Today's Topics:
    Conference: 3rd IMA Conference on Inverse Problems, Edinburgh ICMS
    Special Issue: Helsinki Deblur Challenge 2021
    New Book: Systems with Persistent Memory: Controllability, Stability, ID
    Postdocs: Algorithmic Solutions in Electron Microscopy, Imaging; NIH
    PhD Position: Regularization, Local Ill-Posedness Phenomena; Siegen
    University Assistant: Image Processing, Inverse Processing; Graz
    Multiple Positions: Numerical Analysis, incl. Inverse Problems; Arup
    Table of Contents: Inverse Problems in Science and Engineering

Submissions for IPNet Digest:
    Mail to ipnet-digest@math.msu.edu

Information about IPNet:
    https://ipnet.math.msu.edu/

From: "Pereyra, Marcelo" <M.Pereyra@hw.ac.uk>
Date: Wednesday, November 24, 2021
Subject: 3rd IMA Conference on Inverse Problems, Edinburgh ICMS, 3-5 May 2022

We are delighted to invite colleagues to the 3rd IMA Conference on Inverse
Problems, which will take place in Edinburgh at the ICMS on 3-5 May 2022. This
conference will bring together the applied mathematics, statistics, machine
learning, engineering, physics and industrial communities around the topic of
inverse problems to discuss recent developments and open challenges in theory,
methodology, computational algorithms, and applications. Please see the
conference webpage for more details

https://ima.org.uk/18111/3rd-ima-conference-on-inverse-problems-from-theory-to-
application/

There is a call for contributed oral and poster presentations (this only
requires a short abstract of 100 words, by 7 January 2022). We hope to see many
of you in Edinburgh soon.

Best wishes,
Marcelo Pereyra on behalf of the conference committee.

Submitted by: Dr Marcelo Pereyra | Associate Professor in Statistics | Maxwell
Institute for Mathematical Sciences & School of Mathematical and Computer
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From: "Siltanen, M Samuli" <samuli.siltanen@helsinki.fi>
Date: Thursday, December 2, 2021
Subject: Helsinki Deblur Challenge 2021

Inverse Problems and Imaging: Special issue on the Helsinki Deblur Challenge (HDC2021).
https://www.aimsciences.org/journal/1930-8337
Guest editors: Markus Juvonen, Fernando Silva de Moura and Samuli Siltanen.

The theme of the special issue is Helsinki Deblur Challenge HDC2021, which produced amazing results on severely misfocused photographs. The quality of reconstructions was measured in a specific way: automatically recognising random text strings from the deblurred images, and counting the number of correctly identified characters. The winning team managed to recover over 70% of characters that looked hopelessly lost to the human eye. The results can be seen here: http://fips.fi/HDC2021.php

The HDC2021 dataset serves as a standard test bench for deconvolution algorithms. All the HDC2021 data is openly available, and every algorithm that took part in the challenge is published in a GIT repository.

The special issue is open for submissions also for teams who did not take part in the original challenge. Please consider applying your deconvolution methods on the HDC2021 data and submitting the results to IPI. If you have questions about the special issue, or consider submitting, please send email to samuli.siltanen@helsinki.fi with subject line "HDC2021 Special Issue".

The deadline for submissions is May 31, 2022.

From: Luciano Pandolfi <luciano.pandolfi@formerfaculty.polito.it>
Date: Thursday, December 2, 2021
Subject: New book

Systems with Persistent Memory: Controllability, Stability, Identification (Springer, Interdisciplinary Applied Mathematics 54)

https://urldefense.com/v3/__https://link.springer.com/book/10.1007/978-3-030-80281-3__;!!HXCxUKc!ncWiRlx3nla0sPpdgaLYCF0bsbGcQuo0cy_ly7EQMkOSFck8prg9AIbG5-koh-JSUgRdmmE$

CHAPTER 1: Preliminary Considerations and Examples

This chapter presents preliminary considerations and examines well posedness and controllability properties of   systems with persistent

memory in one space dimension

CHAPTER 2: Operators and Semigroups for Systems with Boundary Inputs

This chapters introduces preliminary information on the functional analytic methods used in the study of nonhomogeneous boundary control systems via semigroup methods

