IPNet Digest Volume 21, Number 01 January 5, 2014

Today's Editor:

Patricia K. Lamm, Michigan State University

Today's Topics:

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

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

Subject: Summer Course in Image Based Biomedical Modeling
From: Rob MacLeod <macleod@cvrti.utah.edu>
Date: 12/9/2013

Call for Participants:

Park City Summer Course in Image Based Biomedical Modeling (IBBM)

For Graduate Students, Postdocs, Faculty, Industry

Application Deadline: March 1st, 2014
Dates: July 14-24, 2014
Location: Newpark Resort and Hotel in Park City, Utah.
URL: ibbm.sci.utah.edu
Contact: ibbm@sci.utah.edu

This course creates field specific expertise and hands-on experience in bioelectric or biomechanical problems that arise in current biomedical research and clinical practice. It provides training in numerical methods, image analysis, and computational tools necessary to carry out end-to-end, image based, subject specific simulations in bioelectricity or biomechanics, using freely available software. Presented by the Scientific Computing and Imaging (SCI) Institute, the Center for Integrative Biomedical Computing (CIBC), and the Muskuloskeletal Research Laboratories (MRL).

Organizers: Rob MacLeod, Jeff, Weiss, Ross Whitaker

Supported by the National Institutes of Health (NIH), National Institute of General Medical Sciences (NIGMS)

Submitted by: Rob MacLeod, PhD
Professor of Bioengineering and Internal Medicine, University of Utah
Scientific Computing and Imaging (SCI) Institute

Comprehensive Arrhythmia Research and MAnagement (CARMA)
72 South Central Campus Drive / Salt Lake City, Utah 84112
Email: macleod@sci.utah.edu Fax: (801) 585-6513
Phone: (801) 585 7596 URL: www.sci.utah.edu/~macleod

Subject: Postdoctoral position at University of Göttingen
From: hohage <hohage@math.uni-goettingen.de>
Date:12/9/2013

Applications are invited for a
Postdoctoral Position at University of Göttingen
funded by the German Science Foundation (DFG) within the Collaborative Research Center CRC 755 ''Nanoscale Photonic Imaging''. The position in the group of Thorsten Hohage is initially available from February 1, 2014 until June 30, 2015 with the possibility of extension.

The project is concerned with Inverse Problems with Poisson Data. Photonic imaging consists in reconstructing an unknown object from measured photons which have interacted with the object of interest by solving an inverse problem. For fundamental physical reasons the positions of measured photons are described by a Poisson process. The project aims at the systematic development of regularization theory for inverse problems with Poisson data and the design of efficient algorithms. An interest in collaboration with other projects of the CRC 755 is expected.

For further details, see http://www.uni-goettingen.de/en/86243.html.

Subject: Announcing PySIT: Python Seismic Imaging Toolbox v0.5
From: Russell Hewett <rhewett@mit.edu>
Date: 12/13/2013

Dear Colleagues,

Russell J. Hewett and Laurent Demanet of the Imaging and Computing Group at MIT are pleased to announce the first public release of PySIT: a Seismic Imaging Toolbox for Python. PySIT is available at http://www.pysit.org.

PySIT is a research and pedagogical package for optimization-based seismic imaging, in the framework of full waveform inversion (FWI), built using the standard tools of scientific Python.

PySIT is designed to be a common platform from which the community can rapidly prototype and reproducibly benchmark new techniques against well-known methods from the literature. The package also contains a quick-start guide for newcomers to imaging and wave equations. A suite of gallery problems is provided, including access to community models such as the Marmousi and BP velocity models.

PySIT is freely available under a BSD license, and development will continue under an open model. Community contributions are welcome. Code documentation and cross-platform installation instructions are available on the project's web page.

The PySIT team is grateful for support from Total SA, the ERL consortium at MIT, AFOSR, ONR, and NSF.

Please feel free to contact us on the Google Groups forum for the project, https://groups.google.com/forum/#!forum/pysit with any questions.

