IPNet Digest Volume 27, Number 08 July 19, 2020

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%40msu.edu%7C836f2c65bda54dae549e08d81904babc%7C22177130642f41d9921174237ad5687d%7C0&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:

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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

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Thorsten Hohage and Philip Miller

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

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Inverse scattering for the one-dimensional Helmholtz equation with piecewise constant wave speed
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Numerical schemes to reconstruct three-dimensional time-dependent point sources of acoustic waves
Bo Chen, Yukun Guo, Fuming Ma and Yao Sun

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A revisit on Landweber iteration
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Uniqueness of an inverse source problem in experimental aeroacoustics
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Carleman estimates for a stochastic degenerate parabolic equation and applications to null controllability and an inverse random source problem
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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

From: "alerts@tandfonline.com" <alerts@tandfonline.com>
Date: Friday, June 19, 2020
Subject: Inverse Problems in Science and Engineering, Volume 28, Issues 7-8, now available online on Taylor & Francis Online

Inverse Problems in Science and Engineering July 2020 Volume 28, Issue 7

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https://www.tandfonline.com/toc/gipe20/28/8
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