CHAPTER 3: The Heat Equation with Memory and its Controllability

This chapter studies the heat equation with memory (well posedness and controllability) both via semigroup methods and via frequency domain methods which can be used in particular to systems with fractional integrals and derivatives

CHAPTER 4: The Wave Equation with Memory and its Controllability

This chapter studies well posedness and controllability of the wave equation with memory both with Dirichlet and Neumann boundary controls

CHAPTER 5: The Stability of the Wave Equation with Persistent Memory

This chapter shows the use of frequency domain methods, energy methods and semigroup methods in the study of the stability of systems with memory

CHAPTER 6: Dynamical Algorithms for Identification Problems

This chapter shows the use of dynamical algorithms for the identificatin of the memory kernel and of an elastic coefficient for systems with persistent memory, by using boundary measurements

CHAPTER 7: Final Miscellaneous Problems

This concluding chapter direct the attention of the reader to some important problems not treated in the book. In particular, the effect of nonlinearity; memory on the boundary; numerical methods

Submitted by: Prof. Luciano Pandolfi
Retired from the Politecnico di Torino,
Dipartimento di Scienze Matematiche "G. L. Lagrange"
Corso Duca degli Abruzzi 24, 10129 Torino, Italy
luciano.pandolfi@formerfaculty.polito.it

From: "Elmlund, Hans (NIH/NCI) [E]" <hans.elmlund@nih.gov>
Date: Friday, November 19, 2021
Subject: Postdoctoral research/collaboration opportunities @ NIH

Dear All,

I am Hans Elmlund, Senior Investigator @ NIH and my lab develops algorithmic solutions to address the increasing demands for quantitative and computational approaches in electron microscopy, integrative structural biology and materials science. I am seeking to recruit fellows with a PhD. degree in quantitative science (preferably mathematics, computer science, physics, statistics, engineering, materials science, theoretical chemistry, medical imaging or bioinformatics) that are keen to apply their skills to develop structural methodologies that may be applied to accelerate discovery across multiple disciplines and make a significant impact on biomedical and materials research world-wide. The job ad can be found here:

https://ccr.cancer.gov/careers/post-doctoral-fellow-electron-microscopy-image-processing-algorithm-development/24314

I am also interested in collaborating with mathematicians with an interest in ill-posed inverse problem and large-scale optimization. If you need more information, please get back to me.

With best wishes,

HANS ELMLUND PhD
Senior Investigator

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From: Robert Plato <plato@mathematik.uni-siegen.de>
Date: Monday, November 22, 2021
Subject: PhD Position at the University of Siegen (Germany)

PhD position at Siegen

The University of Siegen is offering a PhD position affiliated with the Department of Mathematics. It is associated with the DFG-funded research project 'Oversmoothing regularization models in light of local ill-posedness phenomena'.

The position should be filled by March 1, 2022 for a period of 2 years and 8 months, with 75% of the regular working hours. Remuneration is according to the German public salary scale TV-L 13.

For more information, see the official job advertisement web site
https://urldefense.com/v3/__https://jobs.uni-siegen.de/job/Wissenschaftlicher-

Mitarbeiterin–Mathematik–57072/741050301/__;!!HXCxUKc!
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If you have any questions, please contact Prof. R. Plato via E-Mail:
plato@mathematik.uni-siegen.de

Application Deadline: December 10, 2021

Submitted by: Robert Plato
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https://urldefense.com/v3/__http://www.uni-siegen.de/fb6/aan/plato__;!!HXCxUKc!
md5Zc3qvIY4tMUKdbdtKVY2mkWrNSZk3XtH–Z_GSzh5BZV4KSJlZHjwEfrqMZU1ofVEQt_8$

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From: "Moser, Melanie (melanie.moser@uni-graz.at)" <melanie.moser@uni-graz.at>
Date: Wednesday, December 15, 2021
Subject: University Assistant with doctorate, Graz, Austria

At the University of Graz, researchers and students work across a broad
disciplinary spectrum to enlarge our knowledge, and find strategies to deal with
challenges our society is confronted with and to shape tomorrow's world. The
University of Graz is a place which combines high quality academic research and
teaching, where achievement is rewarded, careers are promoted, and social
diversity is encouraged – all within a modern, award-winning working
environment. Our motto: We work for tomorrow. Join us!

