IPNet Digest Volume 24, Number 06 May 31, 2017

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: Eric Miller <elmiller@ece.tufts.edu>
Subject: Imaging Sciences Symposium
Date: May 3, 2017

Houston Imaging Sciences Symposium

This is the first call for abstracts/pre-registration for a two-day Imaging Sciences symposium to be held in Houston, TX on October 2nd-3rd, 2017.

Main focus for symposium:

- A two-day symposium to bring together experts and practitioners of imaging sciences in various industry, including but not limited to oil and medical industries.
- Focus on the mathematical and numerical aspects of imaging, bringing in more detail than what we can see at SEG or other industry conferences. At the same time, the focus will also be on how to apply the mathematics to solve industry problems of today.
- Take a look at what the future holds for imaging, find intersection between imaging and all the fantastic improvements in machine learning, reduced order models, compressive sensing, etc.

There are no tracks at this symposium, the talks will be attended by all participants. We plan to have four sessions, each with one plenary speaker followed by talks. Each talk can be 45 mins long, followed by 10 mins for Q&A.

Please submit a short abstract (1 page or less), including your name, affiliation. Also, please indicate which of the four sessions your talk will best fit into:

1. Tomographic imaging: Lead by Dr. Eric Miller, Tufts
2. Reflection imaging: Lead by Dr. Bill Symes, Rice
3. Image Processing: Lead by Dr. David Fuentes, MD Anderson
4. Future of Imaging: Lead by Dr. Maarten DeHoop, Rice

Talks that fit well within the focus described above will be more likely to be picked. Please submit abstracts by June 30th, 2017 to houstonimaging2017@gmail.com

At the time, we would also like those who plan to attend to pre-register so that we can get an idea of the number of attendees for planning our logistics. Please respond using the Google form ASAP

https://goo.gl/forms/HddqmsraT9guK7513

Submitted by: Eric L. Miller
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From: Candy Smellie <communications@newton.ac.uk>
Subject: Upcoming Workshop - Generative models, parameter learning and sparsity - 30 October - 3 November 2017
Date: May 3, 2017

Upcoming Workshop -
Generative models, parameter learning and sparsity
30 October - 3 November 2017

Attend this workshop at the Isaac Newton Institute and interact and engage while working on the review, exchange and promoting of recent advances in generative models, parameter learning and sparsity.

A key issue in image reconstruction, and in inverse problems as a whole, is the correct choice of image priors (or regularisation functionals) and data models (or fidelity terms) in a variational or Bayesian reconstruction model. Depending on the setup of the model, very different qualitative image reconstruction results are obtained. This workshop will cover many topics around this - Read more here.

This is the second event and part of the activities for a long term programme on Variational methods and effective algorithms for imaging and vision (1 Sept-- 31 Dec 2017) organised by Ke Chen, Andrew Fitzgibbon, Michael Hintermüller, Carola-Bibiane

Schönlieb, and Xue-Cheng Tai.
List of invited and confirmed speakers includes (to expand): F Bach, R Baraniuk, J Calder, J Chung, J Delon, M Figueiredo, E Haber, A Hansen, L Horesh, P Milanfar, M Peyrera, B Plemmons, L Ruthotto, P Weiss, R Willett.

This workshop is organised by:
· Simon Arridge (University College London),
· Martin Burger (Universität Münster),
· Michael Hintermüller (Humboldt-Universität zu Berlin),
· Nick Kingsbury (Trinity College, Cambridge),
· Gabriel Peyre (CNRS - Ecole Normale Superieure Paris),
· Guillermo Sapiro (Duke University),
· Carola Schönlieb (University of Cambridge)

This workshop is open for registration but closes shortly. Deadline for Oral/Poster presentation: 30 June 2017. Deadline for participation (only): 31 July 2017. Participation remotely is possible.

