

SFB Conference “Tomography Across the Scales”

Bifeb, Strobl, Austria





June 16 – 20, 2025

Program

Monday, June 16

14:00 – 18:00	Individual Arrival
18:00 – 20:00	 Welcome Dinner





Tuesday, June 17

09:00 – 12:30	 Morning Session - Inverse Problems, Part 1  Chairing: Otmar Scherzer & Peter Elbau
09:00 – 09:35	<i>Statistical microlocal analysis</i> <i>Alexander Katsevitch</i>
09:45 – 10:20	<i>On the identification of early tumor states in some nonlinear reaction-diffusion models</i> <i>Elena Beretta</i>
10:30 – 11:00	 Break
11:00 – 11:35	<i>Spherical Radon transforms with smoothly varying radii and applications to tomography</i> <i>Eric Todd Quinto</i>
11:45 – 12:20	<i>Utilising Monte Carlo method for light transport in optical tomography</i> <i>Tanja Tarvainen</i>
12:30 – 14:00	 Lunch Break





14:00 – 18:00	🚀 Afternoon Session - Astrophysics 👤 Chairing: Glenn van de Ven
14:00 – 14:35	<i>A triaxial and vertically oriented dark matter halo of the Milky Way shaped by minor mergers</i> <i>Ling Zhu</i>
14:45 – 15:20	<i>Inverse Modelling of Galaxies Across Scales: From Simulations to Observations with Modern Computational Tools</i> <i>Tobias Buck</i>
15:30 – 16:00	🍏 Break
16:00 – 16:35	<i>Focusing on the stars: The crucial role of adaptive optics in astronomy</i> <i>Sebastian Kamann</i>
16:40 – 17:05	<i>Comparing Algorithms for Galaxy Reconstructions</i> <i>Prashin Jethwa</i>
17:10 – 17:35	<i>Collecting fossil records of galaxy formation</i> <i>Stefanie Reiter</i>
18:00 – 19:30	🍴 Dinner
19:30 – 20:30	👥 Meeting of the Principal Investigators

Wednesday, June 18

09:00 – 12:30	★ Morning Session - Mathematical Imaging 👤 Chairing: Gabriele Steidl
09:00 – 09:35	<i>Seeing through light beyond space and time: advances in fluorescence microscopy image reconstruction</i> <i>Luca Calatroni</i>
09:45 – 10:20	<i>Quantitative inverse problem in ultrasound imaging for viscoelastic anisotropic media</i> <i>Florian Faucher</i>
10:30 – 11:00	🍏 Break
11:00 – 11:35	<i>On Modulo Radon Transform Based Tomography</i> <i>Matthias Beckmann</i>
11:40 – 12:00	<i>Fast and Accurate Approximation of High-Dimensional Radial Kernels via Slicing</i> <i>Michael Quellmalz</i>
12:05 – 12:25	<i>Modeling Molecule and Cluster Movements via generative modeling and SDEs</i> <i>Christian Wald</i>
12:30 – 14:00	🍴 Lunch Break

14:00 – 18:00	 Afternoon Session - Medical Imaging  Chairing: Wolfgang Drexler
14:00 – 14:25	<i>Longitudinal AO-OCT imaging of the retina in diabetic eyes using the P-WFS</i> <i>Elisabeth Brunner</i>
14:30 – 14:55	<i>Mathematical methods for wide field of view adaptive optics in ophthalmology</i> <i>Victoria Laidlaw</i>
15:00 – 15:25	<i>Quantitative Optical Coherence Elastography Facilitating Axial and Lateral Sample Deformation</i> <i>Lisa Krainz</i>
15:30 – 16:00	 Break
16:00 – 16:25	<i>Parameter identification in quantitative optical coherence tomography</i> <i>Leopold Veselka</i>
16:30 – 16:55	<i>On the Intensity-based Inversion Method for Quantitative Optical Coherence Elastography</i> <i>Ekaterina Sherina</i>
17:00 – 17:25	<i>A Gauss-Green formula approach for refractive index recovery from OCT</i> <i>Cristóbal Villalobos Guillén</i>
18:00 – 19:30	 Dinner

Thursday, June 19

09:00 – 12:30	 Morning Session - Optical Tomography  Chairing: Monika Ritsch-Marte
09:00 – 09:35	<i>Optical microtomography: challenges for improved resolution and functionalization</i> <i>Olivier Haeberlé</i>
09:45 – 10:20	<i>Advancements in large scale optical tomography</i> <i>Jeroen Kalkman</i>
10:30 – 11:00	 Break
11:00 – 11:25	<i>Optical Tomography by Rotation in Acoustofluidic Platforms</i> <i>Mia Kvåle Løvmo</i>
11:30 – 11:55	<i>When Do Measurements Reveal How a Sample Rotates? The Challenge of Uniqueness in Rigid Motion Reconstruction</i> <i>Denise Schmutz</i>
12:00 – 12:25	<i>Talk of Christina Strohmenger</i>
12:30 – 14:00	 Lunch Break

14:00 – 18:00	Afternoon activity <i>Excursion in the surroundings of Wolfgangsee</i>
18:00 – 19:30	Dinner
19:30 – 20:30	Meeting of the SFB Members

Friday, June 20

09:00 – 12:30	Morning Session - Inverse Problems, Part 2 Chairing: Ronny Ramlau
09:00 – 09:35	<i>Talk of Raymond H. Chan</i>
09:45 – 10:20	<i>Numerical computation of wave oscillations for helioseismology: from radially symmetric models to differential rotation</i> <i>Ha Pham</i>
10:30 – 11:00	Break
11:00 – 11:25	<i>The SCD Semismooth* Newton method for the efficient minimization of Tikhonov functionals</i> <i>Simon Hubmer</i>
11:30 – 11:55	<i>The inverse problem of wavefront reconstruction for atmospheric tomography in Adaptive Optics</i> <i>Yutong Wu</i>
12:00 – 12:20	<i>Talk of Ioannis Martikos</i>
12:30 – 14:00	Lunch Break
14:00 – 18:00	Afternoon Session - Superresolution Microscopy Chairing: Gerhard Schütz
14:00 – 14:35	<i>Structure and Dynamics of Lipid Bilayers</i> <i>Ingo Gregor</i>
14:40 – 15:05	<i>Fluorophore dipole orientation characterization</i> <i>Montse Martinez Lopez</i>
15:10 – 15:35	<i>Algebraic circle fitting algorithms for 2-dimensional noise correlated case with application to size oligomeric biomolecules on cryo single molecule localization microscopy</i> <i>Yakun Dong & Zheyi Yang</i>
15:40 – 18:00	Break & Group meetings
18:00 – 19:30	Closing Dinner

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