

The Faculty of Mathematics and Computer Science at Saarland University (Saarbrucken, Germany) is inviting applications for the following position (tenured full professorship, German salary scale W3) commencing at the earliest opportunity:

Professorship (W3) for Mathematics and Computer Science with a Focus on Mathematical Data Analysis (reference number W1731)

The successful candidate will have exceptional research and teaching skills, international visibility, and a research direction in mathematical data analysis, with a preferred focus on the mathematical foundations of deep learning. Expertise in at least one of the following areas should be demonstrated: continuous optimization, applied harmonic analysis, compressed sensing, modelling and numerical methods for differential equations, inverse problems, control theory, and information geometry. Additional connections to analytic areas such as convex analysis, differential geometry or Lie groups are welcome. We expect a willingness to collaborate with other groups of the Faculty of Mathematics and Computer Science as well as interest in interdisciplinary co-operations, including within larger collaborative projects.

Online application deadline: August 16, 2020.

More information: https://urldefense.com/v3/__https://www.mia.uni-saarland.de/mda.pdf__;!!HXCxUKc!l4xKtamDC-GDoxu8gLLHWKstC3Ld9OLZ7eGLGm4LDz2ipDUmSv7EmpnIiOCJhPL9$

From: Martin Holler <martin.holler@uni-graz.at>
Subject: Job announcement: PostDoc Position
Date: August 14, 2020 at 2:11:38 PM PDT

Dear Colleagues,

I would like to draw your attention to the following job announcement
for a PostDoc position.

Best regards,
Martin Holler

****

PostDoc Position (m/f/d) (fixed term contract for 1.5 Years) on „Machine
learning for automatic disaggregation of smart meter data"

The position is part of a collaborative research project together with
the Austrian Start-up company Solgenium
(https://urldefense.com/v3/__http://www.solgenium.com__;!!HXCxUKc!iUQW-
QCF9BytudQrrSXFYzgcNPsUMAYr0m6jEwt7Qx0ZIaxMVRHykscvtYjmrasBpm9u0cI$). The project
goal is to develop and realize novel AI-based techniques for an
automatic recognition of healthcare indicators from smart meter data. To
achieve this, the project brings together a large group of experts from
different fields, such as data scientists, mathematicians,
statisticians, healthcare professionals and business experts.

The announced position will be embedded in the mathematics research
group located the Institute of Mathematics and Scientific Computing at
the University of Graz, Austria. The project-goal of this group is to
develop and analyze unsupervised and semi-supervised machine learning
techniques based on convolutional sparse coding and variational
autoencoders for an automatic disaggregation of smart meter data.

Your duties:

  - Research in applied mathematic and computer science, with a focus
on machine learning techniques such as variational autoencoders and
convolutional sparse coding
  - Analysis and application of such techniques in view of deriving
health-care indicators from smart meter data
   - Collaboration with data scientists and health-care experts from
Solgenium.

Your profile:

  - PhD in Applied Mathematics, Computer Science or a related field
  - Solid knowledge in applied mathematics
  - Good programming knowledge, ideally in Python
  - Experience with one or more of the following topics (desired):

Mathematical Signal- or Image Processing, Convolutional Sparse Coding,
Convolutional Neural Networks, Variational Autoencoders
   - Ability to work in an interdisciplinary environment
   - Capacity for teamwork, organizational talent and ability to
communicate
   - Strong motivation to carry out cutting-edge research at the
interface of applied mathematics and data science

Your benefits:

   - Involvement in an exciting, interdisciplinary research project
   - Direct collaboration with a rising, Austrian start-up company
with office locations in Graz, Vienna and Linz
   - Qualification as researcher in mathematics and computer science,
with focus on machine learning techniques

The minimum salary for this position acording to the Austrian collective
agreement is €54453 per Year.

Starting Date: October 2020

If you are interested in this position, please mail your application
files (Motivation, CV) until August 30, 2020, to

Martin Holler
Institute for Mathematics and Scientific Computing
University of Graz
Heinrichstraße 36 A-8010 Graz
Tel.:+43 316 380 5156
Mail: martin.holler@uni-graz.at
Web: https://urldefense.com/v3/__http://imsc.uni-graz.at/hollerm__;!!HXCxUKc!iUQW-
QCF9BytudQrrSXFYzgcNPsUMAYr0m6jEwt7Qx0ZIaxMVRHykscvtYjmrasBj6PyOXg$

Table of Contents

A potential-free field inverse Schrödinger problem: optimal error bound analysis and regularization
method
Fan Yang , Jun-Liang Fu & Xiao-Xiao Li

On the inverse eigenvalue problem for periodic Jacobi matrices
M. Heydari , S. A. Shahzadeh Fazeli , S. M. Karbassi & M. R. Hooshmandasl

A combined neural network and simulated annealing based inverse technique to optimize the heat
source control parameters in heat treatment furnaces
Rahul Yadav , Swapnil Tripathi , Shailendra Asati & Malay K. Das

Contrast enhanced tomographic reconstruction of vascular blood flow based on the Navier-Stokes equation.
B. Sixou , M. Sigovan & L. Boussel

Constructive solution of the inverse spectral problem for the matrix Sturm–Liouville operator
Natalia P. Bondarenko

Reconstructing real symmetric matrices from eigenvalues of finite dimensional perturbations
Xuewen Wu , Pengcheng Niu & Guangsheng Wei

Application of the simulated annealing algorithm to the correlated WMP radiation model for flames
B. H. Silva , I. M. Machado , F. M. Pereira , P. R. Pagot & F. H. R. França

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

Today's Topics:
   New Season: One World IMAGing and INvErse Problems (IMAGINE) Seminar Series
   Call for Research Participation: Data Science Applications to Inverse, Optimization Problems
   Call for Papers: Special Issue on Optimization Methods in Inverse Problems, Applications
   Postdoc Positions: SKEMA Business School in Artificial Intelligence and Data Science

Submissions for IPNet Digest:
   Mail to ipnet-digest@math.msu.edu

Information about IPNet:
    http://ipnet.math.msu.edu

From: "College of Science, CityU" <cscievent@cityu.edu.hk>
Date: September 2, 2020
Subject: One World IMAGing and INvErse problems (IMAGINE) seminar series

Dear colleagues,

We hope you are all well and that despite the circumstances you enjoyed the summer break.

The new season of the One World IMAGing and INvErse problems (IMAGINE) seminar series will start on Wednesday September 9 at 4pm CEST with a talk by Rachel Ward (UT Austin, USA).

As usual, we will send out the Zoom link to use to connect few days before the event to all the registered participants.

For more details and updates, we invite you to check regularly our
website https://sites.google.com/view/oneworldimagine

We look forward to see you next Wednesday!

Best wishes,

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

From: Xiaodong Luo <xluo@norceresearch.no>
Date: Monday, August 17, 2020 at 5:31 AM
Subject: Call for participation

Call for participation in the research topic
"Data Science Applications to Inverse and Optimization Problems in Earth Science"

Dear colleagues, friends:

Good day. Hope this email finds you all well, and sorry for the cross-posting.

In collaboration with the journal "Frontiers in Applied Mathematics and Statistics", we are organizing a research topic on "Data Science Applications to Inverse and Optimization Problems in Earth Science".

