

Morning program

- 9:00 **Welcome Coffee**
- Session 1
Session Chair : **Antonin Chambolle**
- 9:30 - 10:20 **Invited Talk**
Distribution-controlled and optimally spread sampling trajectories for accelerated Magnetic Resonance Imaging
Philippe Ciuciu
Neurospin, CEA Saclay, France
- 10:20 - 10:40 **Heuristics For Efficient Sparse Blind Source Separation**
C Kervazo¹, J Bobin¹ and C Chenot²
¹ CEA Saclay, Gif-sur-Yvette, France
² Institute for Digital Communications, University of Edinburgh, UK
- 10:40 - 11:00 **Optimality of 1-norm regularization among weighted 1-norms for sparse recovery: a case study on how to find optimal regularizations**
Yann Traonmilin¹ and Samuel Vaiter²
¹ CNRS, Institut de Mathématiques de Bordeaux, Talence, France
² CNRS, Institut de Mathématiques de Bourgogne, Dijon, France
- 11:00 - 11:30 **Coffee Break & poster session**
- Session 2
Session chair: **Dominique Lesselier**
- 11:30 - 11h50 **A level set method for shape reconstruction in seismic full waveform inversion using a linear elastic model in 2D**
Yifan Wu and Oliver Dorn
School of Mathematics, The University of Manchester, UK
- 11:50 - 12:10 **Imaging defects in an elastic waveguide using time-dependent surface data**
V. Baronian¹, L. Bourgeois², B. Chapuis¹ and A. Recoquillay¹
¹ CEA, LIST, Gif-sur-Yvette, France
² Laboratoire POEMS, ENSTA ParisTech, Palaiseau, France

Afternoon program

Session 3

Session chair: **Gabriel Peyré**

- 14:00 - 14:50 **Invited Talk**
Morphing of manifold-valued images
Gabriele Steidl
Technische Universität Kaiserslautern, Fachbereich Mathematik, Germany
- 14:50 – 15:10 **Instance Optimal Decoding and the Restricted Isometry Property**
Nicolas Keriven¹, Rémi Gribonval²
¹Ecole Normale Supérieure, Paris, France
²Université Rennes 1, Inria, CNRS, IRISA, Rennes, France
- 15:10 - 15:30 **A Bregman inexact linesearch-based forward-backward algorithm for nonsmooth nonconvex optimization**
Simone Rebegoldi¹, Silvia Bonettini² and Marco Prato²
¹Dipartimento di Matematica e Informatica, Università di Ferrara, Italy
²Dipartimento di Scienze Fisiche, Informatiche e Matematiche, Università di Modena e Reggio Emilia, Italy
- 15:30 - 15:50 **Coffee Break & poster session**

Session 4

Session chair: **Jean-Pierre Barbot**

- 15:50 - 16:40 **Invited Talk**
Some challenges in computational optical microscopy
Anne Sentenac
Institut Fresnel, CNRS, Marseille, France
- 16:40 - 17:00 **Sub-wavelength sensing of bi-periodic materials using topological sensitivity of second-order homogenized model**
Marc Bonnet¹, Rémi Comaggia² and Bojan B Guzina³
¹POems (UMR 7231 CNRS-INRIA-ENSTA), ENSTA, Palaiseau, France
²Univ Rennes, CNRS, IRMAR - UMR 6625, Rennes, France
³Department of Civil, Environmental and Geo-Engineering, University of Minnesota, TwinCities, USA

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Poster session program

Poster session
<i>Human chest imaging by real-time processing of electrical impedance data tomography</i> G. Gottardi and L. Poli ELEDIA Research Center, University of Trento
<i>CS-based computational methods for inverse problems arising in arrays processing and design</i> A. Massa ^{1,2} , G. Gottardi ¹ and E. Rajo-Iglesias ² ¹ ELEDIA Research Center (ELEDIA@UniTN), University of Trento, Italy ² ELEDIA Research Center (ELEDIA@UC3M), Universidad Carlos III de Madrid, Spain
<i>Determination of blur kernel for HR-pQCT with bilevel optimization</i> Y. Li, B. Sixou, F. Peyrin CREATIS, INSA-Lyon; Inserm, U1044; CNRS UMR 5220; Université de Lyon 1, France
<i>Computational methods for wireless structural health monitoring of cultural heritages</i> M. Bertolli ¹ , M. Donelli ¹ , A. Massa ^{1,2} , G. Oliveri ¹ , A. Polo ¹ , F. Robol ¹ , L. Poli ¹ , A. Gelmini ¹ , G. Gottardi ¹ , M. A. Hannan ¹ , L. T. P. Bui ¹ , P. Rocca ¹ , C. Sacchi ¹ , F. Viani ¹ , T. Moriyama ³ , T. Takenaka ³ and M. Salucci ¹ ¹ ELEDIA Research Center (ELEDIA@UniTN), University of Trento, Italy ² ELEDIA Research Center (ELEDIA@UC3M), Universidad Carlos III de Madrid, Spain ³ ELEDIA Research Center (ELEDIA@UniNAGA), University of Nagasaki, Japan
<i>Processing GPR data with inverse scattering approaches</i> P. Rocca ¹ , G. Gottardi ¹ , M. Bertolli ¹ , F. Robol ¹ , T. Moriyama ² and T. Takenaka ² ¹ ELEDIA Research Center (ELEDIA@UniTN) - University of Trento, Italy ² ELEDIA Research Center (ELEDIA@UniNAGA), University of Nagasaki, Japan
<i>Advanced statistical learning method for multi-physics NDT-NDE</i> S. Ahmed ¹ , P. Calmon ¹ , R. Miorelli ¹ , C. Reboud ¹ and A. Massa ^{2,3} ¹ CEA LIST, Centre de Saclay, Gif-sur-Yvette, France ² ELEDIA Research Center (ELEDIA@UniTN), University of Trento, Italy ³ ELEDIA Research Center (ELEDIA@L2S - UMR8506), Gif-sur-Yvette, France
<i>Multiple variational image assimilation for accessible micro-elastography</i> A. Boquet-Pujadas, J.-C. Olivo-Marin Institut Pasteur, Bioimage Analysis Unit, CNRS UMR3691, Paris, France.