Submitted by: Candy Smellie, Information Coordinator
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From: "Pereyra, Marcelo" <m.pereyra@hw.ac.uk>
Subject: Workshop - "New mathematical methods in computational imaging" - Heriot-Watt Edinburgh - 29th June 2017
Date: May 16, 2017

Dear Colleagues,

This is a reminder for the Heriot-Watt workshop on "New mathematical methods in computational imaging", which will be held on the 29th of June 2017 at the School of Mathematical and Computer Sciences.

The aim of this meeting is to gather imaging experts from the Bayesian statistics, applied analysis and signal processing communities to discuss recent breakthroughs in mathematical methodology for inverse problems related to computational imaging. The goals are to provide an opportunity to disseminate new results and to promote synergy and cross-fertilisation between these fields.

Workshop programme
09.50 - 10.00: Welcome
10.00 - 10.45: Mike Davies
Coffee break (30 minutes)
11.15 - 12.00: Marcelo Pereyra
Lunch & Invited Poster Session (Abderrahim Halimi, Audrey Repetti, and Xiaohao Cai)

13.30 - 14.15: Joao Mota
14.15 - 15.00: Yoann Altmann
Coffee break & Poster session
16.00 - 16.45: Jean-François Giovannelli

The workshop is organised by Marcelo Pereyra (Heriot-Watt). For more information, to propose a poster presentation, and to register, please visit the workshop website at http://www.macs.hw.ac.uk/~mp71/LMS_workshop_June2017.html

The meeting is supported by the London Mathematical Society and by Heriot-Watt University.

Founded in 1821, Heriot-Watt is a leader in ideas and solutions. With campuses and students across the entire globe we span the world, delivering innovation and educational excellence in business, engineering, design and the physical, social and life sciences.

From: Kim Knudsen <kiknu@dtu.dk>
Subject: Postdoc position
Date: May 25, 2017

Postdoc in Mathematical Analysis and Computations for Coupled-Physics Tomography

The Department of Applied Mathematics and Computer Science at the Technical University of Denmark (www.compute.dtu.dk/english) invites applications for a postdoc position starting August 1 2017 (or shortly thereafter), see http://www.dtu.dk/english/career/job?id=822e52f5-4526-44dd-9d09-fac235c5db85.

Candidates must have a PhD degree in applied mathematics, or equivalent academic qualifications, and some experience with mathematical analysis or numerical computations for inverse or imaging problems.

Applications must be submitted ONLINE by June 15, 2017.

More information can be obtained from Assoc. Prof. Kim Knudsen (kiknu@dtu.dk).

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From: Mike Christie <Mike.Christie@pet.hw.ac.uk>
Subject: Postdoc position, MCMC methods, Heriot-Watt University, Edinburgh
Date: May 3, 2017

Heriot-Watt is looking for a postdoc with good knowledge of MCMC [Markov Chain Monte Carlo] techniques to be part of the EQUIP project between Heriot-Watt, Warwick University, and Imperial College.

The EQUIP project is funded by the UK's Engineering and Physical Sciences Research Council, and is aiming to develop uncertainty quantification techniques that can be applied to real world challenging problems.

The ideal candidate will already have good knowledge of MCMC techniques.

Details of the vacancy and how to apply can be found at
https://www.hw.ac.uk/about/work/jobs/job_SVJDOTgzMA.htm

From: <noreply@iopscience.org>
Subject: Inverse Problems, Volume 33, Numbers 1, 5-6
Date: May 4, 2017

Inverse Problems January 2017 Volume 33, Number 1
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Special Issue Paper
Sparsity and level set regularization for diffuse optical tomography using a transport model in 2D
Kernel Prieto, and Oliver Dorn

Special Issue Paper
Flexible sparse regularization
Dirk A Lorenz, and Elena Resmerita

A two-phase segmentation approach to the impedance tomography problem
Renier Mendoza, and Stephen Keeling

Geometric properties of solutions to the total variation denoising problem
Antonin Chambolle, Vincent Duval, Gabriel Peyré, and Clarice Poon

Uniform Penalty inversion of two-dimensional NMR relaxation data
V Bortolotti, R J S Brown, P Fantazzini, G Landi, and F Zama

