Subject: IPNet Digest: Volume 22, Number 10 Volume 22, Number 10 November 30, 2015 IPNet Digest Today's Editor: Patricia (Patti) K. Lamm, Michigan State University Today's Topics: Workshop: Inverse Problems for PDEs Workshop: Statistics, Inverse Problems and Convex Analysis Symposium: Inverse Problems Symposium Website Available Postdoctoral Positions: Advanced Data-Driven Black-Box Modelling Postdoctoral Positions: Seismic Interpretation and Imaging Special Issue: Learning and Inverse Problems Table of Contents: Inverse Problems Table of Contents: Electronic Transactions on Numerical Analysis Submissions for IPNet Digest: Mail to ipnet-digest@math.msu.edu Information about IPNet: http://janus.math.msu.edu/ipnet/ From: Armin Lechleiter <lechleiter@math.uni-bremen.de> Subject: Announcement of a workshop in spring 2016 Date: November 4, 2015 Workshop Announcement: Inverse Problems for PDEs (IP 2016) University of Bremen, March 29 - April 1 2016 The workshop on inverse problems for PDEs aims to gather researchers working in the broad field of inverse problems linked to partial differential equations, providing a place to discuss current directions, novel methods, and future trends in the field. Workshop topics include, but are not restricted to, parameter

identification for complex systems governed by partial differential equations, iterative and qualitative methods for domain reconstruction, optimization techniques, inverse eigenvalue problems, and application of inversion algorithms in science or engineering.

The workshop takes place at the University of Bremen, Germany, during the week after Easter 2016 (Tuesday 29.3.2016 until Friday 1.4.2016). Participation is free but registration is mandatory, see

http://www.math.uni-bremen.de/zetem/ip2016

I hope to see you next March in Bremen!

Best wishes,

Armin Lechleiter

From: NaNet (Carola-Bibiane Schönlieb cbs31@cam.ac.uk) Subject: Statistics, Inverse Problems and Convex Analysis, UK, Mar 2016 Date: November 18, 2015

It is my pleasure to announce and invite you to the SuSTaIn EdgeCutter one day workshop on "High-dimensional Statistics, Inverse Problems and Convex Analysis," which will be held on 22nd March 2016 at The Royal Statistical Society, London.

Confirmed speakers include: Simon Arridge (UCL, London); Volkan Cevher (EPFL); Mario Figueiredo (Lisbon); Gabriel Peyré (Paris-Dauphine); Carola-Bibiane Schönlieb (Cambridge); Martin Wainwright (Berkeley); and Yi Yu (Bristol - Cambridge)

Jointly organised by Marcelo Pereyra (Bristol) and Carola-Bibiane Schönlieb (Cambridge).

This workshop will bring together scientists from the statistics, applied mathematics, signal processing and machine learning communities around the topic of convex analysis and its application to challenging inverse problems. The workshop will feature invited talks by world-leading experts presenting cutting edge research on new theory, methodology, and computer algorithms. We aim to provide a valuable opportunity to network and to foster extensive future interaction between these disciplines. Posters: Participants are encouraged to bring posters and should indicate on the registration form that they will be bringing a poster.

For further details and access to the online registration form please visit the following web page: http://www.sustain.bris.ac.uk/ws-hds/

For any other queries please email: SIPCA-workshop@bristol.ac.uk

From: "McMasters, Robert L" <mcmastersrl@vmi.edu>
Subject: Inverse Problems Symposium 2016 website
Date: November 14, 2015

Inverse Problems Symposium 2016 5-7 June 2016 Virginia Military Institute

This is the 29th in the series of National and International meetings on Inverse

Problems that were initiated at Michigan State University in 1988. Papers are solicited from all areas involving inverse methods and their applications. The symposium is organized in a single session format to foster cross-disciplinary interaction. Solicited topics include:

- A. Mathematical and Statistical Aspects of Inverse Problems
 - 1. Theory and Methods of Inverse Problems
 - 2. Stability and Error Analysis
- B. Design of Experiments
 - 1. Optimal Design of Experiments
 - 2. Analysis of Actual Experimental Data
- C. Applications
 - 1. Heat Transfer, Applied Mechanics, Controls, Other Engineering Disciplines
 - 2. Biology, Biochemistry, Genetics, and Medicine
 - 3. Nondestructive Evaluation
 - 4. Nanoengineering
 - 5. Tomography and Inverse Scattering
 - 6. Geology and Environmental Phenomena
 - 7. Economics
 - 8. Food and Bioprocessing
 - 9. Bioengineering
 - 10. Packaging

Contact Information:

Conference web site: http://inverseproblems2016.org/

Honorary Chairman: Dr. James V. Beck, Professor Emeritus, Michigan State University beck@msu.edu.

Conference Chairman: Robert McMasters, Professor Department of Mechanical Engineering Virginia Military Institute Lexington, Virginia 24450 Phone: (540) 464-7534 mcmastersrl@vmi.edu

Conference Co-Chairman: Kirk Dolan, Associate Professor Department of Food Science & Human Nutrition Department of Biosystems & Agricultural Engineering Michigan State University East Lansing, MI 48224 Phone: (517) 353-3333 dolank@msu.edu

Important dates:

Abstract submission opens: 15 January 2016

Abstract submission closes: 30 March 2016 Abstract acceptance notification: 15 April 2016 Early registration ends at midnight: 1 May 2016

From: Johan Suykens <Johan.Suykens@esat.kuleuven.be> Subject: Postdoc positions ERC Advanced Grant A-DATADRIVE-B Date: November 9, 2015

The research group KU Leuven ESAT-STADIUS is currently offering 2 Postdoc positions (1-year) within the framework of the ERC (European Research Council) Advanced Grant A-DATADRIVE-B (PI: Johan Suykens) http://www.esat.kuleuven.be/stadius/ADB on Advanced Data-Driven Black-box modelling.

The research positions relate to the following possible topics:

- -1- Prior knowledge incorporation
- -2- Kernels and tensors
- -3- Modelling structured dynamical systems
- -4- Sparsity
- -5- Optimization algorithms
- -6- Core models and mathematical foundations
- -7- Next generation software tool

The research group ESAT-STADIUS http://www.esat.kuleuven.be/stadius at the university KU Leuven Belgium provides an excellent research environment being active in the broad area of mathematical engineering, including systems and control theory, neural networks and machine learning, nonlinear systems and complex networks, optimization, signal processing, bioinformatics and biomedicine.

The research will be conducted under the supervision of Prof. Johan Suykens. Interested candidates having a solid mathematical background and PhD degree can on-line apply by following the submission guidelines given at the website http://www.esat.kuleuven.be/stadius/ADB/vacancies.php by including CV and motivation letter.

From: Ghassan AlRegib <alregib@gatech.edu> Subject: Postdoctoral Positions Available in Seismic Interpretation and Imaging Date: November 10, 2015

Postdoctoral Positions Available in Seismic Interpretation and Imaging We invite applications for postdoctoral fellows in the following areas:

• machine learning, and image processing: machine learning techniques; image processing including feature detection, classification, and retrieval;

• practical data acquisition scenarios; wireless acquisition; and practical workflows for 3D full-waveform inversion;

design and implementation of large-scale 3D parallel seismic modelling; and

compressive sensing: directional transforms.

Who we are @ CeGP

CeGP is a joint operation between the DSP group at Georgia Tech and KFUPM. CeGP research focuses on developing advanced signal processing theories and algorithms for computational exploration seismology. At CeGP we conduct cutting-edge cross-disciplinary research in seismic data acquisition, imaging, and processing. We collaborate with industry and academia and look forward to expand our partnerships. Our interdisciplinary approach builds on recent developments in image processing, compressive sensing, and machine learning. CeGP at Georgia Tech includes 7 faculty members, 12 graduate students, and three postdoctoral fellows.

The aim of our research is to design the next-generation scalable seismic imaging technology that addresses fundamental issues related to the quality and cost of seismic data acquisition, the ability to effectively process and interpret exceedingly large seismic data volumes, and the capacity to apply the developed theory and algorithms to real field datasets, when available.

