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AUSTRIAN
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SCIENCES

RICAM
JOHANN · RADON · INSTITUTE
FOR COMPUTATIONAL AND APPLIED MATHEMATICS



The 16th Internal SFB Meeting

bifeb Strobl, Austria

July 01 – 05, 2024

Program

Monday, July 01

11:30 – 12:30 Individual Arrival

12:30 – 14:00 **Opening Lunch**

14:00 – 18:00 **Afternoon Session**
Chairing: Ronny Ramlau

14:00 – 14:25 *Clinical applications of adaptive optics OCT*

Michael Pircher

14:30 – 14:55 *What is the status of AO retinal imaging with an extended field of view?*

Elisabeth Brunner (via Zoom)

15:00 – 15:30 **Coffee Break**

15:30 – 15:55 *High fidelity simulations and control of contactless adaptive mirrors*

Bernadett Stadler

16:00 – 16:25 *System identification for adaptive mirror simulations*

Daniel Jodlbauer

16:30 – 18:00 **Group Discussion: Adaptive Optics**

Groups: **SP3** (Drexler) and **SP5** (Ramlau)

in parallel **Group Discussion: Astrophysics (Part 1)**

Groups: **SP7** (Scherzer) and **SP11** (van de Ven)

18:00 – 19:30 **Dinner**

Tuesday, July 02

09:00 – 12:00 **Morning Session**
Chairing: Otmar Scherzer/Ronny Ramlau

09:00 – 09:50 *Invited Talk I*
Markus Grasmair

10:00 – 10:30 **Coffee Break**

10:30 – 10:55 *Different numerical approaches for the Magnetization Inverse Problem in 2D*
Cristobal Guillen

11:00 – 12:00 *Group Discussion: **Superresolution Microscopy** (Part 1)*
*Groups: **SP5** (Ramlau) and **SP9** (Schütz)*

12:30 – 14:00 **Lunch Break**

14:00 – 18:00 **Afternoon Session**
Chairing: Glenn van de Ven

14:00 – 14:25 *Stellar populations from integrated spectra in observations and simulations*
Alina Boecker

14:30 – 14:55 *Progress in prior modeling for orbit distributions*
Stefanie Reiter

15:00 – 15:30 **Coffee Break**

15:30 – 15:55 *Characterising the shape of galaxy velocity distributions: when moments can mislead*
Prashin Jethwa

16:00 – 16:25 *Recent Results on Atmospheric Tomography*
Simon Hubmer & Ronny Ramlau

16:30 – 18:00 *Group Discussion: **Astrophysics** (Part 2)*
*Groups: **SP5** (Ramlau) and **SP11** (van de Ven)*

in parallel *Group Discussion: **Quantitative Diagnostic Tissue Optics***
*Groups: **SP3** (Drexler) and **SP4** (Elbau)*

18:00 – 19:30 **Dinner**

19:30 – 20:30 **Meeting of the Principal Investigators**

Wednesday, July 03

09:00 – 12:00 **Morning Session**
Chairing: Wolfgang Drexler

09:00 – 09:50 *Invited Talk II*
John Schotland

10:00 – 10:30 **Coffee Break**

10:30 – 10:55 *Inverse scattering problem with internal sources*
Yakun Dong

- 11:00 – 12:00 *Group Discussion: **Combined Acoustic Trapping and OCT***
*Groups: **SP3** (Drexler), **SP4** (Elbau) and **SP6** (Ritsch-Marte)*
in parallel *Group Discussion: **Superresolution Microscopy** (Part 2)*
*Groups: **SP7** (Scherzer) and **SP9** (Schütz)*
- 12:30 – 14:00 **Lunch Break**
- 14:00 – 18:00 **Afternoon Session**
 Chairing: Monik Ritsch-Marte
- 14:00 – 14:50 *Invited Talk III*
Ivo Ihrke
- 15:00 – 15:30 **Coffee Break**
- 15:30 – 15:55 *Update on PAT-OCT-Elastography*
Lisa Krainz
- 16:00 – 16:25 *Quantitative PAT-OCT Elastography for the PW1 sample and
 update on the recent sub-project directions*
Ekaterina Sherina
- 16:30 – 16:55 *Incorporating non-linear elasticity model into quantitative
 Optical Coherence Elastography*
Zheyi Yang
- 17:00 – 18:00 *Group Discussion: **Quantitative PAT-OCT Elastography***
*Groups: **SP3** (Drexler) and **SP7** (Scherzer)*
- 18:00 – 19:30 **Dinner**
- 19:30 – 20:30 **Meeting of the SFB Members**

Thursday, July 04

- 09:00 – 12:00 **Morning Session**
 Chairing: Peter Elbau
- 09:00 – 09:25 *Acoustic rotation for tomography*
Mia Kvale Lovmo
- 09:30 – 09:55 *Update on Diffraction Tomography*
Michael Quellmalz
- 10:00 – 10:30 **Coffee Break**
- 10:30 – 10:55 *How to destroy symmetry with a finite number of points*
Denise Schmutz
- 11:00 – 12:00 *Group Discussion: **Diffraction and Trapped Particles***
*Groups: **SP4** (Elbau), **SP6** (Ritsch-Marte), **SP7** (Scherzer), **SP10** (Steidl)*
- 12:30 – 14:00 **Lunch Break**
- 14:00 – 18:00 **Afternoon Session**
 Group excursion: Ronny Ramlau
- 14:00 – 17:00 *Excursion: Light Hiking with Sightseeing*

18:00 – 19:30 **Dinner**

Friday, July 05

09:00 – 12:00 **Morning Session**
Chairing: Otmar Scherzer

09:00 – 09:25 *Lipschitz stable determination of polyhedral conductivity inclusions from local boundary measurements*

Andrea Aspri

09:30 – 09:55 *Practical insights into Stability for Inverse Problems*

Sonia Foschiatti

10:00 – 10:30 **Coffee Break**

10:30 – 10:55 *Modern Approaches for PSF Reconstruction in Adaptive Optics*

Roland Wagner

11:00 – 11:25 *Interface identification and sound speed reconstruction in layered media: Advancing from synthetic to authentic Ultrasound data*

Huidong Yang

11:30 – 11:55 *Focusing Ultrasound Waves through known Layered Media*

Simon Hackl

12:30 – 14:00 **Closing Lunch**

14:00 Individual Departure
