

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

Today's Topics:

Postdocs: Inverse Problems, Signal and Image Processing/Analysis in Shenzhen

Professorship: Inverse Problems at University of Würzburg

Computational Scientist: Algorithms for Tomographic Imaging at UK STFC

Special Issue: Variational Methods, Algorithms for Imaging & Vision in Inverse Problems

Table of Contents: Inverse Problems and Imaging

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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

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

From: 鲁坚 <jianlu@szu.edu.cn>

Subject: Postdoc Positions in Shenzhen University: Machine Learning, Image Analysis, Computational Harmonic Analysis, Inverse Problems

Date: Friday, August 24, 2018

Postdoc Positions in Shenzhen University, China Location: Shenzhen, China Job Type: Full-Time Duration: 2 years Number of Position: 2~3 Positions Closing Date: Open Until Filled

Description: We are looking for Postdoctoral Researchers in Applied and Computational Mathematics, Computer Science and related discipline with extensive experience in the following field(s):

- 1- Machine Learning (deep learning)
- 2- Signal and Image Processing/Analysis
- 3- Computer vision
- 4- Approximation Methods
- 5- Computational Harmonic Analysis
- 6- Inverse Problems, etc.

Promoters: Prof. Jian Lu (Shenzhen Key Laboratory of Advanced Machine Learning and Applications, College of Mathematics and Statistics)

Prof. Charles K. Chui (Editor-in-Chief, Applied and Computational Harmonic Analysis (ACHA), Elsevier.)

The salary is about 270,000 CNY (40,000 US dollars) per year, of which 120,000 RMB per

year comes from a local government source as a tax-free postdoc subsidy. Those who are interested please send their C.V. to Prof. Dr. Jian Lu, whose contact information is as follows: Prof. Jian Lu, College of Mathematics and Statistics, Shenzhen University, Shenzhen 518060, China; e-mail: jianlu@szu.edu.cn; jianlu1979@163.com

From: Petra Markert-Autsch <petra.markert-automatik.uni-wuerzburg.de>
Subject: Job Vacancy: Professorship (W2) for Inverse Problems (Uni Würzburg)
Date: Tuesday, September 25, 2018

The Institute of Mathematics at the University of Würzburg welcomes applications for a

Professorship (W2) for Inverse Problems

to be filled by October 31st, 2018.

Potential Candidates are expected to be internationally recognized experts in the field of inverse problems.

Duties will include the representation of Inverse Problems in research, participation in the bachelor's, master's, PhD's, and teacher training courses as well as in the various service courses at the Institute for Mathematics; active participation in the university's graduate programs is also desired. In addition, participation in the academic self-administration is expected.

For further information please
visit <http://www.mathematik.uni-wuerzburg.de/bewerbungen/W2Math09-2018>

Best regards, Alfio Borzi

Submitted by: Petra Markert-Autsch,
Sekretariat Lehrstuhl für Mathematik IX (Wissenschaftliches Rechnen), Universität
Würzburg

From: Jakob Jorgensen <jakob.jorgensen@manchester.ac.uk>
Subject: UK job vacancy - computational scientist for tomographic imaging
Date: Thursday, September 27, 2018

Dear all,

We are looking for a computational scientist in the area of algorithms for tomographic imaging. Please see details below.

Best wishes,
Jakob Jorgensen

The Scientific Computing Department of the Science and Technology Facilities Council (STFC) provides computational support to UK scientific communities through the Computational Science Centre for Research Communities (CoSeC), and support to the large facilities via the Ada Lovelace Centre.

We have a vacancy for a computational scientist in imaging, to contribute to CoSeC support for Collaborative Computational Project in tomographic imaging (CCPi). This post represents a great opportunity for a suitable candidate with good analytical background in physics, mathematics or computer science, and strong software development capabilities to adapt and expand their expertise in the exciting field of tomographic imaging. We are keen to support the right candidate to advance his/her academic track record in relevant areas.

In terms of software, this is a 'full-stack' role involving software design, development, testing, as well as support.

Full information and how to apply at the following link http://www.topcareer.jobs/Vacancy/irc246732_8715.aspx

From: David Boyt <david.boyt@iop.org>
Subject: Inverse Problems - Special Issue on Variational Methods and Effective Algorithms for Imaging and Vision
Date: Wednesday, September 26, 2018

Dear all,

A reminder of the invitation to submit work for a Special Issue on Variational Methods and Effective Algorithms for Imaging and Vision to be published in Inverse Problems [see below].

The deadline for submission has now been extended to 30 November 2018.

Should you have any queries, please feel free to approach either myself or one the issue's Guest Editors: Carola-Bibiane Schönlieb (copied here), Michael Hintermüller, and Simon Arridge.

