

Future of Medical Imaging Meeting on April 27th 2023



Chair: Prof. Marc Dewey, **Co-Chair:** Prof. Ingolf Sack, **Organizer:** Dr. Melanie Estrella

08:15 - 08:20 Welcome - Prof. Dr. Dr. h.c. **Marc Dewey**, Lecture Hall Innere Medizin Südflügel, Sauerbruchweg 2, 10115 Berlin

08:20 - 08:30 Introduction - Prof. Dr. **Joachim Spranger** - The importance of medical imaging from the perspective of a clinician scientist, endocrinologist, and dean of Charité

Improving Clinical Outcomes using Medical Imaging - Moderator Prof. Dr. Dr. h.c. **Marc Dewey**

08:30 - 08:34 Prof. Dr. **Harold Sox** - Diagnostic imaging for medical decision making: the importance of high-quality trials

08:35 - 08:39 Prof. Dr. **Patrick Bossuyt** - Importance of reporting quality of diagnostic test studies and imaging trials

08:40 - 08:44 Prof. Dr. **John Wong** - Diagnostic medical decision making: implications for future medical imaging technologies

08:45 - 08:49 Prof. Dr. **Béla Merkely** - Improving outcomes using imaging - the example of the DISCHARGE trial

08:50 - 08:54 Dr. **Stefan Sauerland** - Importance of conduct quality of diagnostic test studies and imaging trials - which innovations from radiology make it into care and which do not

08:55 - 08:59 Prof. Dr. **Valentin Brodsky** - Cost-effectiveness of medical imaging technologies

09:00 - 09:15 Discussion

Future Quantitative Medical Imaging - Moderator Prof. Dr. **Ingolf Sack**

09:15 - 09:19 Prof. Dr. **Tobias Schaeffter** - Standardisation in medical imaging

09:20 - 09:24 Prof. Dr. **Ingolf Sack** - Quantitative biophysical imaging

09:25 - 09:29 Prof. Dr. **Pál Maurovich Horvat** - Quantification using photon-counting CT

09:30 - 09:34 Dr. **Sebastian Schmitter** - Quantification using ultra-high field MRI

09:35 - 09:39 Prof. Dr. **Kay Raum** - Quantitative ultrasound acoustic microscopy imaging

09:40 - 09:44 Prof. Dr. **Miklós Kellermayer** - The 3M concept: biomedical translational imaging from molecules to mouse to man

09:45 - 09:49 PD Dr. **Florian Michallek** - Fractal and feature medical image analysis

09:50 - 09:54 PD Dr. **Paul Jahnke** - Quantitative medical imaging phantoms

09:55 - 10:10 Discussion

10:10 - 10:30 Coffee Break

Clinical Data and Medical Image Sharing Platforms - Moderator: Prof. Dr. **Dagmar Krefting**

10:30 - 10:34 Dr. **Stefan Klein** - Experiences in the Netherlands (Health-RI) and Europe (Eurobioimaging Population Imaging)

10:35 - 10:39 Prof. Dr. **Rebecca Li** - What are the implications of the clinical trials data sharing platform Vivli for imaging?

10:40 - 10:44 Prof. Dr. **Luis Marti-Bonmati** - Clinical impact of data sharing in CHAIMELEON

10:45 - 10:49 Prof. Dr. **Petra Ritter** - NFDI4Neuro

10:50 - 10:54 PD Dr. **Tobias Penzkofer** - RACOON: Future of cooperative radiological research

10:55 - 10:59 MSc **Adam Trowald** - Collective Minds

11:00 - 11:04 Prof. Dr. **Inga Koerte** - The ENIGMA consortium approach

11:05 - 11:20 Discussion

AI in Medical Imaging - Moderator: Prof. Dr. **Felix Balzer**

11:20 - 11:24 Prof. Dr. **Julia Schnabel** - AI-enabled imaging quality control

11:25 - 11:29 Prof. Dr. **Peter Mildenerger** - Status of validation and implementation of AI tools in clinical routine

11:30 - 11:34 Prof. Dr. **Oleg Pianykh** - Continuous learning AI for optimal decision making in medical imaging

11:35 - 11:39 Prof. Dr. **Ronald Summers** - Automatic assessment of atherosclerotic plaque on abdominal CT

11:40 - 11:55 Discussion

New Developments in Hybrid Imaging and Nuclear Medicine - Moderator: Prof. Dr. **Michael Schäfers**

