

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

Today's Topics:

Conference: Applied Inverse Problems Conference 2015

Workshops: 13th Optimization and Inverse Problems in Electromagnetism

PhD Studentship: Image Reconstruction in Photoacoustic Tomography

Postdoc Position: Inverse Problems /Control Theory, Photoacoustic Tomography

Postdoc Position: Scientific Computing and Inverse Problems in Medical Imaging

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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

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

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

Subject: Applied Inverse Problems Conference

Date: April 1, 2014

Applied Inverse Problems Conference 2015

Inverse problems arise from the need to interpret indirect measurements. Such situations are common in many application areas such as medical imaging, nondestructive testing, underground prospecting, astronomical imaging, remote sensing, image processing, and data mining. Scientific research of inverse problems is multidisciplinary and involves for example mathematics, physics, engineering and signal processing.

The Applied Inverse Problems (AIP) conference series is the premier scientific meeting of the field, organized by Inverse Problems International Association (IPIA) every two years. The next AIP Conference will be held in Helsinki, Finland, in May 25-29, 2015. The official conference website is <http://aip2015.fips.fi/>. The local organizing institution is the Finnish Inverse Problems Society (www.fips.fi).

The minisymposium proposal deadline is September 30, 2014.

Scientific Committee:

Samuli Siltanen (chair), University of Helsinki, Finland

Gang Bao, Zhejiang University, China

Eric Bonnetier, Université Joseph Fourier, Grenoble, France

Martin Burger, University of Muenster, Germany
Maarten de Hoop, Purdue University, USA
Hiroshi Isozaki, University of Tsukuba, Japan
Matti Lassas, University of Helsinki, Finland
Peter Maass, University of Bremen, Germany
Graeme Milton, University of Utah, USA
Jennifer Mueller, Colorado State University, USA
Lassi Päivärinta, University of Helsinki, Finland
Carola-Bibiane Schönlieb, University of Cambridge, UK
Gunther Uhlmann, University of Helsinki, Finland, and University of Washington, USA
Jun Zou, Chinese University of Hong Kong

Submitted by: Samuli Siltanen
Professor of Industrial Mathematics
University of Helsinki

From: OIPE2014 <info@oipe2014.nl>
Subject: OIPE2014, Final Call for Digests
Date: April 24, 2014

Final Call for Digests
13th Optimization and Inverse Problems in Electromagnetism workshops
Delft, The Netherlands,
www.oipe2014.nl

On 10, 11 and 12 September the 13th edition of the International Workshops on 'Optimization and Inverse Problems in Electromagnetism' (OIPE) will take place in Delft, The Netherlands.

We are very proud to announce Matthias Stolpe (TU Denmark) and Ruth V. Sabariego (KU Leuven) as the invited lecturers.

The conference venue, theatre De Veste is located in the historical center of Delft and all hotels are within 7 minutes walking distance. At the end of the 1st conference day the mayor of Delft will welcome you in the old Town Hall. The conference dinner will be on Thursday, September 11th. A luxurious touring bus will bring you to Rotterdam, where you will enjoy the view of the world's largest harbor in all its glory, while dinner is served on board of a special ship.

Important Dates:

May 10th 2014: Digest submission deadline (2 pages)
May 10th 2014: Start of early bird registration
May 30th 2014: Digest acceptance notification
August 10th 2014: End of early bird registration
August 10th 2014: Deadline for paying fees of presenting authors
September 10th – 12th: OIPE2014 conference

Abstract submission procedure:

The authors are encouraged to submit a two-page digest due by May 10th, 2014. Online submission is required and facilities are provided on the website. (www.oipe2014.nl) Abstract template can be downloaded from:
<http://www.oipe2014.nl/content/author>

For further information on our conference please visit our website: www.oipe2014.nl

Yours sincerely,
Dr. Domenico Lahaye

From: "Betcke, Marta" <m.betcke@ucl.ac.uk>
Subject: PhD Studentship in Image Reconstruction
Date: April 14, 2014

PhD studentship in Image Reconstruction from In-perfect Data in Photoacoustic Tomography

The majority of biological imaging modalities can either provide high contrast or high resolution. Photoacoustic Tomography (PAT) is an example of a new type of imaging utilising coupled physics i.e. where the contrast induced by one type of wave is read by another kind so that both high resolution and high contrast are achieved simultaneously. Many approaches to image reconstruction from idealised complete data are available including analytic methods based on the Spherical Mean Radon Transform, (which require the assumption of uniform sound speed), and time reversal methods (which are able to accommodate tissue-realistic acoustic attenuation and heterogeneous sound speed).

In practice, in particular in in vivo applications, it is difficult or even impossible to measure a complete set of data required for PAT reconstruction. The data is further degraded by limited penetration of the optical wave into the tissue. Novel subsampling techniques being developed in our group pose additional challenge, as the wave field is captured with non-uniform precision. The goal of the PhD is to develop mathematical theory and image reconstruction algorithms tailored to reconstruction from in-perfect data and provide efficient and robust implementation of the algorithms.

The student will be supervised by Dr Marta Betcke and will be based in the Department of Computer Science at UCL. The studentship is funded by the Department of Computer Science for 3.5 years. It covers a tax-free stipend of approximately £15,863 per annum, other costs of £1000 per annum and tuition fees (http://www.ucl.ac.uk/current-students/money/2014-2015_fees/2014-15_postgrad_research)
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Application deadline is 31st May 2014.

