IPNet Digest Volume 22, Number 05 May 31, 2015

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

[May be down for a few days in early June 2015]

From: <lihuipeng@mail.tsinghua.edu.cn>
Subject: Post-doctor in Electrical Tomography based Subsea Gas-oil-water Multiphase Flow Metering, Graduate School at Shenzhen, Tsinghua University, China
Date: April 17, 2015

Post-doctor in Electrical Tomography based Subsea Gas-oil-water Multiphase Flow Metering Graduate School at Shenzhen, Tsinghua University, China

Division of Ocean Science and Technology in Tsinghua University now is looking for 1-2 two years post-doctor in research on Electrical tomography based subsea gas-oil-water multiphase flow metering. The working location will be in Shenzhen campus but frequently travel to Beijing. (http://www.sz.tsinghua.edu.cn/)

The major research includes: electrical capacitance and resistance sensor design; image reconstruction algorithm; inverse calculation and modeling for key parameters (e.g. water-to-liquid ratio, thickness of liquid layer, and flow rate) of gas-oil-water multiphase flows; CFD simulation of gas-liquid flows; venturi pressure difference measurement. We have a 2MPa industrial scale close-loop gas-oil-water multiphase flow facility to support this research. Flow rate is up to 15m3/h. The lab hosts academic members from Tsinghua University and Chinese Academy of Sciences, background with automation, electronics, ocean engineering and engineering thermal physics. We are seeking a Post-doctor who will contribute to development of methods for the real industrial scale based gas-oil-water multiphase flow measurement. The applicant should be with at least 2 years experience in research on Electrical capacitance tomography, Electrical resistance tomography, or Gas-liquid flows measurement. Awarded PhD degree in Electronic & Electrical Engineering, Engineering Thermal Physics, or relative subjects. Familiar with Measurement principle, Electrostatic, Signal processing, Mathematic (Inverse calculation), or Computational

fluid mechanics. Familiar with MATLAB, FEM analysis (e.g. COMSOL), AUTOCAD or SOLIDWORK, CFD simulation tool. Fluent writing in English for publications.

Please send cover letter and CV to Associate Professor Dr. Yi Li, Liyi@sz.tsinghua.edu.cn

Location: Shenzhen, China
Salary: RMB 180,000 – 210,000 Per annum
Hours: Full Time
Contract Type: Contract
Contract Type: Fixed term for 24 months
Faculty: Division of Ocean Science and Technology

Best regards, Lihui Peng
Professor Lihui Peng, PhD, SMIEEE Department of Automation Tsinghua University Beijing, China

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From: Eric Miller <elmiller@ece.tufts.edu>
Subject: Postdoctoral Position in X-ray Imaging, Tufts University
Date: May 18, 2015

Postdoctoral Position in X-ray Imaging, Tufts University

Applications are invited for a postdoctoral position in the Laboratory for Imaging Science Research (LaISR) in the Tufts University Dept. of Electrical and Computer Engineering. This appointment would be for 18 months, with an estimated start date of September 2015, for a project entitled “3D Reconstruction Methods for Novel Sparse-view Energy-discriminating Computed Tomography System.” Under this project, the fellow will work with Tufts faculty and industrial collaborators to perform research in the area of limited view, multi-energy X-ray reconstruction methods with the goal of developing next-generation airport baggage scanning systems. In particular, we are developing iterative methods that can exploit novel system geometries and can combine energy-resolved X-ray measurements from a sensors operating at varying levels of energy resolution. While previous experience in CT reconstruction would be ideal, we welcome applicants with significant experience in related fields including inverse problems, statistical signal processing, sparse signal or image processing, compressive sensing, and computational modeling. Interested applicants should send a cover letter detailing their research interests and career goals, CV, and names and contact information of 3 references to Dr. Brian Tracey (brian.tracey@tufts.edu).

Submitted by: Eric L. Mille, Professor and Chair, Electrical and Computer Engineering

Adjunct Professor of Computer Science, Adjunct Professor of Biomedical Engineering

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Web: http://www.ece.tufts.edu/~elmiller/elmhome/
Phone: 617.627.0835 FAX: 617.627.3220

Ground: Halligan Hall Room 101A, 161 College Ave.
        Medford Ma, 02155

From: "Wiaux, Yves" <Y.Wiaux@hw.ac.uk>
Subject: Compressive MR imaging Postdocs Edinburgh
Date: May 28, 2015

Dear Colleague

I currently have a postdoc position available in Edinburgh on 'Compressed Sensing for Quantitative MR imaging'.

Details on the position and application procedure can be found at basp.eps.hw.ac.uk

This is part of a large initiative in Edinburgh between signal processing and medical imaging labs, and 2 other positions are also available with my colleagues M. Davies and I. Marshall (see www.ed.ac.uk/jobs).

Submitted by: Dr Yves Wiaux, Assoc. Prof., BASP Director
Institute of Sensors, Signals & Systems, School of Engineering & Physical Sciences
Heriot-Watt University, Edinburgh   basp.eps.hw.ac.uk

From: Susan Cummins <newsletter@aimsciences.org>
Subject: New IPI vol. 9, no. 2 2015 May issue is now available online
Date: April 3, 2015

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Some geometric inverse problems for the linear wave equation
Anna Doubova and Enrique Fernández-Cara

Dynamic linear inverse problems with moderate movements of the object: Ill-posedness

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A new nonlocal variational setting for image processing
Yan Jin, Jürgen Jost and Guofang Wang

Empirical average-case relation between undersampling and sparsity in X-ray CT
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Increasing stability for the inverse problem of the Schrödinger equation with the partial Cauchy data
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An improved fast local level set method for three-dimensional inverse gravimetry
Wangtao Lu, Shingyu Leung and Jianliang Qian

A study of the one dimensional total generalised variation regularisation problem
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A fast edge detection algorithm using binary labels
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Parallel matrix factorization for low-rank tensor completion
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http://aimsciences.org/journals/contentsListnew.jsp?pubID=755

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

From: <noreply@iopscience.org>
Subject: Inverse Problems, Volume 31, Numbers 4-5, April-May 2015
Date: April 10, 2015

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A variational formulation for interpolation of seismic traces with derivative information
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How strong are streak artifacts in limited angle computed tomography?
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Inverse problems and sharp eigenvalue asymptotics for Euler–Bernoulli operators
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Iterated fractional Tikhonov regularization
Davide Bianchi, Alessandro Buccini, Marco Donatelli, and Stefano Serra-Capizzano

An inverse kinematic problem with internal sources
Leonid Pestov, Gunther Uhlmann, and Hanming Zhou

Reverse time migration for reconstructing extended obstacles in the half space
Zhiming Chen, and Guanghui Huang