The editor team consists of the following researchers:

- Dr. Alexandre Anozé Emerick, Petrobras, Rio de Janeiro, Brazil

- Prof. Behnam Jafarpour, University of Southern California, Los Angeles, United States

- Dr. Olwijn Leeuwenburgh, Netherlands Organisation for Applied Scientific Research, Amsterdam, Netherlands

- Dr. Xiaodong Luo, Norwegian Research Institute (NORCE), Bergen, Norway

- Prof. Dongxiao Zhang, Southern University of Science and Technology, Shenzhen, China

We would like to welcome your contributions, which should be submitted through the following website:

https://www.frontiersin.org/research-topics/15751/data-science-applications-to-inverse-and-optimization-problems-in-earth-science

The submission deadline is 28 February 2021.

Can you please forward this message to anyone who might be interested?

Thank you for your help!

Kind regards,

Xiaodong Luo, on behalf of the editor team

Submitted by:
Xiaodong Luo
PhD, Senior Research Scientist
Phone: +47 482 22 859 | Email: xluo@norceresearch.no
Address: Nygårdsgaten 112, 5008 Bergen, Norway

NORCE Norwegian Research Centre AS
norceresearch.no

From: LA TORRE Davide <davide.latorre@skema.edu>
Date: Sunday, August 16, 2020
Subject: Call for papers - Special issue on Optimization Methods in Inverse Problems and Application to Science and Engineering

Special issue on Optimization Methods in Inverse Problems and Application to Science and Engineering

Guest Editors: H. Kunze (University of Guelph, Canada), D. La Torre (SKEMA Business School, France), M. Ruiz-Galan (University of Granada, Spain)

Deadline for submissions: October 31, 2020
1st round of review – comments to authors: January 31, 2021
Revision deadline: March 15, 2021
Submission of final version: April 30, 2021

This special issue aims at bringing together articles that discuss recent advances of optimization methods and algorithms in inverse problems and application to science and engineering. A typical inverse problem seeks to find a mathematical model that admits given observational data as an approximate solution. This sort of question is of great interest in many application areas, including biomedical engineering and imaging, remote sensing and seismic imaging, astronomy, oceanography, atmospheric sciences and meteorology, chemical engineering and material sciences, computer vision and image processing, ecology, economics, environmental systems, physical systems. Very often an inverse problem appears in the form of a parameter estimation problem, it can be formulated as an optimization model, and then solved using different optimization algorithms and techniques. All papers included in this special issue will consider aspects of numerical analysis, mathematical modeling, and computational methods. Potential topics include but are not limited to the following:

Inverse Problems Algorithms

Inverse Problems for Ordinary and Differential Equations

Inverse Problems using Nonsmooth Optimization

Inverse Problems using Multicriteria Optimization

Fractal-based Inverse Problems

Shape Optimization

Inverse Optimization

Inverse Problems in Image Analysis

Regularization Techniques

Submission Procedure:
Please submit to the Optimization and Engineering (OPTE) journal
at https://www.springer.com/mathematics/journal/11081 and select special issue "SI: Inverse problems 2020". All submissions must be original and may not be under review by another publication. Interested authors should consult the journal's "Instructions for Authors", at http://www.springer.com/ mathematics/journal/11081. All submitted papers will be reviewed on a peer review basis as soon as they are received. Accepted papers will become immediately available at Online First until the complete Special Issue appears.

From: LA TORRE Davide <davide.latorre@skema.edu>
Date: Sunday, August 16, 2020
Subject: Post Doc job offers at SKEMA Business School in Artificial Intelligence and Data Science

Dear Colleague,

At SKEMA Business School we have created an AI Institute and will conduct research in various segments of AI over the next 5 years. We would like to share with you our invitation to submit applications for 2 postdoc positions in France starting in October.

Interested parties will find the detail of the offers at the following URLs:

Profile A
https://recrutement.skema.edu/?page=advertisement_display&id=533

Profile B
https://recrutement.skema.edu/?page=advertisement_display&id=535

The conditions include 3 year renewable contracts and will be based in Sophia Antipolis, on the French Riviera.

Best regards
Davide La Torre

Submitted by:
Dr. Davide La Torre, PhD
Full Professor of Artificial Intelligence and Quantitative Methods
Professeur Titulaire d'Intelligence Artificielle et Méthodes Quantitatives
Director of the SKEMA Artificial Intelligence Institute
Head of the Programme Grande Ecole Track in Artificial Intelligence for Managers
Head of the Programme Grande Ecole Track in Finance and Quants
PRISM Research Center, SKEMA Business School and Université Côte d'Azur
Sophia Antipolis Campus, 60 rue Dostoievski, CS30085, 06902 SOPHIA ANTIPOLIS CEDEX, France
Email: davide.latorre@skema.edu
Office: +33 (0)4 93 95 44 83
https://scholar.google.it/citations?user=rTwiT3gAAAAJ&hl=fr
https://www2.scopus.com/authid/detail.uri?origin=resultslist&authorId=6603700213&zone=
https://www.researchgate.net/profile/Davide_La_Torre
www.linkedin.com/in/davidelatorre1974
------ end -------

From: "Hohage, Thorsten" <hohage@math.uni-goettingen.de>
Date: Monday, August 24, 2020
Subject: Gesellschaft für Inverse Probleme e.V. (Society of Inverse Problems in German Speaking Countries)

Inspired by the success of the Finish Inverse Problems Society, recently a 'Gesellschaft für Inverse Probleme e.V.' (Society of Inverse Problems in German Speaking Countries) has been founded and officially registered, see http://inverseprobleme.de/
Currently it has 54 members and represents all leading centers on Inverse Problems in Germany, Austria, and Switzerland. The aim of this society is the promotion of scientific research on inverse problems and the representation of this field on a national and international level. For this purpose, the society awards a prize for the best PhD thesis on inverse problems in German speaking countries every two years. The first prize will be awarded on September 16, 2020 during the annular meeting (Chemnitz symposium), which will happen virtually this year.

From: Martin Stynes m.stynes@csrc.ac.cn [via NADIGEST]
Date: September 04, 2020
Subject: Numerical Methods for Fractional-Derivative Problems, ONLINE, Oct 2020

The 4th Conference on Numerical Methods for Fractional-Derivative
Problems, a continuation of the annual meetings held at Beijing
Computational Science Research Center in 2017-2019, was postponed from
June 2020. It will now be held online on 22-24 October 2020. This
year's conference, in addition to focusing on fractional derivative
problems, will include a few talks on the closely-related area of
inverse problems.

Main Speakers: Bangti Jin (UK), Natalia Kopteva (Ireland), Abner
Salgado (USA), Masahiro Yamamoto (Japan). There are also several
distinguished Invited Speakers.

Registration for the conference is free of charge, but it is necessary
to register by 8 October to gain access to the conference talks.

If you wish to give a Contributed Talk (25 minutes) at the conference,
submit a title and abstract by 1 October.

