



SSVM Schedule

Sunday 21 May

- 17:00 – 18:30 Registration
- 18:30 – 19:30 Welcome reception
- 19:30 – 21:00 Dinner

Monday 22 May

- 08:45 – 09:00 Opening
- 09:00 – 10:00 Invited Talk
 - Fixed Point Methods in Image Processing***
Jean Christophe Pesquet, CentraleSupélec, France
- 10:00 – 10:30 Coffee break
- 10:30 – 10:55 ***Generalised Scale-Space Properties for Probabilistic Diffusion Models***
Pascal Peter, Saarland University, Germany
- 10:55 – 11:20 ***Modeling Large-Scale Joint Distributions and Inference by Randomized Assignment***
Bastian Boll, Heidelberg University, Germany
- 11:20 – 11:30 break
- 11:30 – 11:55 ***A Frame Decomposition of the Funk-Radon Transform***
Michael Quellmalz, Technische Universität Berlin, Germany
- 11:55 – 12:20 ***Explicit Diffusion of Gaussian Mixture Model Based Image Priors***
Martin Zach, Graz University of Technology, Austria
- 12:30 – 14:00 Lunch
- 14:15 – 14:40 ***Proximal Residual Flows for Bayesian Inverse Problems***
Johannes Hertrich, Technische Universität Berlin, Germany
- 14:40 – 15:05 ***Graph Laplacian for Semi-Supervised Learning***
Guy Gilboa, Technion - Israel Institute of Technology, Israel
- 15:05 – 15:30 ***Compressive Learning of Deep Regularization for Denoising***
Hui Shi, Université de Bordeaux, France
- 15:30 – 16:00 Coffee break
- 16:00 – 17:00 Poster Session
 - 🌀 ***Multiscale Registration Model***
Noémie Debroux, Université Clermont Auvergne, CNRS, France
Carole Le Guyader, INSA Rouen, France
 - 🌀 ***On the Remarkable Efficiency of SMART***
Matthias Zisler, Heidelberg University, Germany
 - 🌀 ***Image Comparison and Scaling via Nonlinear Elasticity***
John M. Ball, Heriot-Watt University, Edinburgh, United Kingdom

- ⑧ *Prony-Based Super-Resolution Phase Retrieval of Sparse, Multidimensional Signals*
 Robert Beinert, Technische Universität Berlin, Germany
 - ⑧ *Image Blending with Osmosis*
 Pascal Peter, Saarland University, Germany
 - ⑧ *On the Inclusion of Topological Requirements in CNNs for Semantic Segmentation Applied to Radiotherapy*
 Zoé Lambert, INSA Rouen, France
 - ⑧ *Quaternary Image Decomposition with Cross-Correlation-Based Multi-Parameter Selection*
 Laura Girometti & Martin Huska, Università di Bologna, Italy
 - ⑧ *Learned Discretization Schemes for the Second-Order Total Generalized Variation*
 Lea Bogensperger, Graz University of Technology, Austria
 - ⑧ *Latent-Space Disentanglement with Untrained Generator Networks for the Isolation of Different Motion Types in Video Data*
 Abdullah Abdullah, The Chinese University of Hong Kong, Hong Kong
 - ⑧ *Efficient Neural Generation of 4K Masks for Homogeneous Diffusion Inpainting*
 Karl Schrader, Saarland University, Germany
 - ⑧ *Fluctuation-Based Deconvolution in Fluorescence Microscopy Using Plug-and-Play Denoisers*
 Vasiliki Stergiopoulou, Université Côte d'Azur, CNRS, INRIA, France
- 17:00 – 17:25 ***Wasserstein Gradient Flows of the Discrepancy with Distance Kernel on the Line***
 Robert Beinert, Technische Universität Berlin, Germany
- 17:25 – 17:50 ***Off-the-Grid Charge Algorithm for Curve Reconstruction in Inverse Problems***
 Bastien Laville, Université Côte d'Azur, CNRS, INRIA, France

19:30 – 21:00 Dinner

Tuesday 23 May

- 09:00 – 10:00 Invited Talk
On the multi-level nature of human motion analysis
 Francesca Odone, Università di Genova, Italy
- 10:00 – 10:30 Coffee break
- 10:30 – 10:55 ***Diffusion-Shock Inpainting***
 Kristina Schaefer, Saarland University, Germany
- 10:55 – 11:20 ***Partial Shape Similarity by Multi-Metric Hamiltonian Spectra Matching***
 David Bensaïd, Technion - Israel Institute of Technology, Israel
- 11:20 – 11:30 break
- 11:30 – 11:55 ***Theoretical Foundations for Pseudo-Inversion of Nonlinear Operators***
 Eyal Gofer, Technion - Israel Institute of Technology, Israel
- 11:55 – 12:20 ***Surface Reconstruction from 2D Noisy Point Cloud Data using Directional G-norm***
 Ho Law, Georgia Institute of Technology, United States of America
- 12:30 – 14:00 Lunch
- 14:15 – 14:40 ***GenHarris-ResNet: A Rotation Invariant Neural Network Based on Elementary Symmetric Polynomials***
 Valentin Penaud--Polge, MINES Paris - PSL, France
- 14:40 – 15:05 ***Deep Image Prior Regularized by Coupled Total Variation for Image Colorization***
 Fabien Pierre, Université de Lorraine, CNRS, INRIA, France

15:05 – 15:30 **Graph Laplacian and Neural Networks for Inverse Problems in Imaging: graphLaNet**

