



### ANNUAL MEETING 2024

# PROGRAM BOOK



# Welcome

We extend a warm welcome to all participants and guests to the ISMRM Benelux Chapter Meeting 2024! We are thrilled to have you join us in 's-Hertogenbosch for a day filled with exciting new perspectives, networking opportunities, and the exchange of knowledge.

This year's event promises to be both informative and inspiring, bringing together a diverse community of MR scientists, researchers, and industry professionals. We hope you make the most of the scientific sessions, workshops, and engaging discussions.

In the context of MRI research, open science encourages the sharing of data, methodologies, and results, enabling researchers to build upon each other's work and collectively advance the understanding of medical imaging.

We are very grateful to our speakers, sponsors and attendees whose contributions have played a pivotal role in shaping this conference.

Here's to a day of discovery, learning, and connecting with fellow enthusiasts in the field of MRI!

Best regards,

Eva Aalbregt On behalf of the ISMRM Benelux Meeting committee 2024





# Index

Board and committee members	6
Floor plan 1931	7
Detailed program	8
Power pitches	10
Parallel session I	11
Workshops	16
Parallel session II	<u>17</u>
Parallel session III	21
Poster index	25



Magnetic resonance

# No compromise Image quality and speed at your fingertips.

Philips SmartSpeed is the next generation fast imaging technology that delivers speed and image quality without compromise, to improve patient and staff experience and boost diagnostic imaging confidence. It utilizes our state-of-the-art speed engine and an award-winning<sup>1</sup> **AI reconstruction technology** delivered at the source of the MR signal to ensure no data loss. It is a powerful combination that brings speed, scale and image quality to a new level of performance.



#### Increase productivity

- Up to 3 times faster with no loss in image quality<sup>2</sup>
- Improve workflow



### Enhance diagnostic confidence

- Up to 65% higher resolution and improved SNR<sup>2</sup>
- Add sequences



# Increase patient accessibility

- 97% compatibility<sup>3</sup>
- Motion Free
- 3D Free-breathing
- Implant
- Diffusion
- Advanced contrasts

#### Find out more at www.philips.com/smartspeed

- 1. Adaptive-C-SENSE-Net technology is the winner of Fast MRI Challenge hosted by Facebook AI research and New York Langone Health.
- 2. Compared to Philips SENSE.
- 3. On average, measured across a sample of sites from Philips MR installed base.

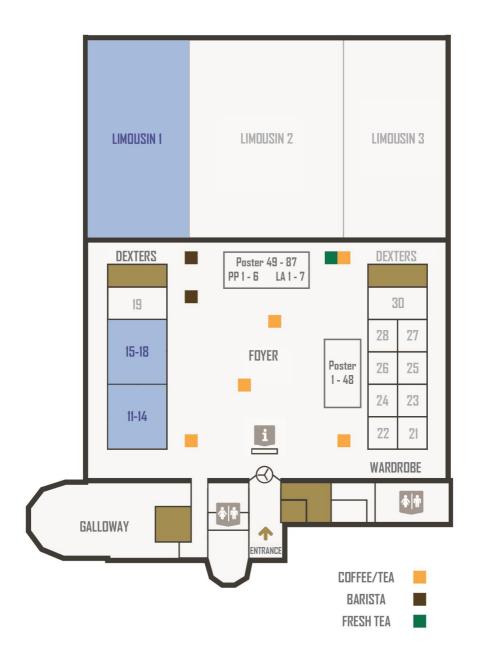
### Board

- President: Jeanine Prompers, UMC Utrecht
- Annual Meeting Representative: Donnie Cameron, Leiden UMC
- Clinical Representative: Anja van der Kolk, Radboud UMC
- Communication Manager: Alberto de Luca, UMC
  Utrecht
- Secretary: Daan Christiaens, KU Leuven
- Treasurer: Rob Holtackers, Maastricht UMC+

### **Organizing Committee**

- Chair: Eva Aalbregt, Amsterdam UMC
- Clinical/Location: Menno Stellingwerff, Amsterdam UMC
- **Sponsoring/Challenge**: Thomas Roos, UMC Utrecht
- Location/Communications: Lotte van der Voort, UMC Utrecht
- Treasurer/Proceedings: Paulien Voorter, Maastricht UMC+
- Sponsoring/Communications: Naiara Larreina, Wageningen U&R and Leiden UMC
- **Treasurer/Challenge**: Emiel Roefs, Leiden UMC
- Proceedings/Communications: Giovanni Costa, TU Eindhoven
- Sponsoring/Proceedings: Luis Sanmiguel, UGhent
- Board Representative: Donnie Cameron, Radboud
  UMC
- Board Representative: Rosanne Govaarts, Leiden
  UMC