Best,
Russ and Laurent

Submitted by: Russell J. Hewett, Postdoctoral Associate
Imaging and Computing Group, Department of Mathematics
Massachusetts Institute of Technology
www.russellhewett.com

Subject: CFP of Topical Issue on Hybrid Imaging and Image Fusion
for Sensing and Imaging
From: Ming Jiang <ming-jiang@ieee.org>
Date: 12/4/2013

Sensing and Imaging

Topical Issue on Hybrid Imaging and Image Fusion

Call for Papers

Image fusion is the image processing technique through which multiple images from the same or complementary modalities are combined into a single image. Examples include the fusion of X-ray CT and PET images, the combination of Landsat and Panchromatic images, and the creation of spectral optical images. A current research frontier is the integration of multiple modalities to create a hybrid imaging system, such as the PET/CT, PET/MRI, DOT/MRI and DOT/CT systems. This development provides not only an improvement of imaging performance but also the opportunity for image fusion with higher performance. More importantly, it calls for advanced image reconstruction methods that take advantage of the coupled multi-physics underlying the hybrid imaging processes. With synergies among different modalities, image quality can be enhanced by combining the reconstruction algorithms for individual modalities such as with appropriate regularization terms.

This topical issue is focused on but not limited to the following topics:
• Design and implementation of hybrid imaging techniques and systems
• Image reconstruction methods for hybrid imaging systems
• Image fusion methods for hybrid imaging systems

We invite submissions of full papers and short correspondences as related to theoretical analysis, algorithm design, system development, and performance assessment. Papers on feasibility of futuristic imaging modalities are also welcome.

Authors should submit their manuscripts through the online Manuscript Tracking System at http://www.editorialmanager.com/ssta, indicate that they are for this special issue, and choose one of the guest editors to handle their manuscripts. Authors are encouraged to discuss with a guest editor to determine the suitability of their intended contributions.

Guest Editors
Ming Jiang, Peking University, China ming-jiang@ieee.org
Simon Arridge, University College London, UK S.Arridge@cs.ucl.ac.uk
Shutao Li, Hunan University, China shutao_li@hnu.edu.cn
Ge Wang, Rensselaer Polytechnic Institute, USA wangg6@rpi.edu

Submission Guidelines
For author guidelines and submission details please see
http://www.springer.com/journal/11220

Submission Deadline: March 31 2014.

Subject: Table of Contents 'Journal of Inverse and Ill-Posed Problems'
From: <noreply@degruyter.com>
Date: 12/2/2013

Journal of Inverse and Ill-Posed Problems Dec 2013 Vol. 21, Issue 6
Table of Contents

On inverse scattering at fixed energy for the multidimensional Newton equation in a non-compactly supported field
Jollivet, Alexandre

Limited-angle cone-beam computed tomography image reconstruction by total variation minimization and piecewise-constant modification
Zeng, Li / Guo, Jiqiang / Liu, Baodong

A heat source reconstruction formula from single internal measurements using a family of null controls
Garcia, Galina C. / Osses, Axel / Tapia, Marcelo

On accuracy of solving Symm's equation by a fully discrete projection method
Solodky, Sergey G. / Semenova, Evgeniya V.

Degenerate first-order differential equations via projections
Al Horani, Mohammed

Approximate Lipschitz stability for non-overdetermined inverse scattering at fixed energy Novikov, Roman G.

An inverse problem for a third order PDE arising in high-intensity ultrasound: Global uniqueness and stability by one boundary measurement
Liu, Shitao / Triggiani, Roberto

Regularization of the continuation problem for elliptic equations
Kabanikhin, S. I. / Gasimov, Y. S. / Nurseitov, D. B. /
Shishlenin, M. A. / Sholpanbaev, B. B. / Kasenov, S.

Inverse problems for the ground penetrating radar
Kabanikhin, S. I. / Nurseitov, D. B. / Shishlenin, M. A. /
Sholpanbaev, B. B.

Subject: Contents, Inverse Problems and Imaging (IPI)
From: Susan Cummins <newsletter@aimsciences.org>
Date: 12/6/2013

Inverse Problems and Imaging November 2013 Vol. 7, No. 4
Table of Contents

Inverse spectral results in Sobolev spaces for the AKNS operator with partial informations on the potentials
Laurent Amour and Jeremy Faupin

The factorization method applied to cracks with impedance boundary conditions
Yosra Boukari and Houssem Haddar

Analysis of the Hessian for inverse scattering problems. Part III: Inverse medium scattering of electromagnetic waves in three dimensions
Tan Bui-Thanh and Omar Ghattas

Identification of nonlinearities in transport-diffusion models of crowded motion
Martin Burger, Jan-Frederik Pietschmann and Marie-Therese Wolfram

Image denoising: Learning the noise model via nonsmooth PDE-constrained optimization
Juan Carlos De los Reyes and Carola-Bibiane Schonlieb