All information (registration, abstract submission, etc.) is at the
conference webpage
https://urldefense.com/v3/__http://www.csrc.ac.cn/en/event/workshop/2020-01-
10/103.html__;!!HXCxUKc!hcfZJfY_wJYNihfxt9mlR8WIP3WknEfh-
MRV7axX3uh7MnJs0b4pCwRQcESEgcTP$
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Today's Editor: Patricia (Patti) K. Lamm,   Michigan State University

Today's Topics:
    10th International Conference: Inverse Problems in Engineering, 2021, Italy
    University Assistantship: Image Processing and Inverse Problems, Graz
    Postdoc: Imaging Inverse Problems and Deep Learning Methods, LANL
    Postdoc: Reduced Modeling, Machine Learning, and Inverse Problems, France
    PhD/Postdoc Positions: Moment Problems and Super-Resolution Imaging, Germany
    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: Filippo De Monte <filippo.demonte@univaq.it>
Date: Monday, September 7, 2020
Subject: ICIPE 20, save-the-date May 16-20, 2021 – Second 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 (ICIPE 2020)" will be held on May 16-20, 2021, in Francavilla al Mare (Chieti), Italy.

ICIPE 20 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 in mid-September, the abstract deadline will be close by the end of October 2020, and draft manuscripts will be due by the end of January 2021.

Abstracts and papers already submitted are properly kept!

Download Flyer: http://icipe20.univaq.it/icipe2020/wp-content/uploads/2020/09/flyer-1-icipe-v4.pdf

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

We are looking forward to meeting you at ICIPE 20!

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

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From: "Moser, Melanie (melanie.moser@uni-graz.at)" <melanie.moser@uni-graz.at>
Date: Thursday, September 10, 2020
Subject: University Assistant with doctorate, Graz, Austria

The Institute of Mathematics and Scientific Computing is looking for an
University Assistant with doctorate (https://jobs.uni-graz.at/en/MB/187/99/6313)
(40 hours a week; fixed-term employment for the period of 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 and inverse problems
        • 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 exams
        • Participation in organizational and administrative matters

Your profile
        • Doctoral degree in a mathematical branch of study
        • Solid knowledge of mathematical methods in image processing, inverse problems and
numercial mathematics
        • Knowledge of functional analysis, geometric measure theory, continuous mathematical
optimization and its efficient algorithmic realization (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

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 3889.50 gross/month. 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: October 7th 2020

Reference Number: MB/187/99 ex 2019/20

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.

If you are interested, please submit your application documents (CV, certificates, etc.) before the stated deadline. Make sure to indicate the reference number on your application to: bewerbung@uni-graz.at

For further information, Prof. Kristian Bredies is at your disposal at the telephone number +43 (0) 316 / 380 - 5170.

From: Youzuo Lin ylin@lanl.gov [via NADIGEST]
Date: September 10, 2020
Subject: Postdoc Position, Deep Learning, Computational Imaging, LANL

We have an immediate opening for a creative and resourceful postdoctoral researcher with strong computational skills and experience in imaging inverse problems and deep learning methods. We are seeking a highly-motivated individual to join a multidisciplinary esearch team consisting of machine learning scientists, computational scientists and domain experts to conduct cutting-edge machine learning research for computational imaging, with application to the subsurface, material, and other scientific domains.

Minimum Job Requirements: Strong computational science and numerical optimization skills, in particular, computational imaging and inverse problems; Strong deep learning skills and practical experience in various neural network architectures (DNN, CNN, RNN/LSTM, GAN, or other auto-encoder); Practical experience with machine learning packages such as PyTorch, TensorFlow, Keras, etc.; Code development and computational experience in using high-performance parallel computing resources; Solid publication record in high-impact journals, top-tier machine learning, and related conferences; Excellent communication, writing, and oral presentation skills; and Strong programming skills, in Python in particular.

Desired Skills: Demonstrated ability to work creatively and independently and in a team environment.

Education: A Ph.D. in Computer Sciences, Applied Math, Computational Sciences, Electrical Engineering, or closely related field is required. The candidate must have completed all Ph.D. requirements by the commencement of the appointment and be within 5 years of completion of the Ph.D.

To apply, please search for IRC81985 under jobs.lanl.gov

Additional information about this position can be obtained by contacting Dr. Youzuo Lin (ylin@lanl.gov) and Dr. Brendt Wohlberg (brendt@lanl.gov).

From: Olga Mula mula@ceremade.dauphine.fr [via NADIGEST]
Date: September 23, 2020
Subject: Postdoc Position, Reduced Modeling and Machine Learning, France

We are looking for a postdoctoral applied mathematician/computational scientist to join the research group Models & Measures financed by the Emergences grant project of the Paris City Council lead by Prof.Olga Mula.

Current activities of the group focus on addressing forward and inverse problems with methods combining modern computational methods, such as reduced modelling of parametric PDEs, and recent machine learning techniques, in particular based on neural networks and optimal transport metrics. The developments seek to overcome known bottlenecks of classical algorithms and introduce new paradigms to solve problems of relevance to science and engineering. The postdoctoral fellow is expected to engage in different projects in line with the above vision. As a support for our numerical tests, we will consider applications related to air pollution, fluid dynamics, and epidemiology.

The ideal candidate will have the following skills: A PhD in Applied Mathematics, Data Science, or Statistics. Solid experience in the development of numerical methods or data analysis with Python, Julia, R or C++. Solid working knowledge in at least one of the following topics: reduced modeling of PDEs, optimal transport, machine learning, uncertainty quantification, optimization. The effort is of a collaborative nature so strong interpersonal and communication skills are required. Working language is English or French.

We offer a 1 year contract with the possibility of an extension. Starting date is flexible but ideally between December 2020 and March 2021.

To express your interest, please send a letter of motivation, a resume, and at least 2 names of references to mula@ceremade.dauphine.fr. Evaluation of applications will continue until the position is filled.

From: Stefan Kunis stefan.kunis@math.uos.de [via NADIGEST]
Date: September 25, 2020
Subject: PhD/Postdoc Positions, Univ Osnabrueck, Germany

The Applied Analysis Group at the University of Osnabruck invites applications for 2 Research Assistants (PhD student or PostDoc) starting as soon as possible. The PhD student positions are limited to three years, the PostDoc position has an adapted duration.

Your responsibilities:
  - Development, mathematical analysis, and implementation of new
    algorithms for moment problems and super-resolution imaging.

  Required qualifications:
  - Successfully completed university degree (Master or equivalent) in
    Mathematics or related fields.
  - Good knowledge in applied harmonic analysis, inverse problems,
    optimization, or applied algebraic geometry.
  - Programming skills and hands on experience in modern image
    processing tools.

For further information, please contact Prof. Dr. Stefan Kunis (email: Stefan Kunis stefan.kunis@math.uos.de, homepage: https://urldefense.com/v3/__http://www.math.uos.de/kunis__;!!HXCxUKc!jfLJdWve2tx-_s4xL203jXZ3zS9MrXTXcSqctE_JsdLaJTBYBPQuLGTPBjzPa_Sr$).

Please send your application (including a letter of motivation, CV, publication list, copies of certificates, as well as names and contact details of 2 referees) as one PDF file via

Email: stefan.kunis@math.uos.de.

Application deadline is 14.10.2020.