# Floor Plan



### PROGRAM

8:45	Registration and coffee/tea	Foyer
9:30	Opening session	Limousin 3
	Keynote by Petra van Houdt	
10:45	Poster session I + coffee break	Foyer
11:40	Parallel session l	
	Oncology	Dexter 11-14
	Neuro clinical l	Limousin 3
	Reconstruction	Dexter 15-18
12:40	Lunch	Foyer
	Parallel: ALV 13:00 - 13:30	Dexter 11-14
13:30	Workshops	
	Skope: hardware	Dexter 11-14
	Lygature: public-private relations	Limousin 3
	Interventional CMR	Dexter 15-18
14:10	Parallel session ll	
	Perfusion	Dexter 11-14
	Motion	Dexter 15-18
	Neuro clinical II	Limousin 3
15:10	Poster session II + coffee break	Foyer
16:00	Parallel session III	
	Pre-clinical	Dexter 11-14
	Hardware	Dexter 15-18
	Reproducibility	Limousin 3
16:50	Closing ceremony + challenge + awards	Limousin 3
17:30	Drinks	Foyer
19:00-20:30	Dinner	Galloway

# LEADERS FOR BETTER HEALTHCARE

# Interim. Projects. Academy.



Transistorstraat 71B | 1322 CK | Almere info@kalcio.nl | 085 0645860 | www.kalcio-healthcare.nl



# **Power Pitches**

### Plenary session: 9:30-10:45

### Limousin I

### PP-01 Thomas Olausson – UMC Utrecht

# Time-Resolved Cardiac function: Myocardium Strain and First-Pass Perfusion Using MR-MOTUS.

Computational Imaging Group for MR Therapy and Diagnostics, University Medical Center Utrecht, Utrecht, The Netherlands.

### PP-02 Masa Bozic-Iven – TU Delft

#### Double Inversion Recovery in myocardial Arterial Spin Labeling (ASL) for reduced physiological noise.

Department of Imaging Physics, Delft University of Technology, Delft, The Netherlands.

#### PP-03 Daan Bosshardt – Amsterdam UMC

# Differences in 4D aortic motion derived from 3T bSSFP CMR between Marfan syndrome patients and healthy volunteers.

Radiology and Nuclear Medicine, Amsterdam University Medical Centers, Amsterdam, The Netherlands.

#### PP-04 Marius Burman – UMC Utrecht

Investigating the relation between cardiac-induced brain strain and both global boundary conditions and local microstructure.

Department of Radiology, UMC Utrecht, Utrecht, The Netherlands.

### PP-05 Patrick Tang – Erasmus MC

#### Hitting the mark: Comparing APT-weighted MTRasym and LDmaps for personalized radiotherapy target delineation of glioblastoma.

Brain Tumor Center, Erasmus MC Cancer Institute, University Medical Center Rotterdam, Rotterdam, The Netherlands.

### PP-06 Constant Noordman – Radboud UMC

#### Real-time MR image reconstruction in interventional MRguided biopsies.

Department of Medical Imaging, Radboud University Medical Center, Nijmegen, The Netherlands.

## Parallel session I - Oncology

### Parallel session I: 11:40-12:40 Dexter 11-14

### Moderators: Mies Korteweg, Amsterdam UMC Beatrice Lena, Leiden UMC

#### O-01 Karleen Oonk – UMC Utrecht <sup>31</sup>P MRSI in Pediatric Low Grade Gliomas During Treatment at 7T.

Department of Radiology, UMC Utrecht, Utrecht, Netherlands.

#### O-02 Jamila Guichelaar – UMC Utrecht *Ex-vivo 7T* MRI to Determine Resection Margins for Tongue Cancer Resection Specimens.

Radiotherapy, University Medical Center Utrecht, Utrecht, The Netherlands.

### O-03 Rob Colaes – KU Leuven

# Changes in MRS brain metabolites and serum neurofilament after chemotherapy in patients with breast cancer.

Department of Imaging & Pathology, KU Leuven, Leuven, Belgium.

### O-04 Sarah Jacobs – UMC Utrecht

Automated MR Spectroscopy single-voxel placement in suspected diffuse glioma based on tumor biology.

Center for Image Sciences, University Medical Center Utrecht, Utrecht, the Netherlands.

### O-05 Jiying Dai – UMC Utrecht

<sup>31</sup>P MRSI multi-channel signal combination using <sup>23</sup>Na coil sensitivity profiles at 7T: further evaluations in silico, on phantom, and in vivo.

UMC Utrecht, Utrecht, Netherlands.