The Institute of Mathematics and Scientific Computing is looking for a
University Assistant with doctorate (m/f/d)
https://uni-graz.jobbase.io/job/gh0utgb23azjo30ypzz0l89n26omwm

40 hours a week
fixed-term employment for 1 year
position to be filled as of now

Your duties
- Research in the field of applied mathematics with emphasis on the analysis and the numerics of problems in mathematical image processing, inverse problems and data sciences
- Collaboration in interdisciplinary cooperation projects and third-party funded projects
- Independent teaching of courses in the field of applied mathematics, supervision of students and holding of examinations
- Participation in organizational and administrative matters

Your Profile
- Doctoral degree in a mathematical branch of study

- Solid knowledge of one of the following fields: mathematical methods in image processing, inverse problems, numerical algorithms for imaging and inverse problems
- Knowledge in one or more of the following fields: functional analysis, continuous mathematical optimization, monotone operator theory, regularization theory, optimal transport, mathematical data science (desirable)
- Ability for integration into the institute's research profile and in particular into interdisciplinary cooperation projects
- Capacity for teamwork, organizational talent and ability to communicate
- Ability to teach in german language
- Very good knowledge of English required

Our Offer

Classification
Salary scheme of the Universitäten-KV (University Collective Agreement): B1

Minimum Salary
The minimum salary as stated in the collective agreement and according to the classification scheme is EUR 3.945,90 gross/month (for full-time employment). This minimum salary may be higher due to previous employment periods eligible for inclusion and other earnings and remunerations.

We offer you a job with a lot of responsibility and variety. You can expect an enjoyable work climate, flexible work hours and numerous possibilities for further education and personal development. Take advantage of the chance to enter into a challenging work environment full of team spirit and enthusiasm for your job.

The University of Graz strives to increase the proportion of women in particular in management and faculty positions and therefore encourages qualified women to apply.

Especially with regard to academic staff, we welcome applications from persons with disabilities who meet the requirements of the advertised position.

Applicants with proof of COVID-19 vaccination will be given preference if equally qualified. For further information, please refer to our general application regulations.

From: Ramaseshan Kannan ramaseshan.kannan@arup.com [via NADIGEST]
Date: November 17, 2021
Subject: Multiple Positions, Algorithms and Numerical Analysis, Arup

Arup
https://urldefense.com/v3/__https://www.arup.com/__;!!HXCxUKc!
lfaezqmK0SvrvK0rLbRqlZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55CkK79DO$

is a global engineering firm working within the built environment.
We are behind the design of several landmark structures around the world
such as the Beijing Olympic stadiums, Sydney Opera House and Queensferry
Crossing.

We have opportunities within our Algorithms and Numerical
Analysis team. They are both to do with new mathematics and
software that is closely related to sustainability and net zero
within the built environment.

Specifically, we are seeking:

– Someone with a research background in inverse
  problems/uncertainty quantification/probability.

https://urldefense.com/v3/__https://jobs.arup.com/jobs/numerical-algorithms-
developer-and-research-manager-8170__;!!HXCxUKc!
lfaezqmK0SvrvK0rLbRqlZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55EO3KHbU$

– A senior C++ developer with significant experience creating
  numerical analysis software

https://urldefense.com/v3/__https://jobs.arup.com/jobs/senior-numerical-software
-developer-**B-technical-lead-8173__;4oCT!!HXCxUKc!
lfaezqmK0SvrvK0rLbRqlZ5mE6jqzMBzXSVt8zzWwiisK1wctEuU66R55FQVeoPk$

Please apply directly on the website. I'm happy to answer
questions about the roles or have an informal conversation if it
helps.

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From: "alerts@tandfonline.com" <alerts@tandfonline.com>
Date: Friday, December 17, 2021
Subject: Inverse Problems in Science and Engineering, Volume 29, Issue 12,
December 2021 is now available online on Taylor & Francis Online

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Call For PapersGeorge S. Dulikravich

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