You will be part of a dynamic interdisciplinary international research group and you will present your research at international conferences and to industry. You will have extensive contacts with graduate students, your fellow postdocs, and faculty. We seek excellence in any of a wide variety of areas, from theory, algorithm design, to concrete software implementations.

Your Portfolio

The ideal candidates are expected to have a solid background in applied geophysics, interpretation, exploration seismology, numerical linear algebra, inverse problems, and machine learning techniques. The ideal candidates are ones with background in applied geophysics, especially interpretation, and experience in signal processing-related problems. Successful candidates will have a PhD degree obtained in 2012 or later in geophysics, mathematics, computer science, electrical engineering, or a related field.

Applicants should also arrange for three letters of recommendation that should address your research capability.

Screening of applications for appointments beginning in the calendar year 2016 will commence on January 31, 2016. Applications received after this date will be considered if positions remain open.

For additional information please check our website at http://cegp.ece.gatech.edu/.

Thank you, Ghassan

From: David Jones <David.Jones@iop.org>
Subject: Inverse Problems Special Issue call
Date: November 6, 2015

A reminder that the Learning and Inverse Problems special issue, to be published in Inverse Problems, is now open for submissions:

This special issue aims at bringing together articles that discuss recent advances on analyzing and optimizing inversion models. Several strategies for conceiving optimization problems, combining prior and data information, have been considered. Let us evoke statistically grounded methods, model design under uncertainties, parameter choice rules, adaptive regularization, dictionary learning, bilevel optimization, among others. Application areas include, but are not limited to, 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. The guest editors are Juan Carlos De Los Reyes (MODEMAT, EPN Quito, Ecuador), Eldad Haber (University of British Columbia, Canada) and Carola-Bibiane Schönlieb (University of Cambridge, UK).

We also kindly ask you to distribute this call among all colleagues who might be interested in submitting their work.

All papers will be refereed to the usual high standard of Inverse Problems, and must fall within the journal's scope, available at

http://iopscience.iop.org/0266-5611/page/Scope

We invite you to submit your manuscript via http://mc04.manuscriptcentral.com/ip-iop. Please make sure that you select "Special Issue Article" and "Special Issue on learning and inverse problems" from the drop-down menus on the submission page.

The closing date for submissions is 18 January 2016.

Submitted by: Dr David Jones, Publishing Editor, IOP Publishing

From: <noreply@iopscience.org> Subject: Inverse Problems, Volume 31, Number 10, October 2015 Date: November 3, 2015

Inverse Problems October 2015 Volume 31, Number 10 Table of Contents

Magnetic resonance-based reconstruction method of conductivity and permittivity distributions at the Larmor frequency Habib Ammari, Hyeuknam Kwon, Yoonseop Lee, Kyungkeun Kang, and Jin Keun Seo

Direct algorithms for solving some inverse source problems in 2D elliptic equations

Batoul Abdelaziz, Abdellatif El Badia, and Ahmad El Hajj

A linear algorithm for the identification of a relaxation kernel using two boundary measures L Pandolfi

Stabilizing dual-energy x-ray computed tomography reconstructions using patch-based regularization Brian H Tracey, and Eric L Miller

Determining both sound speed and internal source in thermo- and photo-acoustic tomography Hongyu Liu, and Gunther Uhlmann

Recovering multiscale buried anomalies in a two-layered medium Jingzhi Li, Peijun Li, Hongyu Liu, and Xiaodong Liu

Tikhonov and Landweber convergence rates: characterization by interpolation spaces R Andreev

Analysis of adaptive forward-backward diffusion flows with applications in image processing V B Surya Prasath, José Miguel Urbano, and Dmitry Vorotnikov

An inverse problem on determining upto first order perturbations of a fourth order operator with partial boundary data Tuhin Ghosh

Approximate inverse and Sobolev estimates for the attenuated Radon transform G Rigaud, and A Lakhal

Stable recovery of the time-dependent source term from one measurement for the wave equation Kamal Rashedi, and Mourad Sini

Addendum: Remark on boundary data for inverse boundary value problems for the Navier-Stokes equations O Yu Imanuvilov, and M Yamamoto