An inexact non stationary Tikhonov procedure for large-scale nonlinear ill-posed problems
S Bellavia, M Donatelli and E Riccietti

Convexification for an inverse problem for a 1D wave equation with experimental data
A V Smirnov, M V Klibanov, A J Sullivan and L H Nguyen

On the discrepancy principle for stochastic gradient descent
Tim Jahn and Bangti Jin

Seismic wavefield redatuming with regularized multi-dimensional deconvolution
Nick Luiken and Tristan van Leeuwen

Determining two coefficients in diffuse optical tomography with incomplete and noisy Cauchy data
Tran Nhan Tam Quyen

A projective averaged Kaczmarz iteration for nonlinear ill-posed problems
Shanshan Tong, Bo Han and Jinping Tang

Relax-and-split method for nonconvex inverse problems
Peng Zheng and Aleksandr Aravkin

On the solution of direct and inverse multiple scattering problems for mixed sound-soft, sound-hard and penetrable objects
M–L Rapún

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

Today's Topics:

Submissions for IPNet Digest:
   Mail to ipnet-digest@math.msu.edu

Information about IPNet:
    http://ipnet.math.msu.edu

From: "Bubba, Tatiana" <tatiana.bubba@helsinki.fi>
Date: Monday, October 19, 2020
Subject: Virtual Inverse Days, 14-18 December 2020

Dear Colleagues,

Inverse Days 2020 will be organised in the time period December 14-18, virtually this year due to the pandemic. The meeting is organised jointly by the Finnish Meteorological Institute and University of Helsinki. The 60th birthday of Professor Erkki Somersalo will be celebrated as part of the event.

The tentative schedule and the registration form (deadline: November 15, 2020) are available on the conference website: http://www.fips.fi/id2020.php
There is no conference fee, but we kindly ask you to register for organisation purposes.

This year, there will be fewer talk slots than usually, and therefore preference will be given for young researchers.

Looking forward to e-meeting you all at the Virtual Inverse Days!

All the best,
Tatiana Bubba
on behalf of the Scientific Committee: Janne Hakkarainen, Marko Laine, Matti Lassas, Samuli Siltanen and Johanna Tamminen

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From: Taufiquar Khan <taufiquar.khan@uncc.edu>
Date: Friday, October 2, 2020
Subject: Postdoctoral fellow in artificial intelligence approaches for inverse problems with applications to imaging

Postdoctoral fellow in artificial intelligence approaches for inverse problems with applications to imaging

Applications are invited for a postdoctoral research position at the University of North Carolina at Charlotte. The duration of this position is a one year position with a possibility of renewal up to three years, subject to a budget approval. The successful candidate will work under the supervision of Professor Taufiquar Khan. The research of this candidate will be focused on exploring computational aspects of solving an inverse problem using artificial intelligence approaches such as machine learning with applications to imaging. The candidate is also expected to have sufficient background on regularization of ill-posed inverse problems arising from coefficient inverse problems involving partial differential equations.

The position will begin in January, 2021 (pending hiring and possible visa paperwork) and the candidate will be paid $48,000, annually. Interested candidates are welcome to send their curriculum vitas, a brief (max one page) statement of research interests and one to three papers/preprints reflecting their research experience to https://jobs.uncc.edu (please click "Post Doc."). In addition to submitting your application electronically, please email your materials to Professor Khan's assistant, Ms. Sarah Hornbeck (srhornbe@uncc.edu) Questions about these positions may be directed to Ms. Sarah Hornbeck.

Thanks and regards,

Taufiquar R Khan, Ph.D.
Professor and Chair
Department of Mathematics and Statistics University of North Carolina (UNC) at Charlotte|Fretwell 360E
9201 University City Blvd., Charlotte, NC 28223, USA Phone: 704-687-0635 | Fax: 704-687-1392
taufiquar.khan@uncc.edu | http://www.math.uncc.edu

From: Per Christian Hansen <pcha@dtu.dk>
Date: Monday, October 19, 2020
Subject: PhD and Postdoc position, Computational UQ, Technical Univ. of Denmark

PhD and Postdoc position, Computational UQ, Technical Univ. of Denmark

The Technical University of Denmark opens a 2-year Postdoc position and a 3-year PhD position starting January 1, 2021 or soon thereafter. These positions are part of the project Computational Uncertainty Quantification for Inverse problems, CUQI: www.compute.dtu.dk/english/cuqi.

The postdoc will contribute to design, abstraction, and implementation of fundamental Bayesian inversion methods with focus on exploitation of problem structure, choice of sampling methods, acceleration of the forward model computations, and suitable user interfaces. The work is done in close collaboration with UQI project members. The postdoc will also help support and train users of the CUQI software, as well as develop documentation and tests.

The PhD student will pursue uniqueness results and stability estimates for inverse source problems and passive medium imaging problems involving random media. The project will quantify the uncertainty in solutions due to measurement noise or random medium noise, and due to incomplete measurement data, as well as derive and test convergence estimates for numerical solvers.

Both the Postdoc and the PhD student will work individually and as team players supported by dedicated supervisors, and contribute to a general computational platform for UQ for inverse problems. Applicants are expected to contribute to teaching and training activities as well as supervision of students.

For more details and to apply, see: tiny.cc/CUQI-Postdoc-3 and tiny.cc/CUQI-PhD-4

-Per Christian Hansen, Jakob Sauer Jørgensen and Mirza Karamehmedović

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: Elena Resmerita <elena.resmerita@aau.at>
Date: Tuesday, October 20, 2020
Subject: PhD positions in Klagenfurt

Hello,

The University of Klagenfurt is pleased to announce the following open positions:

3 PhD positions (all genders welcome)
within the doc.funds doctoral school Modeling – Analysis – Optimization of discrete, continuous, and stochastic systems.

Required qualification:
– Master's degree at a national or international university in mathematics or a related field.
This requirement must be fulfilled two weeks before the starting date at the latest; hence, the last possible deadline for meeting this requirement is July 16, 2021.
– strong background in one or more of the following or related fields: discrete optimization, regularization methods, dynamical systems
– An interest in multi-perspective research combining different mathematical sub-disciplines
– Programming skills (e.g., Python, Matlab, R, SageMath, Maple, Mathematica, C/C++, …)
– Fluency in English

Deadline for applications: November 11, 2020.

For details, see https://www.europeanwomeninmaths.org/offer/3-predoc-positions-all-genders-welcome/

Thank you and best regards,
Elena Resmerita

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

Date: October 05, 2020
Subject: Research Scientist/Postdoc Positions, CCM, Flatiron Institute, USA

We are excited to hire this year in scientific computing and
computational statistics/machine learning at the Center for
Computational Mathematics, Flatiron Institute, in New York City. CCM
provides an attractive combination of an academic-style research
environment with a lab-style long term view on tool building and
software, plus strong interactions with the four other centers at the
Institute (computational biology, astrophysics, quantum physics, and
neuroscience) as well as local universities. We seek new research
staff members at the junior level (equivalent to junior faculty), at
higher levels, and also have 3-year postdoc positions.

Broad areas of interest include: numerical analysis and PDE; signal
and image processing, inverse problems; computational statistics and
probabilistic programming; statistical methodology, modeling, and
inference; machine learning and its mathematical foundations; software
development and high performance computing; science application areas
including biology, medicine, chemistry, and physics.