Hybrid regularization for MRI reconstruction with static field inhomogeneity correction
Ryan Compton, Stanley Osher and Louis-S. Bouchard

Multi-wave imaging in attenuating media Andrew Homan

Analytic sensing for multi-layer spherical models with application to EEG source imaging Djano Kandaswamy, Thierry Blu and Dimitri Van De Ville

Factorization method for the inverse Stokes problem
Armin Lechleiter and Tobias Rienmuller

Compressive sampling and l1 minimization for SAR imaging with low sampling rate
Jiying Liu, Jubo Zhu, Fengxia Yan and Zenghui Zhang

Stability for the acoustic scattering problem for sound-hard scatterers
Giorgio Menegatti and Luca Rondi

Edge-preserving reconstruction with contour-line smoothing and non-quadratic data-fidelity
Marc C. Robini, Yuemin Zhu and Jianhua Luo

Instability of the linearized problem in multiwave tomography of recovery both the source and the speed Plamen Stefanov and Gunther Uhlmann

Seismic data reconstruction via matrix completion
Yi Yang, Jianwei Ma and Stanley Osher

Reconstruction of penetrable grating profiles
Jiaqing Yang, Bo Zhang and Ruming Zhang

Augmented Lagrangian method for a mean curvature based image denoising model
Wei Zhu, Xue-Cheng Tai and Tony Chan

http://aimsciences.org/journals/contentsListnew.jsp?pubID=645

Submitted by: Susan Cummins, Publication Editor
American Institute of Mathematical Sciences
Springfield, MO 65801 USA
Phone: 417-987-6421

Subject: Inverse Problems, Volume 30, Number 1, January 2014
From: <custserv@iop.org>
Date: 12/17/2013

Inverse Problems January 2014 Volume 30, Number 1
Table of Contents

A variational approach to sparsity optimization based on Lagrange multiplier theory
Kazufumi Ito and Karl Kunisch

An ill-posed parabolic evolution system for dispersive deoxygenation–reaeration in water
M Azaïez, F Ben Belgacem, F Hecht, and C Le Bot

Estimation of aquifer dimensions from passive seismic signals with approximate wave propagation models
Timo Lähivaara, Nicholas F Dudley Ward, Tomi Huttunen, Janne Koponen, and Jari P Kaipio

Solution of inverse problems with limited forward solver evaluations: a Bayesian perspective I Bilionis and N Zabaras

Solving a Cauchy problem for a 3D elliptic PDE with variable coefficients by a quasi-boundary-value method Xiaoli Feng and Lars Eldén

The factorization method for cavities Xiaodong Liu

The interior transmission problem for regions on a conducting surface
Fan Yang and Peter Monk

http://iopscience.iop.org/0266-5611/30/1/email-alert/1138284293

Subject: Table of Contents, Nonlinear Analysis: Modelling and Control
From: Romas Baronas <romas.baronas@mif.vu.lt>
Date: 12/8/2013

Nonlinear Analysis: Modelling and Control 2014 Vol. 19, No. 1
Table of Contents

Exponential synchronization for reaction-diffusion neural networks with mixed time-varying delays via periodically intermittent control
Qintao Gan, Hong Zhang, and Jun Dong

Particle Swarm Optimization for Linear Support Vector Machines based classifier selection Gintautas Garšva and Paulius Danenas

Common fixed points for \alpha-\psi-\varphi-contractions in generalized metric spaces
Vincenzo La Rosa and Pasquale Vetro

The recognition and modelling of a backbone and its deformity
Ramunas Markauskas, Algimantas Juozapavicius, Kestutis Saniukas, and Giedrius Bernotavicius

Testing the epidemic change in nearly nonstationary autoregressive processes
Jurgita Markeviciute, Alfredas Rackauskas, and Charles Suquet

On a generalized SVEIR epidemic model under regular and adaptive impulsive vaccination
Raul Nistal, Manuel de la Sen, Santiago Alonso-Quesada, and Asier Ibeas

Comparison of spatial classification rules with different conditional distributions of class label
Giedrius Stabingis, Kestutis Ducinskas, and Lijana Stabingiene

Analysis of a duopoly game with heterogeneous players participating in carbon emission trading Lingrui Zhao and Jixiang Zhang

Stability and bifurcation in a ratio-dependent Holling-III system with diffusion and delay Wenjie Zuo and Junjie Wei

A free on-line edition is available at: http://www.mii.lt/NA/

Submitted by Dr. Romas Baronas, Deputy-Editor-in-Chief
------ end -------