Corrigendum: Recover the source and initial value simultaneously in a parabolic equation (2014 Inverse Problems 30 065013) Guang-Hui Zheng, and Ting Wei

http://iopscience.iop.org/0266-5611/31/10/email-alert/1146495056

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Estimation of cardiac conductivities in ventricular tissue by a variational approach Huanhuan Yang, and Alessandro Veneziani

Self-calibration and biconvex compressive sensing Shuyang Ling, and Thomas Strohmer

Solution of nonlinear Cauchy problem for hyperelastic solids S Andrieux, and T N Baranger

Renormalized nonlinear sensitivity kernel and inverse thin-slab propagator in T-matrix formalism for wave-equation tomography Ru-Shan Wu, Benfeng Wang, and Chunhua Hu

Axisymmetric eddy current inspection of highly conducting thin layers via asymptotic models Houssem Haddar, and Zixian Jiang

A domain derivative-based method for solving elastodynamic inverse obstacle scattering problems Frédérique Le Louër

5D respiratory motion model based image reconstruction algorithm for 4D cone-beam computed tomography Jiulong Liu, Xue Zhang, Xiaoqun Zhang, Hongkai Zhao, Yu Gao, David Thomas, Daniel A Low, and Hao Gao

Interpolation of missing electrode data in electrical impedance tomography Bastian Harrach

Hölder stability estimate of Robin coefficient in corrosion detection with a single boundary measurement Guanghui Hu, and Masahiro Yamamoto

Some inversion formulas for the cone transform Fatma Terzioglu

An algorithmic framework for Mumford-Shah regularization of inverse problems in imaging Kilian Hohm, Martin Storath, and Andreas Weinmann

Corrigendum: Seismic tomography is locally ill-posed (2014 Inverse Problems 30 125001) A Kirsch, and A Rieder

http://iopscience.iop.org/0266-5611/31/11/email-alert/1146591313

From: Lothar Reichel <reichel@math.kent.edu>
Subject: ETNA ToC for volume 43
Date: November 19, 2015

Electronic Transactions on Numerical Analysis 2014-2015 Volume 43 Table of Contents

This is a special volume with papers presented at the NASCA '13 Conference held at the University of Littoral in Calais, France, June 24-26, 2013.

ETNA is available at http://etna.math.kent.edu and at several mirror sites. ETNA is in the extended Science Citation Index and the CompuMath Citation Index.

Weak symplectic schemes for stochastic Hamiltonian equations Cristina Anton, Jian Deng, and Yau Shu Wong

A moving asymptotes algorithm using new local convex approximation methods with explicit solutions Mostafa Bachar, Thierry Estebenet, and Allal Guessab

A minimal residual norm method for large-scale Sylvester matrix equations Said Agoujil, Abdeslem H. Bentbib, Khalide Jbilou, and El Mostafa Sadek

The Davison-Man method revisited Miloud Sadkane

Estimates for the bilinear form x' A^{-1} y with applications to linear algebra problems Paraskevi Fika, Marilena Mitrouli, and Paraskevi Roupa

Improved perturbation bounds for the continuous-time H_{\infty}-control problem Nicolai D. Christov, Mihail M. Konstantinov, and Petko Hr. Petkov

Computing approximate (block) rational Krylov subspaces without explicit inversion with extensions to symmetric matrices Thomas Mach, Miroslav S. Pranic', and Raf Vandebril

An efficient deflation technique for the communication-avoiding conjugate gradient method Erin Carson, Nicholas Knight, and James Demmel

Self-generating and efficient shift parameters in ADI methods for large Lyapunov and Sylvester equations Peter Benner, Patrick Kurschner, and Jens Saak Block Gram-Schmidt downdating Jesse L. Barlow

On the location of the Ritz values in the Arnoldi process Gerard Meurant

A subspace iteration for symplectic matrices Alexander Malyshev, Miloud Sadkane, and Ahmed Salam

Matrix decompositions for Tikhonov regularization Lothar Reichel and Xuebo Yu

On computing maximum/minimum singular values of a generalized tensor sum Asuka Ohashi and Tomohiro Sogabe ----- end -----