For full details see our three ads which are posted here:
https://urldefense.com/v3/__https://simonsfoundation.wd1.myworkdayjobs.com/ccmcareers/__;!!
HXCxUKc!njggAxniTVE_T4Bz7zCfl6u4OJFNHX_4M4lhV4jdMaylAU1sxdIvle3HDpBQ2opN$

From: Jiguang Sun jiguangs@mtu.edu [via NADIGEST]
Date: October 07, 2020
Subject: Tenure-Track Position, Computational and Applied Math, MichiganTech

Applications are invited for a tenure-track Assistant Professor
position in Computational and Applied Mathematics. All research areas
in Computational and Applied Mathematics will be considered, but
candidates with expertise in Computational PDEs, Randomized Numerical
Linear Algebra, Model Reduction, Uncertainty Quantification,
Operations Research, and Inverse Problems are encouraged to apply.

Required qualifications for this position are a PhD in Mathematics or
a related field, a strong research program, and potential for
excellence in classroom teaching.

Michigan Tech, a doctoral research university with an international
reputation, is located in Houghton in Michigan's scenic Upper
Peninsula, on the south shore of Lake Superior. The Department of
Mathematical Sciences has 35 faculty members with interests in
probability, statistics, computational mathematics, combinatorics,
algebra, and number theory. It offers BS, MS, and PhD degrees in both
Mathematics and Statistics. The department enrolls about 120
undergraduate students and 70 graduate students, and plays a key role
in the university's interdisciplinary programs in Data Science and in
Computational Science and Engineering. The position starts 16 August
2021. Candidates applying by 1 November 2020 are assured full

consideration, but the position remains open until it is
filled. Interested candidates should submit a curriculum vita, three
letters of recommendation (at least one of which addresses the
candidate's teaching ability), a description of proposed research
program, and a statement of teaching interests through Mathjobs.org
and Michigan Technological University at
https://urldefense.com/v3/__https://www.employment.mtu.edu/en-
us/listing/__;!!HXCxUKc!njggAxniTVE_T4Bz7zCfl6u4OJFNHX_4M4IhV4jdMaylAU1sxdIvle3HDj9Gslzi$.

From: Nick Polydorides n.polydorides@ed.ac.uk [via NADIGEST]
Date: October 24, 2020
Subject: PhD Positions, Data Science, Univ of Edinburgh

The Real-time Simulation & Computational Imaging Group at the School
of Engineering invites applications for PhD positions on randomised
numerical algebra for

(i) 'Real-time image restoration', and
(ii) 'Sketching for data-intensive health analytics'

The aim of these posts is to pursue research in the exciting new field
of randomised numerical algebra in order to expedite algorithms for
image restoration and online model learning.

Candidates should have an above-average master's/diploma degree in
mathematics, statistics or computer science with a focus on inverse
problems, Monte Carlo methods and linear algebra.

Further and eligibility please visit
https://urldefense.com/v3/__http://www.homepages.ed.ac.uk/npolydor/PhD1_2021.pdf__;!!HXCxU
Kc!h-A1GAn4XkYyXzfvspEGDQPMGbX4t9pecYcXO51581fSTtTxTEnSdVqZmOFjyt2m$
https://urldefense.com/v3/__http://www.homepages.ed.ac.uk/npolydor/PhD2_2021.pdf__;!!HXCxU
Kc!h-A1GAn4XkYyXzfvspEGDQPMGbX4t9pecYcXO51581fSTtTxTEnSdVqZmM5Dea0Y$

More info on our group's activities and projects
https://urldefense.com/v3/__http://www.homepages.ed.ac.uk/npolydor__;!!HXCxUKc!h-
A1GAn4XkYyXzfvspEGDQPMGbX4t9pecYcXO51581fSTtTxTEnSdVqZmCFvTDEf$

Informal enquiries: n.polydorides@ed.ac.uk
Deadline: 15th of January 2021.

From: Nick Polydorides n.polydorides@ed.ac.uk [via NADIGEST]
Date: October 09, 2020
Subject: Special Issue, Modelling and Estimation in Digital Twins

Digital twinning is the coupling between a dynamic system (physical
asset) and its computerised model (digital asset). The scope of this
is to allow for prediction and optimisation of operations via the
digital asset over the lifetime of the physical one. This, in turn,
requires that the computerised model is promptly calibrated so that

its response matches as close as possible the behaviour of the physical asset via a continuous cycle of sensor data assimilation and model prediction, tracking the temporal evolution of the physical system. This framework is rooted in inverse problems and mathematical modelling under uncertainty, and finds applications in automation of manufacturing processes, structural health monitoring and biomedical signal and image processing, among other areas. Of particular importance to the digital twins context is the computational efficiency of the algorithms involved and their scalability in increasing dimensions, as model estimation and prediction tasks must be available in near real-time to allow for timely decisions and controls. This Special Issue aims to bring together articles discussing recent algorithmic advances in mathematical modelling and inverse problems of high-dimensional and complex systems. Articles on topics in real-time simulation, model order reduction, online learning, scalable uncertainty quantification and data-driven models are particularly welcome.

Link:
https://www.mdpi.com/journal/mathematics/special_issues/modelling_and_estimation_in_digital_twins

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Table of Contents

A synthesis method for path generation of a planar five-bar mechanism based on dynamic self-adaptive atlas database
Jianwei Sun , Na Xue , Wenrui Liu & Jinkui Chu

Numerical reconstruction of two-dimensional particle size distributions from laser diffraction data
Vladislav D. Ustinov & Evgeniy G. Tsybrov

Fatigue dynamic reliability and global sensitivity analysis of double random vibration system based on Kriging model
Qing Guo , Yongshou Liu , Xiaohan Liu , Bingqian Chen & Qin Yao

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Special Issue Articles:

Papers:

Inverse electromagnetic obstacle scattering problems with multi-frequency sparse backscattering far field data
Tilo Arens, Xia Ji and Xiaodong Liu

Data-driven forward discretizations for Bayesian inversion
D Bigoni, Y Chen, N Garcia Trillos, Y Marzouk and D Sanz-Alonso

Well-conditioned ptychograpic imaging via lost subspace completion
Anton Forstner, Felix Krahmer, Oleh Melnyk and Nada Sissouno

Wavefield reconstruction inversion: an example
William W Symes 2020

A time domain factorization method for obstacles with impedance boundary conditions
Houssem Haddar and Xiaoli Liu

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

Today's Topics:
    PhD Winter School/Workshop: Inverse Problems in PDEs and Geometry, Denmark TU
    PhD Positions: Inverse Problems in Experimental Natural Sciences, Göttingen
    Asst. Professor: Computational Math including Inverse Problems, UC Boulder
    Research Assistant: Image Processing and Stat. Inverse Problems, WIAS Germany
    Postdoc: Scientific Machine Learning including Inverse Problems, Courant Inst.
    Table of Contents: Inverse Problems in Science and Engineering

Submissions for IPNet Digest:
    Mail to ipnet-digest@math.msu.edu

Information about IPNet:
     http://ipnet.math.msu.edu

From: Kim Knudsen <kiknu@dtu.dk>
Date: Tuesday, November 24, 2020
Subject: IPwin2021: PhD Winter School and Workshop January 2021

IPwin2021: PhD Winter School and Workshop January 2021

We would like to announce the upcoming IPwin2021: a PhD Winter School and Workshop on "Inverse Problems in Partial Differential Equations and Geometry" on January 25-29, 2021, at the Technical University of Denmark. The school is a hybrid event combining onsite and online lectures made available for physical and virtual participation (in the light of the Coronavirus pandemic).

