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SFB F68 - Tomography Across the Scales

Twelfth Internal Meeting

Obergurgl, 04.12.2022 – 07.12.2022

Programme

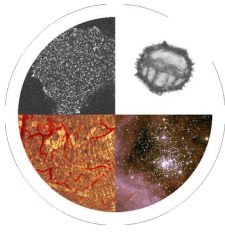
Sunday, 4 December 2022

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|---------------|---|
| 18:00 – 19:00 | <i>Opening Dinner</i> |
| 19:00 – 19:30 | Welcome and Discussion
Otmar Scherzer (University of Vienna) |
| 19:30 – 20:00 | Motion Detection in Diffraction Tomography
Michael Quellmalz (TU Berlin) |
| 20:00 – 20:30 | Diffraction Tomography for Generalised Incident Fields
Noemi Naujoks (University of Vienna) |

Monday, 5 December 2022

Session: “Quantitative Medical Elastography and Diagnostics Tissue Optics”

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|---------------|--|
| 09:00 – 09:20 | Update on Quantitative OCT and PAT Imaging
Lisa Krainz (Medical University of Vienna) |
| 09:20 – 09:40 | Inversion Methods for Strain and Stiffness in Quantitative Optical Coherence Elastography
Ekaterina Sherina (University of Vienna) |
| 09:40 – 10:00 | Refractive Index Quantification in Optical Coherence Tomography
Leopold Veselka (University of Vienna) |
| 10:00 – 10:30 | <i>~ Coffee Break ~</i> |



10:30 – 12:00

Sub-projects Collaborative Discussions

Session: “Quantitative Medical Elastography”

Participant groups: *SP3 and SP7*

Chair: *Wolfgang Drexler (Medical University of Vienna)*

12:00 – 13:30

~ Lunch Break ~

13:30 – 17:30

Sub-projects Collaborative Discussions

17:30 – 19:00

~ Dinner ~

19:00 – 20:00

PI Meeting (PIs, Coordinator, and Speakers of the SFB members only)

20:00 – 21:00

Member Meeting (SFB members only)

Tuesday, 6 December 2022

Session: “Ultra-high Resolution Microscopy”

08:30 – 09:00

Adaptive Optics in 2-Photon Microscopy

Alexander Jesacher (Medical University of Innsbruck)

09:00 – 09:20

Cryo Single Molecule Localisation Microscopy: Bias-Free Localisation with Astigmatic Imaging

Monserrat López Martínez (TU Wien)

09:20 – 09:40

Localisation of Fixed Dipole Emitters Accounting for Sample Drift

Fabian Hinterer (JKU Linz)

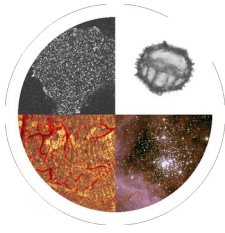
09:40 – 10:00

Cryo-Flourescence Microscopy to Quantify Single Molecule Distances

Arjun Sharma (TU Wien)

10:00 – 10:30

~ Coffee Break ~



10:30 – 12:00

Sub-projects Collaborative Discussions

Parallel Sessions:

Session 1: **“Diagnostic Tissue Optics”**

Participant groups: **SP3 and SP4**

Chair: **Peter Elbau (University of Vienna)**

Session 2: **“Ultra-high Resolution Microscopy”**

Participant groups: **SP5, SP7, SP9 and SP10**

Chair: **Gerhard Schütz (TU Wien)**

12:00 – 13:30

~ Lunch Break ~

13:30 – 17:30

Sub-projects Collaborative Discussions

17:30 – 19:00

~ Dinner ~

Session: **“Imaging of Trapped Particles - Tomography with Uncertainties”**

19:00 – 19:30

Efficient and Accurate Intensity Diffraction Tomography of Multiple-Scattering Objects with High Refractive Index Contrast

Simon Moser (Medical University of Innsbruck)

19:30 – 20:00

Acoustofluidic Trapping Device for Multi-Angle Imaging

Mia Kvåle Løvmo (Medical University of Innsbruck)

20:00 – 20:30

Collaborative Discussions

Session: **“Imaging of Trapped Particles - Tomography with Uncertainties”**

Participant groups: **SP4, SP6, SP7 and SP10**

Chair: **Otmar Scherzer (University of Vienna)**

Wednesday, 7 December 2022

Session: **“Adaptive Optics”**

08:30 – 08:45

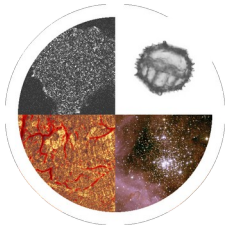
FEWHA for the MORGE Instrument

Ronny Ramlau (JKU and RICAM)

08:45 – 09:10

A Generalised and Nonlinear Wavefront Estimator for Fourier-type Wavefront Sensors

Victoria Hutterer (JKU Linz) – presented by Simon Hubmer (RICAM)



09:10 – 09:40

Novel Aspects for Ophthalmic Adaptive Optics
Elisabeth Brunner (Medical University of Vienna)

09:40 – 10:00

Sub-Aperture based Digital Aberration Correction for OCT
Simon Hubmer (RICAM)

10:00 – 10:30

~ Coffee Break ~

10:30 – 12:00

Sub-projects Collaborative Discussions
Session: **“Adaptive Optics”**
Participant groups: SP3, SP5 and SP11
Chair: Ronny Ramlau (JKU and RICAM)