IPNet Digest Volume 27, Number 14 December 02, 2020
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.
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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

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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

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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_M14ENMaCY-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_M14ENMaCY-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 M14ENMaCY-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_M14ENMaCY-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 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

https://www.tandfonline.com/toc/gipe20/28/12
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