The winter school aims to give participants an introduction to modern and hot topics in inverse problems and features lectures by distinguished experts Mikko Salo, Michael Vogelius and Roland Griesmaier as well as tutorials by Steen Markvorsen and Kim Knudsen.

On Friday January 29, 2021, we have an embedded but independent workshop allowing for the communication of latest research news.

The course and workshop is open to everybody and participation is free of charge. See https://ipwin.compute.dtu.dk/ for details regarding the program and registration.

Yours sincerely,
Hjørdis Schlüter, Aksel Rasmussen and Kim Knudsen

Submitted by:
Kim Knudsen
Associate Professor, PhD
Head of DTU Compute PhD School

Dir. 45 25 3026
kiknu@dtu.dk
Matematiktorvet
Building 303b, room 106
2800 Kgs. Lyngby

From: "Hohage, Thorsten" <hohage@math.uni-goettingen.de>
Date: Monday, November 30, 2020
Subject: 12 PhD positions on Inverse Problems in experimental natural sciences in Göttingen, Germany

The Collaborative Research Center (CRC) 1456 "Mathematics of Experiment: The challenge of indirect measurements in the natural sciences" at the University of Göttingen will start on January 1, 2021. Therefore, the Universities of Göttingen and Jena and the Max Planck Institutes for Biophysical Chemistry and Solar System Research offer positions for

27 PhD candidates, about 12 of which in the field of Inverse Problems.

These positions should be filled in the beginning of 2021.

The aim of the CRC 1456 is to develop mathematical data analysis for the natural sciences, i.e., mathematical theory and tools to efficiently extract maximal quantitative information from experimental data. As new measurement techniques and instruments keep being devised and improved for inexpensive and efficient data acquisition, the current bottleneck is how to extract meaningful information from the resulting vast amounts of such measurements. Typical reasons are that modern measurement technologies often provide such information only in an indirect manner and that the observational data are strongly corrupted by noise and often generated in an inherently random way. These challenges will be addressed in 16 projects which are all lead jointly by a mathematician and an experimental scientist.

Your profile:
- You hold an excellent M.Sc. degree (or equivalent) in mathematics or related fields.
- You have a strong interest in areas such as inverse problems, mathematical statistics, optimization, differential equations, stochastic processes, scientific computing, machine learning or mathematical data analysis, and you like to work with real data.
- You like to work in an interdisciplinary team.
- You are fully proficient in written and spoken English.

More information on the individual projects and the positions can be found at https://www.uni-goettingen.de/crc1456.

For more details and to apply, see: https://www.uni-goettingen.de/de/305402.html?cid=100769

From: Bengt Fornberg fornberg@colorado.edu [via NADIGEST]
Date: November 20, 2020
Subject: Tenure Track Position, Computational Math, UC Boulder

The Department of Applied Mathematics at the University of Colorado Boulder (CU Boulder) encourages applications for a tenure track faculty position at the Assistant Professor level to begin August 2021. We are looking for candidates in the area of computational mathematics, with possible areas of emphasis including numerical analysis of differential equations, randomized numerical linear algebra, optimization and inverse problems, scientific computing, and related areas.

This position requires a commitment to supporting the diverse student populations in our department and its associated campus educational mission, a dedication to teaching in our undergraduate and graduate programs, and developing and conducting an innovative independent research program. The department firmly believes that the effectiveness and creativity of a group is strengthened by contributions from a broad range of perspectives. As such, we particularly welcome candidates from groups that are historically underrepresented in our field and/or candidates that have demonstrated leadership toward building an equitable and inclusive scholarly environment.

The University of Colorado Boulder is committed to building a culturally diverse community of faculty, staff, and students dedicated to contributing to an inclusive campus environment. We are an Equal Opportunity employer, including veterans and individuals with disabilities

For inquiries, please contact our department chair (and search committee chair) Prof. Keith Julien, keith.julien@colorado.edu. For details and to apply, see
  https://urldefense.com/v3/__https://jobs.colorado.edu/jobs/JobDetail/?jobId=27537__;!!HXCxUKc!k_b_X_Ml4ENMaCY-DjMjpmTjLH9ibnEEByMXzM9vVB3jC0W2NpbZVaduC3cAc8x8$.

Applications submitted by January 30, 2021 will receive full consideration.

From: Heike Sill heike.sill@wias-berlin.de [via NADIGEST]
Date: November 18, 2020
Subject: Research Assistant Position, Image Processing, WIAS, Germany

WIAS invites applications for a Research Assistant Position (m/f/d) (Ref. 20/26) in the Research Group "Stochastic Algorithms and Nonparametric Statistics" (Head: Prof. Dr. Vladimir Spokoiny) starting at January 1st, 2021.

The preconditions are a completed scientific university education as well as a doctorate in the field of mathematics. Wanted: We are seeking outstanding scientists in a research field in the field of statistics or machine learning.

The research area comprises the following topics among other:
  - Image processing
  - statistical inverse problems

Very good English skills are still expected. International experience is also advantageous.

Technical queries should be directed to Prof. Dr. V. Spokoiny (Vladimir.Spokoiny@wias-berlin.de). The position is remunerated according to TVoD and is limited to three years. The work schedule is 39 hours per week, and the salary is according to the German TVoeD scale.

Please, see here for more information:
https://urldefense.com/v3/__https://short.sg/j/8127927__;!!HXCxUKc!k_b_X_Ml4ENMaCY-DjMjpmTjLH9ibnEEByMXzM9vVB3jC0W2NpbZVaduC7u0bua6$

From: Benjamin Peherstorfer pehersto@cims.nyu.edu [via NADIGEST]
Date: November 23, 2020
Subject: Postdoc Position, Courant Institute of Mathematical Sciences, NYU

There is an open PostDoc position at Courant Institute of Mathematical Sciences, New York University, in Benjamin Peherstorfer's group.

The topic of the position is scientific machine learning, i.e., the intersection of machine learning and scientific computing. Topics of particular interest include deep networks for PDE problems, data-driven reduced-order modeling, and Monte Carlo and randomized methods. Applications of interest are (Bayesian) inverse problems, control, and uncertainty quantification (especially methods for studying rare events). More details at https://urldefense.com/v3/__https://cims.nyu.edu/*pehersto/__;fg!!HXCxUKc!k_b_X_Ml4ENMaCY-DjMjpmTjLH9ibnEEByMXzM9vVB3jC0W2NpbZVaduCxOR5zHo$

Candidates should have a PhD degree and have experience with applied and computational mathematics, with a solid background in machine learning and/or scientific computing. Candidates should have an interest in science and engineering applications. The position has no teaching requirement and is available with a flexible start date. The initial appointment will be for one year, with the possibility of yearly extensions depending on performance and funding.

Applications submitted by Dec 18, 2020 will receive full consideration but the search will remain open until the position is filled. Please contact pehersto@cims.nyu.edu for more details.

