

## Final Program

**Thursday, June 23<sup>rd</sup> 2022**      **Roy Lichtenstein Lecture Hall, Campus of the Heinrich Heine University**

**08:30 - 09:15**      **Registration, Poster Mounting, and Coffee**

**09:15 - 09:30**      **Opening and Welcome**

Malte Kelm      Co-spokesperson of CRC 1116 and TRR 259

## Scientific Sessions

Each session is scheduled to last 1.5 hours. Talks by established investigators are allocated 20 minutes and 5 minutes of discussion and will be rounded out by Flash Talks that are selected from the submitted abstracts.

**09:30 - 11:00**      **Session I: Focus on Technical Improvements**

**Chair**      ***Nadine Abanador, Wuppertal***

Fred Epstein      Preclinical MRI of coronary microvascular disease

Cornelius Faber      Boosting sensitivity and specificity for MRI and MRS

Ruud van Heeswijk      Tuning pulses for more speed and signal in <sup>19</sup>F MRI

Volkert Roeloffs, Stefan Roell      HTS magnet and digital console for MRI & MRS research

**11:15 - 11:30**      **Coffee Break**

**11:30 - 13:00**      **Session II: Advanced <sup>19</sup>F Probes**

**Chair**      ***Cristina Chirizzi, Milan***

Eric Ahrens      Improving relaxivity of <sup>19</sup>F MRI probes by metal chelates

Francesca Baldelli Bombelli      Superfluorinated nanoparticles as multiscale imaging probes

Davide Croci      Longitudinal and non-invasive monitoring of the spatial and temporal dynamics of glioma-associated macrophages following radiotherapy

Ludger Starke      First in vivo fluorine-<sup>19</sup>F MR imaging of the multiple sclerosis drug siponimod

Micol Provenzano      <sup>19</sup>F MRI optimization for a 3T clinical scanner on phantoms containing FBPA

**13:00 - 14:30**      **Lunch**

**14:30 - 16:00**      **Session III: Unveil the Hidden – Frontiers in Molecular MRI**

**Chair**      ***Jürgen Schrader, Düsseldorf***

Jelena M. Janjic      Seeing is believing! <sup>19</sup>F MRI in advancing therapeutics from small molecules to biologics and cell therapies

Gustav Strijkers      Translational cardiovascular MRI – bridging gaps between mice and men

Florian Bönner      At the edge of translation – taking <sup>19</sup>F MRI into clinical reality

Kamil Stachurski      Effect of conditions during induction of EAE mouse model of multiple sclerosis on the extent of demyelination as detected by MP-RAGE MRI

Tor Rasmus Memhave      The impact of a lithium-enriched diet on mice: A trinuclear magnetic resonance study

**16:00 - 17:00**      **Lab Tour on Vertical MRI**

**In parallel**      From ultra-highfield to maximum well MRI – Claudia Oerther (Bruker)

**17:00 - 17:30**      **Coffee Break**

**17:30 - 19:00**

***Chair***

Christian Bock

Anton Windfelder

Jochen Leupold

Volker Lehmann

Tim Laußmann

**Session IV: Outside the Box**

***Jenna Steiner, Denver***

Fishing for MR signals – Insights from the exploration of the sea

High-throughput screening of caterpillars as a platform to study the innate immunity of the gut

Dynamics in dragon trees: Illuminating functional morphology in 3D

Pushing the frontiers of MRI - Latest results of ultra high field MR microscopy in plant and insects

Dynamic features of *Saturnia pavonia*

**19:00 - 22:00**

**Poster Session and Barbeque**

**Friday, June 24<sup>th</sup> 2022**

**Roy Lichtenstein Lecture Hall, Heinrich Heine University**

**09:00 - 10:30**

**Session V: X Nuclei Beyond <sup>19</sup>F – Making Metabolism Visible**

***Chair***

***Sebastian Temme, Düsseldorf***

Kevin Brindle

Imaging tumor metabolism with substrates labelled with hyperpolarized <sup>13</sup>C and with <sup>2</sup>H

Henk De Feyter

Mapping cerebral metabolism by deuterium metabolic imaging

Vera Flocke

Deuterium metabolic imaging beyond the brain

Olga Koshkina

Making red-hot MRI greener - Biodegradable, phosphorus-based imaging agents for <sup>31</sup>P MRI

Silvester Bartsch

Introduction of a novel synchronized (18F)-FDG PET/glucoCEST-MRI protocol for the assessment of glucose metabolism

**10:30 - 11:00**

**Coffee Break**

**11:00 - 12:30**

**Session VI: Progress in Imaging of Inflammation and Infection**

***Chair***

***Laura Schreiber, Würzburg***

Uwe Himmelreich

Multimodal imaging of infectious diseases

Verena Hörr

GlucoCEST for assessment of inflammation

Sonia Waiczies

Probing neuroinflammation and therapy by <sup>19</sup>F MRI

Martin Christa

<sup>19</sup>F imaging post ischemia reperfusion damage predicts increase in remote myocardium extracellular volume

Enrica Wilken

Track your cells – Time-lapse MRI enables in vivo single-cell tracking of patrolling immune cells

**12:30 - 14:00**

**Lunch**

**14:00 - 15:30**

**Session VII: Pushing the Boundaries of Cancer Imaging**

***Chair***

***Holger Gröll, Cologne***

Kristine Glunde

Multimodal MRI for cancer theranostics

Natalie Serkova

Quantitative multimodal imaging on treatment response in animal models of cancer

Paula Foster

Determining the destiny of therapeutic cells by <sup>19</sup>F MRI

Emily Hoffmann

DCE-MRI allows assessment of different vascular response patterns to targeted therapies between high and low malignant murine breast cancer models

Mirjam Gerwing	Multiparametric MRI enables precise and dynamic characterization of distinct tumor features to differentiate between high and low malignant murine breast cancer models
<b>15:30 - 16:00</b>	<b>Coffee Break</b>
<b>16:00 - 17:30</b>	<b>Session VIII: New Perspectives – What is on the Horizon?</b>
<b>Chair</b>	<b>Ludger Starke, Berlin</b>
Amnon Bar-Shir	Does size matter? Fluoride-nanocrystals: promises and challenges
Philipp Böhm-Sturm	Old wine in new skins – $^{19}\text{F}$ MR oxygenation imaging
Robbin de Kruijf	Towards fast clearing perfluorocarbon formulations
Natalia Łopuszyńska	Effective detection of polyelectrolyte theranostic nanocarriers by $^{19}\text{F}$ magnetic resonance imaging
Martin Vit	Conjugate of fluorouracil with phosphorus-containing polymers as a novel macromolecular probe for dual $^{19}\text{F}/^{31}\text{P}$ MRI
<b>17:30 - 18:00</b>	<b>Meeting Adjourns</b>
<b>Post-Symposium Event</b>	<b>Roy Lichtenstein Lecture Hall, Campus of the Heinrich Heine University</b>
<b>18:30 - 19:15</b>	<b>Public Lecture in German (Öffentlicher Vortrag)</b>
Ulrich Flögel	Experimentelle Kardio-MRT – Über Pumpfunktion und Gefäßsystem hinaus
<b>19:15 - 21:00</b>	<b>Snack and Drinks</b>