Warm regards,
David

From: David Boyt
Subject: Inverse Problems - Special Issue on Variational Methods and Effective Algorithms for Imaging and Vision
Sent: 10 May 2018 16:28

Dear all,

On behalf of the journal, Inverse Problems, and the Guest Editors, Carola-Bibiane

Schönlieb (copied here), Michael Hintermüller, and Simon Arridge, I'm writing to inform you of a new Special Issue on Variational Methods and Effective Algorithms for Imaging and Vision, which is now welcoming submissions.

This special issue aims to collect some of the most recent and most promising mathematical approaches in imaging and computer vision, capturing its theory, numerical methods and applications. The issue is motivated by the recent Isaac Newton Institute programme with the same title but is not limited to contributions from participants. Further information on the Special Issue can be found via the journal's website [here](#).

Should you have any queries, please feel free to approach either myself or the Guest Editors.

Warm regards,
David

Submitted by: David Boyt Publisher
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From: "Cuixin.zhou" <newsletter-noreply@aimsciences.org>
Subject: New IPI vol. 12, no. 5 October 2018 issue is now available online
Date: Sunday, August 12, 2018

Inverse Problems and Imaging October 2018 Volume 12, Number 5
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Fluid image registration using a finite volume scheme of the incompressible Navier Stokes equation

Mohamed Alahyane, Abdelilah Hakim, Amine Laghrib and Said Raghay

Mitigating the influence of the boundary on PDE-based covariance operators
Yair Daon and Georg Stadler

Using generalized cross validation to select regularization parameter for total variation regularization problems
You-Wei Wen and Raymond Honfu Chan

Risk estimators for choosing regularization parameters in ill-posed problems - properties and limitations
Felix Lucka, Katharina Proksch, Christoph Brune, Nicolai Bissantz, Martin Burger, Holger Dette and Frank Wübbeling

Recovery of seismic wavefields by an l_q -norm constrained regularization method
Fengmin Xu and Yanfei Wang

On finding a buried obstacle in a layered medium via the time domain enclosure method
Masaru Ikehata and Mishio Kawashita

Retinex based on exponent-type total variation scheme
Lu Liu, Zhi-Feng Pang and Yuping Duan

Capped ℓ_p approximations for the composite ℓ_0 regularization problem
Qia Li and Na Zhang

Stability estimates in tensor tomography
Jan Boman and Vladimir Sharafutdinov

<http://aims sciences.org/journal/1930-8337/2018/12/5>

From: "noreply@iopscience.org" <noreply@iopscience.org>
Subject: Inverse Problems, Volume 34, Numbers 10-11, October-November 2018
Date: Tuesday, August 28, 2018

Inverse Problems October 2018 Volume 34, Number 10
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Special issue papers

Combining Radon transform and electrical capacitance tomography for a 2d + 1 imaging device
Yves Capdeboscq, Hrand Mamigonians, Aslam Sulaïmalebbe, and Vahe Tshitoyan

Imaging small polarizable scatterers with polarization data
Patrick Bardsley, Maxence Cassier, and Fernando Guevara Vasquez

Spatial-spectral cube matching frame for spectral CT reconstruction
Weiwen Wu, Yanbo Zhang, Qian Wang, Fenglin Liu, Fulin Luo, and Hengyong Yu

A fully non-linear optimization approach to acousto-electric tomography
B J Adesokan, K Knudsen, V P Krishnan, and S Roy

Fast imaging of scattering obstacles from phaseless far-field measurements at a fixed frequency
Bo Zhang, and Haiwen Zhang

Papers

Shape derivatives for scattering problems
Ralf Hiptmair, and Jingzhi Li

Bayesian inversion in resin transfer molding
Marco Iglesias, Minho Park, and M V Tretyakov

Stability and error estimates of BV solutions to the Abel inverse problem
Linan Zhang, and Hayden Schaeffer

Reconstruction of the initial state from the data measured on a sphere for
plasma-acoustic wave equations
Junsik Bae, Bongsuk Kwon, and Sunghwan Moon

An approach to periodic, time-varying parameter estimation using nonlinear filtering
Andrea Arnold, and Alun L Lloyd

The cone-beam transform and spherical convolution operators
Michael Quellmalz, Ralf Hielscher, and Alfred K Louis

Computing interior transmission eigenvalues for homogeneous and anisotropic media
Andreas Kleefeld, and Lukas Pieronek

Bayesian optical flow with uncertainty quantification
Jie Sun, Fernando J Quevedo, and Erik Bollt

A Bayesian framework for molecular strain identification from mixed diagnostic samples

Lauri Mustonen, Xiangxi Gao, Asteroide Santana, Rebecca Mitchell, Ymir Vigfusson, and
Lars Ruthotto

<http://iopscience.iop.org/issue/0266-5611/34/10>

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Microlocal analysis of imaging operators for effective common offset seismic
reconstruction
Christine Grathwohl, Peer Kunstmann, Eric Todd Quinto, and Andreas Rieder

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Increasing stability in the two dimensional inverse source scattering problem with
attenuation and many frequencies
Mozhgan Nora Entekhabi