Documents to submit: Up-to-date CV with publication list, cover letter explaining interests and goals, and 2 reference letters. More details and formal application via Interfolio at
  https://urldefense.com/v3/__https://apply.interfolio.com/81354__;!!HXCxUKc!k_b_X_Ml4ENMaCY-DjMjpmTjLH9ibnEEByMXzM9vVB3jC0W2NpbZVaduC8aN4qrF$

From: "alerts@tandfonline.com" <alerts@tandfonline.com>
Date: Sunday, November 15, 2020
Subject: Inverse Problems in Science and Engineering, Volume 28, Issue 12, December 2020 is now available online on Taylor & Francis Online

Inverse Problems in Science and Engineering   December 2020   Volume 28, Issue 12
                     Table of Contents

Articles
Quantification of measurement error effects on conductivity reconstruction in electrical impedance tomography
Xiang Sun , Eunjung Lee & Jung-Il Choi

Effective grain orientation mapping of complex and locally anisotropic media for improved imaging in ultrasonic non-destructive testing
K. M. M. Tant , E. Galetti , A. J. Mulholland , A. Curtis & A. Gachagan

Solving generalized inverse eigenvalue problems via L-BFGS-B method
Zeynab Dalvand & Masoud Hajarian

A new regularization approach for numerical differentiation
Abinash Nayak

A meshless computational approach for solving two-dimensional inverse time-fractional diffusion problem with non-local boundary condition
Hadi Roohani Ghehsareh & Sayyed Mahmood Zabetzadeh

Reconstruction of unknown storativity and transmissivity functions in 2D groundwater equations
Adel Hamdi & Abderrahim Jardani

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

Today's Topics:
    Project Assistant: Parameter ID and Machine Learning Approaches, U. Graz
    Faculty Positions: Data Science including Inverse Problems, Purdue U.
    Postdoc: Data Science including High-Dimensional Inverse Problems, BNL
    Postdocs: Applied Math including Inverse Problems, BCAM
    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: "Peinhart, Vanessa (vanessa.peinhart@uni-graz.at)" <vanessa.peinhart@uni-graz.at>
Date: Thursday, December 17, 2020
Subject: Job offer University of Graz / Institut of Mathematics and Scientific Computing

Please find attached the job advertisement " Project Assistant without doctorate" (30 hours a week; fixed-term employment for the period of 3 years; position to be filled as of now). We would like to ask you to forward it in particular to potential applicants in your field of activity.

https://jobs.uni-graz.at/en/MB/203-1/99/6536

Application Deadline: January 13th 2021

The University of Graz strives to increase the proportion of women and therefore explicitly encourages qualified women to apply. In case of equal qualifications, women are given priority in the application process.

Submitted by:
Mag. Vanessa Peinhart
Karl-Franzens-Universität Graz Institut für Mathematik und Wissenschaftliches Rechnen
Heinrichstraße 36, A-8010 Graz Tel.: +43 (0)316 380 - 5160 E-Mail: vanessa.peinhart@uni-graz.at

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From: David Gleich dgleich@purdue.edu [via NADIGEST]
Date: December 18, 2020
Subject: Faculty Positions, Data Science, Purdue Univ

Purdue University has multiple faculty position openings for the broad area of data science within the computer science, statistics, and mathematics departments.

To learn more about these opportunities and apply:
   - https://urldefense.com/v3/__https://www.cs.purdue.edu/hiring/faculty2020-datascience.html__;!!HXCxUKc!nDtbWEnWydTvPSAqS9GLjcI5Vx5w98WHNqZShzpF7v8hg7ecqDQxk-B0gDAh7Bny$

- https://urldefense.com/v3/__https://careers.purdue.edu/job/Data-Science/698638500/__;!!HXCxUKc!nDtbWEnWydTvPSAqS9GLjcI5Vx5w98WHNqZShzpF7v8hg7ecqDQxk-B0gEFx0Lls$

- https://urldefense.com/v3/__https://www.mathjobs.org/jobs/list/16902__;!!HXCxUKc!nDtbWEnWydTvPSAqS9GLjcI5Vx5w98WHNqZShzpF7v8hg7ecqDQxk-B0gLlxq5wx$

This broad view of data science includes many topics relevant to [IPNet Digest] readers:

Scientific machine learning, data-driven modeling, topological data analysis, functional data analysis, applied probability, approximation theory for the foundation of data science, machine learning, simulation, inverse problems, computational methods for big data, optimization, high performance computing for data science, topological and geometric aspects of data analysis, software engineering for data science

We suggest candidates apply to all of these positions that may be relevant.

From: Vanessa Lopez-Marrero vlopezmar@bnl.gov [via NADIGEST]
Date: December 18, 2020
Subject: Postdoc Fellowship Position, Applied Math/Scientific Computing, BNL

The Applied Mathematics Group of the Computational Science Initiative (CSI) at Brookhaven National Laboratory (BNL) invites exceptional candidates to apply for the Amalie Emmy Noether Fellowship in applied mathematics and scientific computing. This fellowship offers a unique opportunity to conduct research in a broad set of fields, including reduced order modeling, uncertainty quantification and scalable computational statistics for Bayesian inference, optimization and control for decision making under uncertainty, scientific machine learning, high-dimensional inverse problems, multiscale modeling, integrated computational modeling frameworks, data science for streaming or "in-situ" (within simulation) analytics in high performance computing (HPC), and numerical methods. The methods and fundamental advances made in the course of this research will further the progress of applications of interest to BNL and the Department of Energy (DOE).

This program provides full support for a period of two years at CSI. Candidates must have received a doctorate (Ph.D.) in applied mathematics or a related field (e.g., mathematics, physics, engineering, statistics, operations research, or computer science) within the past five years. This fellowship presents a unique chance to conduct interdisciplinary collaborative research in BNL programs with a strongly competitive salary. Recipients will be allowed to select a direct mentor from a list of CSI staff scientists. This mentor will help the recipient define and pursue their own research agenda during their appointment.

For a full description of the position and to apply, please visit
https://urldefense.com/v3/__https://jobs.bnl.gov/job/upton/post-doc-applied-math-scientific-__;!!HXCxUKc!nDtbWEnWydTvPSAqS9GLjcI5Vx5w98WHNqZShzpF7v8hg7ecqDQxk-B0gHnImewu$
computing/3437/3147419072

From: Recruitment BCAM idiaz@bcamath.org [via NADIGEST]
Date: December 22, 2020
Subject: Postdoc Positions, BCAM

The Basque Center for Applied Mathematics (BCAM) has published the call for BCAM Severo Ochoa Joint Postdoctoral Program. The call offers up to 6 Postdoctoral Fellow positions in the following areas:

- Mathematical, Computational and Experimental Neuroscience: the
 research lines of Applied Analysis and Mathematical, Computational
 and Experimental Neuroscience offer this position in the topics of
 applied mathematics to characterise the interaction (from microscale
 to macroscale) between special states of water (e.g. formation of
 crystal structures) and biological tissue.
- Analysis of Partial Differential Equations: the research lines of
 Harmonic Analysis and Linear and Non-Linear Waves offer this
 position in the following topics: PDEs from fluid dynamics and
 electromagnetism, Inverse problems and Dispersive PDEs.
- Analysis of Partial Differential Equations: the research lines of
 Harmonic Analysis and Linear and Non-Linear Waves offer this
 position in the following topics: Discrete Harmonic Analysis and
 PDEs and Fourier Analysis and PDEs on the infinite-dimensional
 torus. Quantum Neuroscience: the research lines of The Quantum
 Mechanics group (Math. Phys.) and Mathematical, Computational and
 Experimental Neuroscience offers this position in the study of
 quantum effects on nanoscale biological systems. Specifically, the
 position will focus on the study of electrical conduction in
 peptides that control ion channels in neurons.
- CFD Modelling and Simulation: the research lines of Statistical
 Physics and CFD Modelling and Simulation offer this position in the
 following topic: Investigation of Anomalous Diffusion in
 Hydrodynamics Via the Smoothed Dissipative Particle Dynamics Method.
- Computational Fluid Dynamics - Modelling and Simulation and Applied
 Statistics: a position in the following topics: Pedestrian Flow
 Dynamics, Particle-based simulation, Agent Based Simulation, Data
 Assimilation.