Further details can be found at:
<http://prism.ucl.ac.uk/pgadmissions/apply/new?program=RRDCOMSING01&project=19&advert=>

Submitted by:

Dr Marta M. Betcke, Lecturer in Dept. Computer Science
University College London, Gower Street, WC1E 6BT London, UK
Email: m.betcke@ucl.ac.uk Tel: +44(0)20 7679 4355

From: Lauri Oksanen <l.oksanen@ucl.ac.uk>
Subject: Postdoc position at UCL, London in inverse problems/control theory
Date: April 30, 2014

Applications are invited for a Postdoctoral Research Associate to work on the project 'The inverse source problem arising in Photoacoustic Tomography'. The project lies in the intersection of inverse problems and control theory for hyperbolic partial differential equations.

The post is available from 1 September 2014 (or according to agreement), and is funded by the EPSRC and UCL for 2 years.

Application deadline 1 June 2014

Further information

https://atsv7.wcn.co.uk/search_engine/jobs.cgi?owner=5041178&ownertype=fair&jcode=1414230

Informal enquiries may be addressed to Lauri Oksanen, PI
l.oksanen@ucl.ac.uk

From: Ledger P.D. <P.D.Ledger@swansea.ac.uk>
Subject: Postdoctoral Position in Scientific Computing and Inverse Problems.
Date: May 2, 2014

As part of an on-going EPSRC funded collaboration between the College of Engineering, Swansea University, UK, the School of Mathematics and School of Computer Science and Informatics at Cardiff University, UK, a 2-year post-doctoral (PDRA) position in scientific computing is available.

The position will be focused on the application of parallel computing and the use GPUs to accelerate the solution of Maxwell inverse problems for a medical imaging application. The position will be based at the School of Computer Science and Informatics at Cardiff University under the supervision of Professor David Walker. The PDRA will also work together with the other grant holders Professors Marco Marletta and Malcolm Brown (Cardiff University), Dr Paul Ledger (Swansea University) and the other PDRAs on the project. For further details and how to apply please see

<http://krb-sjobs.brassring.com/TGWEbHost/jobdetails.aspx?partnerid=30011&siteid=5460&>

The closing date for the position is Thursday 29 May 2014.

From: <custserv@iop.org>
Subject: Inverse Problems, Volume 30, Numbers 4-5, April/May 2014
Date: April 1, 2014 at 5:15:56 AM EDT

Bayesian multi-dipole modelling of a single topography in MEG by adaptive sequential Monte Carlo

samplers Alberto Sorrentino, Gianvittorio Luria, and Riccardo Aramini

Extracting the geometry of an obstacle and a zeroth-order coefficient of a boundary condition via the enclosure method using a single reflected wave over a finite time interval Masaru Ikehata

A fast nonstationary iterative method with convex penalty for inverse problems in Hilbert spaces
Qinian Jin, and Xiliang Lu

An analysis of finite element approximation in electrical impedance tomography
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Restarted inverse Born series for the Schrödinger problem with discrete internal measurements
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A novel coupled complex boundary method for solving inverse source problems
Xiaoliang Cheng, Rongfang Gong, Weimin Han, and Xuan Zheng

String-averaging expectation-maximization for maximum likelihood estimation in emission tomography Elias Salomão Helou, Yair Censor, Tai-Been Chen, I-Liang Chern,
Álvaro Rodolfo De Pierro, Ming Jiang, and Henry Horng-Shing Lu

Accelerated gradient methods for the x-ray imaging of solar flares
S Bonettini, and M Prato

Phase retrieval for Fresnel measurements using a shearlet sparsity constraint
Stefan Loock, and Gerlind Plonka

A model reduction approach for the variational estimation of vascular compliance by solving an inverse fluid-structure interaction problem Luca Bertagna, and Alessandro Veneziani

Semi-convergence properties of Kaczmarz's method
Tommy Elfving, Per Christian Hansen, and Touraj Nikazad

Numerical methods for solving nonnegative inverse singular value problems with prescribed structure Sheng-Jhih Wu, and Matthew M Lin

A stochastic convergence analysis for Tikhonov regularization with sparsity constraints

Daniel Gerth, and Ronny Ramlau

The inverse spectral problem for exterior transmission eigenvalues

David Colton, Y J Leung, and Shixu Meng

Parallel inversion of large-scale airborne time-domain electromagnetic data with multiple OcTree meshes

E Haber, and C Schwarzbach

A primal-dual hybrid gradient method for nonlinear operators with applications to MRI

Tuomo Valkonen

Hybrid inverse problems for a system of Maxwell's equations

Guillaume Bal, and Ting Zhou

Functional-analytic and numerical issues in splitting methods for total variation-based image reconstruction Michael Hintermüller, Carlos N Rautenberg, and Jooyoung Hahn

Identification and reconstruction of elastic body forces

Carlos J S Alves, Nuno F M Martins, and Nilson C Roberty

A Carleman estimate for infinite cylindrical quantum domains and the application to inverse problems Yavar Kian, Quang Sang Phan, and Eric Soccorsi

Corrigendum: A variational perspective on controllability (2010 Inverse Problems 26 015004)

Pablo Pedregal

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From: <noreply@degruyter.com>

Subject: Table of Contents 'Journal of Inverse and Ill-posed Problems'

Date: April 2, 2014

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Obituary of Alfredo Lorenzi

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Kar, Manas / Sini, Mourad

An identification problem for a semilinear evolution delay equation

Lorenzi, Alfredo / Vrabie, Ioan I.

On determining an absorption coefficient and a speed of sound in the wave equation by the BC method Pestov, Leonid

Convergence of posteriors for structurally non-identified problems using results from the theory of inverse problems Radde, Nicole E. / Offtermatt, Jonas

A comparison of regularization methods for identifying unknown source problem for the modified Helmholtz equation Zhao, Jingjun / Liu, Songshu / Liu, Tao

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