Elastic-net regularization versus ℓ 1-regularization for linear inverse problems with quasi-sparse solutions

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http://iopscience.iop.org/issue/0266-5611/33/5

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Special Issue Paper

Sparsity regularization in inverse problems
Bangti Jin, Peter Maaß, and Otmar Scherzer

Special Issue Paper
An improved exact inversion formula for solenoidal fields in cone beam vector tomography
Alexander Katsevich, Dimitri Rothermel, and Thomas Schuster

Special Issue Paper
All-at-once versus reduced iterative methods for time dependent inverse problems
B Kaltenbacher

Recovery of an embedded obstacle and its surrounding medium from formally determined scattering data
Hongyu Liu, and Xiaodong Liu

Inversion of the conical Radon transform with vertices on a surface of revolution arising in an application of a Compton camera
Sunghwan Moon

A data-scalable randomized misfit approach for solving large-scale PDE-constrained inverse problems
E B Le, A Myers, T Bui-Thanh, and Q P Nguyen

Second-harmonic imaging in random media
Liliana Borcea, Wei Li, Alexander V Mamonov, and John C Schotland

Alternating minimisation for glottal inverse filtering
Ismael Rodrigo Bleyer, Lasse Lybeck, Harri Auvinen, Manu Airaksinen, Paavo Alku, and Samuli Siltanen

The Bayesian formulation and well-posedness of fractional elliptic inverse problems
Nicolás García Trillos, and Daniel Sanz-Alonso

http://iopscience.iop.org/issue/0266-5611/33/6

From: Cuixin.zhou <newsletter-noreply@aimsciences.org>
Subject: Contents, IPI vol. 11, no. 3 June 2017
Date: May 9, 2017

Inverse Problems and Imaging June 2017 Volume 11, Number 3
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A direct D-bar method for partial boundary data electrical impedance tomography with a priori information
Melody Alsaker, Sarah Jane Hamilton and Andreas Hauptmann

Reconstruction in the partial data Calderón problem on admissible manifolds
Yernat M. Assylbekov

Ambient noise correlation-based imaging with moving sensors
Mathias Fink and Josselin Garnier

Time-invariant Radon transform by generalized Fourier slice theorem
Ali Gholami and Mauricio D. Sacchi

Recovering the boundary corrosion from electrical potential distribution using partial boundary data
Jijun Liu and Gen Nakamura

Subspace clustering by (k,k)-sparse matrix factorization
Haixia Liu, Jian-Feng Cai and Yang Wang

Probabilistic interpretation of the Calderón problem
Petteri Piiroinen and Martin Simon

Image segmentation with dynamic artifacts detection and bias correction
Dominique Zosso, Jing An, James Stevick, Nicholas Takaki, Morgan Weiss, Liane S. Slaughter, Huan H. Cao, Paul S. Weiss and Andrea L. Bertozzi

http://aimsciences.org/journals/contentsListnew.jsp?pubID=954

Submitted by: Cuixin Zhou

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From: <noreply@degruyter.com>
Subject: Contents, 'Journal of Inverse and Ill-posed Problems'
Date: May 19, 2017

Journal of Inverse and Ill-posed Problems June 2017 Volume 25, Issue 3

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Benrabah, Abderafik / Boussetila, Nadjib / Rebbani, Faouzia

Scattered data fitting by minimal surface
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Fu, Hongsun / Liu, Hongbo / Han, Bo / Yang, Yu / Hu, Yi

Compact discrepancy and chi-squared principles for over-determined inverse problems
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Inverse problems on a graph with loops
Yang, Chuan-Fu / Wang, Feng

On Nesterov acceleration for Landweber iteration of linear ill-posed problems
Neubauer, Andreas

Depth dependent resolution in Electrical Impedance Tomography
Alessandrini, Giovanni / Scapin, Andrea

https://www.degruyter.com/view/j/jiip.2017.25.issue-3/issue-files/jiip.2017.25.issue-3.xml
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