The programme is open to students of any nationality. The duration of the contracts will be 1 year. Requirements: Applicants must have their PhD completed before the contract starts. PhD degree related to the subject of each offer.

APPLICATION DEADLINE: 7TH JANUARY 2021
APPLY AT:
https://urldefense.com/v3/__http://www.bcamath.org/en/research/job__;!!HXCxUKc!iX3AZtvdXsXr
dZHtnTM6FliKdQV4_6zbc9NkLkMfBy3lc8_xHBAvpsS5q05F0nMN$

Preface:

Preface for the special issue 'Variational methods and effective algorithms for imaging and vision'
Carola-Bibiane Schönlieb, Michael Hintermüller and Simon Arridge

Papers:

Modified forward and inverse Born series for the Calderon and diffuse-wave problems
Anuj Abhishek, Marc Bonnet and Shari Moskow

A partial data inverse problem for the electro-magnetic wave equation and application to the related Borg–Levinson theorem
Mourad Bellassoued and Yosra Mannoubi

The stability for an inverse problem of bottom recovering in water-waves
R Lecaros, J López-Ríos, J H Ortega and S Zamorano

Numerical solution of inverse problems by weak adversarial networks
Gang Bao, Xiaojing Ye, Yaohua Zang and Haomin Zhou

Low-frequency source imaging in an acoustic waveguide
Josselin Garnier

The conical Radon transform with vertices on triple line segments
Sunghwan Moon and Markus Haltmeier

Riemannian Newton-CG methods for constructing a positive doubly stochastic matrix from spectral data
Yang Wang, Zhi Zhao and Zheng-Jian Bai

Inexact Newton-type methods based on Lanczos orthonormal method and application for full waveform inversion
Qinglong He and Yanfei Wang

Classification of stroke using neural networks in electrical impedance tomography
J P Agnelli, A Çöl, M Lassas, R Murthy, M Santacesaria and S Siltanen

Zero norm based analysis model for image smoothing and reconstruction
Jiebo Song, Jia Li, Zhengan Yao, Kaisheng Ma and Chenglong Bao

Composition-aware spectroscopic tomography
Luke Pfister, Rohit Bhargava, Yoram Bresler and P Scott Carney

Recovering a potential in damped wave equation from Neumann-to-Dirichlet operator
Vladimir Romanov and Alemdar Hasano

Nonlinear Cauchy problem and identification in contact mechanics: a solving method based on Bregman-gap
S Andrieux and T N Baranger

Unique determination of fractional order and source term in a fractional diffusion equation from sparse boundary data
Zhiyuan Li and Zhidong Zhang

An unbiased approach to compressed sensing
Marcus Carlsson, Daniele Gerosa and Carl Olsson

TV-based reconstruction of periodic functions
Julien Fageot and Matthieu Simeoni

https://iopscience.iop.org/issue/0266-5611/36/11

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Inverse Problems   December 2020   Volume 36, Number 12
                              Table of Contents

Topical Review:

Higher-order total variation approaches and generalisations
Kristian Bredies and Martin Holler

Papers:

Inverse problems with inexact forward operator: iterative regularization and application in dynamic imaging
Stephanie E Blanke, Bernadette N Hahn and Anne Wald

A new 3D model for magnetic particle imaging using realistic magnetic field topologies for algebraic reconstruction
Gaël Bringout, Wolfgang Erb and Jürgen Frikel

Displacement field estimation from OCT images utilizing speckle information with applications in quantitative elastography
Ekaterina Sherina, Lisa Krainz, Simon Hubmer, Wolfgang Drexler and Otmar Scherzer

An inner–outer iterative method for edge preservation in image restoration and reconstruction
Silvia Gazzola, Misha E Kilmer, James G Nagy, Oguz Semerci and Eric L Miller

A second order Calderón's method with a correction term and a priori information
Kwancheol Shin and Jennifer L Mueller

Joint super-resolution image reconstruction and parameter identification in imaging operator: analysis of bilinear operator equations, numerical solution, and application to magnetic particle imaging
Tobias Kluth, Christine Bathke, Ming Jiang and Peter Maass

Joint reconstruction of initial pressure distribution and spatial distribution of acoustic properties of elastic media with application to transcranial photoacoustic tomography
Joemini Poudel and Mark A Anastasio

Analysis of resolution of tomographic-type reconstruction from discrete data for a class of distributions
Alexander Katsevich

Hyper-differential sensitivity analysis for inverse problems constrained by partial differential equations
Isaac Sunseri, Joseph Hart, Bart van Bloemen Waanders and Alen Alexanderian

Application of the second domain derivative in inverse electromagnetic scattering
Felix Hagemann and Frank Hettlich

Hölder-logarithmic stability in Fourier synthesis
Mikhail Isaev and Roman G Novikov

Projected Newton method for noise constrained ℓ_p regularization
J Cornelis and W Vanroose

SPECT with a multi-bang assumption on attenuation
Sean Holman and Philip Richardson

Stability for inverse source problems by Carleman estimates
X Huang, O Yu Imanuvilov and M Yamamoto

A transmutation operator method for solving the inverse quantum scattering problem
Vladislav V Kravchenko, Elina L Shishkina and Sergii M Torba

A direct reconstruction algorithm for the anisotropic inverse conductivity problem based on Calderón's method in the plane
Rashmi Murthy, Yi-Hsuan Lin, Kwancheol Shin and Jennifer L Mueller

Data driven regularization by projection
Andrea Aspri, Yury Korolev and Otmar Scherzer

Refraction-corrected ray-based inversion for three-dimensional ultrasound tomography of the breast
A Javaherian, F Lucka and B T Cox

Deep neural network expression of posterior expectations in Bayesian PDE inversion
Lukas Herrmann, Christoph Schwab and Jakob Zech

A projected gradient method for $\alpha \ell_1 - \beta \ell_2$ sparsity regularization
Liang Ding and Weimin Han

Tikhonov-like methods with inexact minimization for solving linear ill-posed problems
Fábio Margotti and Joel Rabelo

Variational regularisation for inverse problems with imperfect forward operators and general noise models
Leon Bungert, Martin Burger, Yury Korolev and Carola-Bibiane Schönlieb

On iteratively regularized predictor–corrector algorithm for parameter identification
Alexandra Smirnova and Anatoly Bakushinsky

Backward problems in time for fractional diffusion-wave equation
G Floridia and M Yamamoto

A globally convergent algorithm for a class of gradient compounded non-Lipschitz models applied to non-additive noise removal
Zhe Zheng, Michael Ng and Chunlin Wu

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