9:00 **Welcome Coffee**

Session 1

9:30 - 10:20 **Invited Talk**

Some results on sparse L2-L0 reconstruction.

Laure Blanc-Féraud
I3S Laboratory, CNRS UMR 6070, Sophia Antipolis, France

10:20 - 10:40 ***Total Variation Denoising and Support Localization of the Gradient***

Clarice Poon[1,2], Antonin Chambolle[3], Vincent Duval[1] and Gabriel Peyré[1,2]
[1] INRIA, MOKAPLAN, Le Chesnay, France
[2] CNRS and CEREMADE, Université Paris-Dauphine, Paris, France
[3] CNRS and CMAP, Ecole Polytechnique, Palaiseau, France

10:40 - 11:00 ***On the constrained minimization of smooth Kurdyka-Lojasiewicz functions with the scaled gradient projection method.***

Marco Prato[1], Silvia Bonettini[2], Ignace Loris[3], Federica Porta[2] and Simone Rebegoldi[1]
[1] Dipartimento di Scienze Fisiche, Informatiche e Matematiche, Universita di Modena e Reggio Emilia, Modena, Italy
[2] Dipartimento di Matematica e Informatica, Universita di Ferrara, Ferrara, Italy
[3] Département de Mathématiques, Université Libre de Bruxelles, Bruxelles, Belgium

11:00 - 11:30 **Coffee Break & poster session**

Session 2
Session chair: **Gabriel Peyré**

11:30 - 11h50 ***Soft Shrinkage Thresholding Algorithm for Nonlinear Microwave Imaging.***

Hidayet Zaimaga[1] and Marc Lambert[2]
[1] L2S - CNRS UMR 8506, CentraleSupelec - Univ.Paris-Sud, Université Paris-Saclay
[2] GeePs, CNRS UMR 8507, CentraleSupelec, Univ.Paris-Sud, Université Paris-Saclay, Sorbonne Universités UPMC Univ. Paris VI

11:50 - 12:10 ***A new nonconvex variational approach for sensory neurons receptive field estimation***

Audric Drogoul[1], Gilles Aubert[2], Bruno Cessac[1] and Pierre Kornprobst[1]
[1] Inria, Biovision team, Sophia Antipolis, France
[2] Laboratoire J.A. Dieudonné, UMR 6621 CNRS Université Nice Sophia Antipolis, France

12:10 - 12:30 ***Improving the accuracy of a Shack-Hartmann wavefront sensor on extended scenes.***

Martin Rais[1,2], Jean-Michel Morel[2], Carole Thiebaut[3], Jean-Marc Delvit[3] and Gabriele Facciolo[2,4]
[1] PAMI, Université des Iles Baleares, Spain
[2] CMLA, ENS-Cachan, Université Paris Saclay, France
[3] Centre National des Etudes Spatiales, France
[4] LIGM (UMR CNRS 8049), ENPC, Université Paris-Est, France

12:30 - 14: 00 **Lunch**

Session 3

Session chair: **Thomas Rodet**

14:00 - 14:50 **Invited Talk**

Time of flight positron emission tomography

Michel Defrise

Department of Nuclear Medicine, Vrije Universiteit Brussel, Belgium.

14:50 – 15:10 ***Contrast enhanced computerized tomography measurement of vascular blood flow***

Bruno Sixou, Monica Sigovan and Loic Boissel

CREATIS, INSA-Lyon; Inserm, U1044; CNRS UMR 5220; Univ. Lyon 1, Lyon, France

15:10 - 15:30 ***Multispectral electrical impedance tomography using optimization over manifolds***

Alexandre Fouchard[1,2], Stéphane Bonnet[1] and Olivier David[2]

[1] Université Grenoble Alpes, CEA, Leti, MINATEC, Grenoble, France

[2] Université Grenoble Alpes, Grenoble Institute of Neuroscience, La Tronche, France

15:30 - 15:50 **Coffee Break & poster session**

Session 4

Session chair: **Marc Bonnet**

15:50 - 16:40 **Invited Talk**

On direct and inverse scattering from locally perturbed periodic layers

Houssem Haddar

INRIA, CMAP, Ecole Polytechnique, Palaiseau, France

16:40 - 17:00 ***A computational method for the inversion of wide-band GPR measurements***

Marco Salucci[1], Lorenza Tenuti[2], Lorenzo Poli[2], Giacomo Oliveri[1,2] and Andrea Massa[1,2]

[1] ELEDIA@L2S, L2S, CNRS UMR 8506, Gif-sur-Yvette, France

[2] ELEDIA@UniTN, University of Trento, Trento, Italy

17:00 - 17:20 ***Enhanced Linear Sampling Method for GPR Imaging***

Xiang Liu, Mohammed Serhir, Abelin Kameni, Marc Lambert and Lionel Pichon [1]

GeePs, CNRS UMR 8507, CentraleSupelec, Univ. Paris-Sud, Université Paris-Saclay, Sorbonne Universités UPMC Univ. Paris VI, Gif-Sur-Yvette Cedex, France

Poster session
Efficient compressed sensing Based MRI reconstruction using nonconvex total variation penalties
Damiana Lazzaro, Elena Loli Piccolomini and Fabiana Zama Department of Mathematics, University of Bologna
The ROI CT problem: a shearlet-based regularization approach
Tatiana Alessandra Bubba[1], Federica Porta[2], Gaetano Zanghirati[2] and Silvia Bonettini[2] [1] Dipartimento di Scienze Fisiche, Informatiche e Matematiche, Università di Modena, Italy [2] Dipartimento di Matematica e Informatica, Università di Ferrara, Ferrara, Italy
Phaseless tomographic inverse scattering in Banach spaces
Claudio Estatico[1], Alessandro Fedeli[2], Matteo Pastorino[2], Andrea Randazzo[2] and Emanuele Tavanti[2] [1] Department of Mathematics, University of Genoa, Genoa, Italy [2] Department of Electrical, Electronic, Telecommunication Engineering, and Naval Architecture, University of Genoa, Genoa, Italy