Heuristic rule for non-stationary iterated Tikhonov regularization in Banach spaces
Zhengqiang Zhang, and Qinian Jin

A modified transmission eigenvalue problem for scattering by a partially coated crack

Samuel Cogar

Inverse scattering problems on a noncompact star graph

Xiao-Chuan Xu, and Chuan-Fu Yang

Estimation of the Robin coefficient field in a Poisson problem with uncertain conductivity field

Ruanui Nicholson, Noémi Petra, and Jari P Kaipio

Acoustic interface contrast imaging

Joost van der Neut, Peter M van den Berg, Jacob T Fokkema, and Koen W A van Dongen

Reconstruction of a compactly supported sound profile in the presence of a random background medium

Carlos Borges, and George Biros

The inverse problem of magnetorelaxometry imaging

Janic Föcke, Daniel Baumgarten, and Martin Burger

Edge-guided TV p regularization for diffuse optical tomography based on radiative transport equation

Shanshan Tong, Bo Han, and Jinping Tang

Application of microlocal analysis to an inverse problem arising from financial markets

Shin-ichi Doi, and Yasushi Ota

Semi-global inversion of v_p to v_s ratio for elastic wavefield inversion

Nuno V da Silva, Gang Yao, and Michael Warner

A bilevel approach for parameter learning in inverse problems

Gernot Holler, Karl Kunisch, and Richard C Barnard

Equivalence of weak and strong modes of measures on topological vector spaces

Han Cheng Lie, and T J Sullivan

A new version of the convexification method for a 1D coefficient inverse problem with experimental data

Michael V Klibanov, Aleksandr E Kolesov, Anders Sullivan, and Lam Nguyen

Tikhonov regularization in Hilbert scales under conditional stability assumptions

H Egger, and B Hofmann

<http://iopscience.iop.org/issue/0266-5611/34/11>

From: "noreply@degruyter.com" <noreply@degruyter.com>
Subject: Contents, 'Journal of Inverse and Ill-posed Problems'
Date: Friday, September 28, 2018

Journal of Inverse and Ill-posed Problems October 2018 Volume 26, Issue 5
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Identification of mathematical model of bacteria population under the antibiotic influence

Serovajsky, Simon / Nurseitov, Daniyar / Kabanikhin, Sergey / Azimov, Anvar / Ilin, Alexandr / Islamov, Rinat

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An inverse problem in elastography involving Lamé systems

Fernández-Cara, Enrique / Maestre, Faustino

Solution of the inverse seismic problem in a layered elastic medium by means of the τ -p Radon transform

Baev, Andrey V.

An adaptive multigrid conjugate gradient method for the inversion of a nonlinear convection-diffusion equation

Liu, Tao

Ambarzumyan-type theorems on a time scale

Ozkan, Ahmet Sinan

A converse result for Banach space convergence rates in Tikhonov-type convex regularization of ill-posed linear equations

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Lipschitz stability estimates in inverse source problems for a fractional diffusion equation of half order in time by Carleman estimates

Kawamoto, Atsushi

Inverse dynamic and spectral problems for the one-dimensional Dirac system on a finite tree

Mikhaylov, Alexander / Mikhaylov, Victor S. / Murzabekova, Gulden

Phaseless inverse problems with interference waves

Romanov, Vladimir G. / Yamamoto, Masahiro

Quasi-solution of linear inverse problems in non-reflexive Banach spaces

Clason, Christian / Klassen, Andrej

<https://www.degruyter.com/view/j/jiip.2018.26.issue-5/issue-files/jiip.2018.26.issue-5>

From: Romas Baronas <romas.baronas@mif.vu.lt>
Subject: Table of Contents, Nonlinear Analysis: Modelling and Control 23:5
Date: September 3, 2018

Nonlinear Analysis: Modelling and Control 2018 Volume 23, Number 5
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Global exponential stability of positive periodic solutions for a cholera model with saturated treatment

Hongzheng Quan, Xueyong Zhou, Jianzhou Liu

On the center-stable manifolds for some fractional differential equations of Caputo type
Shan Peng, JinRong Wang, Xiulan Yu

Coincidence and common fixed point theorems for four mappings satisfying (α_s, F) -contraction
Muhammad Nazam, Muhammad Arshad, Mihai Postolache

Dynamics in a delayed diffusive cell cycle model
Yangqin Wang, Ling Yang, Jie Yan

Application of fractional sub-equation method to nonlinear evolution equations
Mohamed A. Abdelkawy, Omar H. El-Kalaawy, Rasha B. Al-Denari, Anjan Biswas

Fixed and common fixed point theorems in frame of quasi metric spaces under contraction condition based on ultra distance functions
Wasfi Shatanawi

The effect of delayed feedback on the dynamics of an autocatalysis reaction-diffusion system
Xin Wei, Junjie Wei

Positive solutions for a system of fractional differential equations with p-Laplacian operator and multi-point boundary conditions
Rodica Luca

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