Elena Loli Piccolomini, Università di Bologna, Italy

15:30 – 16:00 Coffee break

16:00 – 17:00 Poster Session

🌀 *Geodesic Tracking of Retinal Vascular Trees with Optical and TV-Flow Enhancement in $SE(2)$*

Nicky van den Berg, Eindhoven University of Technology, the Netherlands

🌀 *Geometric Adaptations of PDE-G-CNNs*

Gijs Bellaard, Eindhoven University of Technology, the Netherlands

🌀 *Quantum State Assignment Flows*

Jonathan Schwarz, Heidelberg University, Germany

🌀 *A Model Is Worth Tens of Thousands of Examples*

Thomas Dagès, Technion Israel Institute of Technology, Israel

🌀 *Fast Marching Energy CNN*

Théo Bertrand, Université Paris Dauphine - PSL, France

🌀 *Limited Electrodes Models in Electrical Impedance Tomography Reconstruction*

Serena Morigi, Università di Bologna, Italy

🌀 *Convergence Guarantees of Overparametrized Wide Deep Inverse Prior*

Nathan Buskulic, Université de Caen Normandie, CNRS, France

🌀 *On Trainable Multiplicative Noise Removal Models*

Mahipal Jetta, Mahindra University, India

🌀 *Stochastic Gradient Descent for Linear Inverse Problems in Variable Exponent Lebesgue Spaces*

Marta Lazzaretti, Università di Genova, Italy

🌀 *An Efficient Line Search for Sparse Reconstruction*

Shima Shabani, Brandenburg Technical University, Germany

🌀 *Piece-Wise Constant Image Segmentation with a Deep Image Prior Approach*

Alessandro Benfenati, Università di Milano, Italy

17:00 – 17:25 **A Relaxed Proximal Gradient Descent Algorithm for Convergent Plug-and-Play with Proximal Denoiser**

Samuel Hurault, Université de Bordeaux, CNRS, France

17:25 – 17:50 **A Quasi-Newton Primal-Dual Algorithm with Line Search**

Shida Wang, University of Tübingen, Germany

19:30 – 21:00 Dinner

Wednesday 24 May

09:00 – 10:00 Invited Talk

Physics-inspired learning on graphs

Michael Bronstein, University of Oxford, United Kingdom

10:00 – 10:30 Coffee break

10:30 – 11:30 Poster Session

🌀 *Asymptotic Result for a Decoupled Nonlinear Elasticity-Based α -Pixels for Hierarchical Analysis of Digital Objects*

Atsushi Imiya, Chiba University, Japan

🌀 *A Geometrically Aware Auto-Encoder for Multi-Texture Synthesis*

Pierrick Chatillon, Université Paris Saclay, Télécom Paris, France

🌀 *Multi-View Normal Estimation – Application to Slanted Plane-Sweeping*

Yvain Quéau, Université de Caen Normandie, CNRS, France

- 🌀 *Hybrid Training of Denoising Networks to Improve the Texture Acutance of Digital Cameras*
Raphaël Achddou, Télécom Paris, France
- 🌀 *Regularized Material Decomposition for K-Edge Separation in Hyperspectral Computed Tomography*
Francesca Bevilacqua, Università di Bologna, Italy
- 🌀 *Optimal Transport Between GMM for Multiscale Texture Synthesis*
Arthur Leclaire, Université de Bordeaux, CNRS, France
- 🌀 *EmNeF: Neural Fields for Embedded Variational Problems in Imaging*
Danielle Bednarski, University of Lübeck, Germany
- 🌀 *Learning Posterior Distributions in Underdetermined Inverse Problems*
Christina Runkel, University of Cambridge, United Kingdom
- 🌀 *Resolution-Invariant Image Classification Based on Fourier Neural Operators*
Samira Kabri & Tim Roith, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
- 🌀 *Segmenting MR Images Through Texture Extraction and Multiplicative Components Optimization*
Laura Antonelli, CNR Napoli, Italy
- 🌀 *Natural Numerical Networks on Directed Graphs in Satellite Image Classification*
Aneta A. Ožvat, Slovak University of Technology in Bratislava, Slovakia

11:30 – 11:55 **Learning Differential Invariants of Planar Curves**

Roy Velich, Technion - Israel Institute of Technology, Israel

11:55 – 12:20 **The Variational Approach to the Flow of Sobolev-Diffeomorphisms Model**

Marko Rajković, University of Bonn, Germany

12:30 – 14:00 Lunch

14:00 – 19:30 Excursion

19:30 – 23:00 Gala dinner

Thursday 25 May

09:00 – 10:00 Invited Talk

Sports Video Analysis: some problems and proposals

Coloma Ballester, Universitat Pompeu Fabra, Spain

10:00 – 10:30 Coffee break

10:30 – 10:55 **On Photometric Stereo in the Presence of a Refractive Interface**

Yvain Quéau, Université de Caen Normandie, CNRS, France

10:55 – 11:20 **Gromov-Wasserstein Transfer Operators**

Florian Beier, Technische Universität Berlin, Germany

11:20 – 11:30 break

11:30 – 11:55 **Deep Accurate Solver for the Geodesic Problem**

Amit Bracha, Technion - Israel Institute of Technology, Israel

11:55 – 12:20 **Hypergraph p -Laplacians, Scale Spaces, and Information Flow in Networks**

Ariane Fazeney, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

12:30 – 14:00 Lunch