11:55 - 11:59 Dr. **Sarah Spreckelmeyer** - Future of nuclear medicine tracers

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12:00 - 12:04 Dr. **Imke Schatka** - Evolving diagnostics in cardiac amyloidosis: quantification and AI

12:05 - 12:09 Prof. Dr. **Michael Schäfers** - Multiscale imaging of immune response

12:10 - 12:14 Prof. Dr. **Christoph Rischpler** - The future of cardiovascular nuclear medicine

12:15 - 12:30 Discussion

12:30 - 12:40 Survey Results and Delphi Voting - Moderator: **Melanie Estrella/ Federico Biavati**

12:40 - 13:40 Lunch Break

Breast Cancer Imaging Trials - Moderator Prof. Dr. **Fiona Gilbert**

13:40 - 13:44 Prof. Dr. **Fiona Gilbert** - Population risk assessment in the MyPEBS and the WISDOM study

13:45 - 13:49 Dr. **Madeleine Tilanus-Linthorst** - Screening those at family risk of breast cancer

13:50 - 13:54 Dr. **Hildegunn Siv Aase** - Two-view digital breast tomosynthesis versus mammography in a population-based breast cancer screening program (To-Be trial) and other trials

13:55 - 13:59 Prof. Dr. **Walter Heindel** - Digital breast tomosynthesis plus synthesized mammography (TOSYMA trial)

14:00 - 14:04 Prof. Dr. **Fiona Gilbert** - Screening with supplemental imaging for breast cancer

14:05 - 14:09 Dr. **Karoline Freeman** - Diagnostic accuracy of AI for image analysis in breast cancer screening: updated systematic review

14:10 - 14:14 Dr. **Hanna Sartor** - First results from the randomized controlled mammography screening with artificial intelligence (MASAI trial)

14:15 - 14:30 Discussion

Lung Cancer CT Screening: Trials and Implementation Projects - Moderator Prof. Dr. **H. Kauczor**

14:30 - 14:34 Prof. Dr. **Marie-Pierre Revel** - Lung cancer screening with low-dose CT scan in women: implementation study (CASCADE)

14:35 - 14:39 Prof. Dr. **Hans-Ulrich Kauczor** - LUSI trial and EU-wide implementation in SOLACE project

14:40 - 14:44 Dr. **Torsten Blum** - Importance of CT and PET for diagnostic and treatment of lung cancer

14:45 - 14:49 Dr. **Arjun Nair** - UK-wide implementation of screening

14:50 - 14:54 Prof. Dr. **Mathias Prokop** - The NELSON trial

14:55 - 15:10 Discussion

15:10 - 15:30 Coffee Break

Cardiovascular Imaging Trials - Moderator Prof. Dr. **Rozemarijn Vliegenthart**

15:30 - 15:34 Dr. **Michelle Williams** - SCOT HEART data sharing experience?

15:35 - 15:39 Prof. Dr. **Jonathan Dodd** - The effects of CT-based patient management in the DISCHARGE trial

15:40 - 15:44 Dr. **Maria Bosserdt** - The importance of gender differences in coronary imaging

15:45 - 15:49 Prof. Dr. **Rozemarijn Vliegenthart** - The CONCRETE trial on the effects of CAC Scoring

15:50 - 15:54 Prof. Dr. **Jose Henriques** - CLEAR-CAD trial

15:55 - 15:59 Dr. **Viktoria Wieske** - Insights from the COME-CCT consortium

16:00 - 16:04 Prof. Dr. **Jeanette Schulz-Menger** - Future of cardiovascular imaging

16:05 - 16:20 Discussion

Pelvic Imaging (Prostate and Rectum) Trials - Moderator Prof. Dr. **Patrick Asbach**

16:20 - 16:24 Prof. Dr. **Francesco Giganti** - The impact of MRI for detection of aggressive prostate cancer in men on active surveillance using the PRECISE criteria

16:25 - 16:29 Prof. Dr. **Patrick Asbach** - The future of PIRADS

16:30 - 16:34 Prof. Dr. **Bernd Hamm** - The PROKOMB study

16:35 - 16:39 Dr. **Jonas Wallström** - Prostate cancer screening with PSA, MRI and targeted biopsy: Göteborg 2 study

16:40 - 16:44 Prof. Dr. **Regina Beets - Tan** - MRI of the rectum to direct cancer treatment

16:45 - 17:00 Discussion

17:00 - 17:10 Wrap up and Farewell Prof. Dr. Dr. h.c. **Marc Dewey**

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