## Parallel session I - Neuro Clinical I

### Parallel session I: 11:40-12:40

### Limousin I

Moderators: Merel van der Thiel, Maastricht UMC+ Nikos Priovoulos, Spinoza Centre for Neuroimaging

#### O-06 Ivana Kancheva – Leiden UMC Cerebrovascular Reactivity Impairment in Genetic Frontotemporal Dementia.

LUMC, Leiden, The Netherlands.

#### O-07 Eva van Heese – Amsterdam UMC MRI measures of brain clearance in narcolepsy type 1.

Department of Anatomy and Neurosciences, Amsterdam UMC location Vrije Universiteit, The Netherlands.

### O-08 Lars Vermeer – Maastricht UMC+

# Structural 7T MRI Reveals Thalamic Volume Differences In Patients With Focal Epilepsy.

Department of Radiology and Nuclear Medicine, MUMC+, Maastricht, The Netherlands.

### O-09 Ingmar Eiling – Leiden UMC

#### The association between cerebral dirty-appearing white matter and progression of small vessel disease in communitydwelling older adults.

Department of Radiology, Leiden University Medical Center, Leiden, The Netherlands.

### O-10 Mar Barrantes-Cepas – Amsterdam UMC

#### Showing treatment effects of cladribine tablets using data driven patterns of regional matter atrophy in multiple sclerosis

*MS* Center Amsterdam, Anatomy and Neurosciences, Vrije Universiteit Amsterdam, Amsterdam Neuroscience, Amsterdam UMC location VUmc, Amsterdam, The Netherlands





### MRS\*DRYMAG

Preclinical MR scanner Dry Magnet Technology

9.4T - 7.0T - 4.7T - 3.0T Cryogen-free - large bore 42 cm

#### MRS\*SPECT-PET/MR Preclinical SPECT-PET/MR scanner

PET INSERT & SPECT CLIP-ON





### MRS\*SPECT-PET/CT

Preclinical SPECT-PET/CT scanner CLIP ON Technology MR compatible



Oncology

Cardiolog

Neurolog



igiography

Diffusion

Relaxometry







MR SOLUTIONS GROUP

Ashbourne House, The Guildway, Old Portsmouth Rd. Guildford, Surrey, GU3 1LR <u>United K</u>ingdom

information@mrsolutions.com +44 (0)1483 906305 www.mrsolutions.com

### Parallel session I - Reconstruction

### Parallel session I: 11:40-12:40 Dexter 15-18

### Moderators: Miha Fuderer, UMC Utrecht Martijn Nagtegaal, Leiden UMC

#### O-011 Thierry Meerbothe – UMC Utrecht Complex B1+ field predictions to evaluate Electrical Properties Tomography reconstructions.

Department of Radiotherapy, Division of Imaging and Oncology, UMC Utrecht, Utrecht, The Netherlands.

#### O-012 Natalia Korobova – Amsterdam UMC A correction for modeling of radial, spiral, and PROPELLOR DCE data: time-averaged extended Tofts.

Department of Radiology and Nuclear Medicine, Amsterdam UMC, Amsterdam, The Netherlands.

### O-013 Max van Riel – UMC Utrecht

#### Time-Resolved Biomechanics using Spectro-Dynamic MRI: Proof of Principle in the Muscles of the Thigh.

Department of Radiotherapy, Computational Imaging Group for MR Diagnostics and Therapy, UMC Utrecht, Utrecht, The Netherlands.

#### O-014 Luka Stam – Radboud UMC

# Comparing Pilot-Tone and Free Induction Decay navigators for Single-Spoke Binning in radial stack-of-stars MRI.

Department of Medical Imaging, Radboud University Medical Center, Nijmegen, the Netherlands.

### O-015 Oscar van der Heide – UMC Utrecht Towards online 3D MR-STAT reconstructions.

*Computational Imaging Group for MR Diagnostics & Therapy, Center for Image Sciences, University Medical Center Utrecht, Utrecht, Netherlands.* 



### On the frontier of MRI technology development.

WaveTronica B.V. excels in building RF hardware for high-field and ultra-high field MRI and spectroscopy. WaveTronica B.V. builds and installs RF hardware for MRI research with expertise on RF coil design, hardware installation and phantom building and it brings together experience in research, (multi-transmit) SAR simulations and MRI hardware development.

It is unique in that it develops beyond state-of-the art MRI hardware, while simultaneously developing a full service. Being in close contact to key stakeholders in high-end MRI research, WaveTronica B.V. has access to know-how to enable rapid prototyping for the research community and an established network with the world's leading MRI producers. WaveTronica B.V. provides the hardware including system integration and safety assessments to obtain unique images of patients with an MRI system: both metabolic imaging as well as ultra-high-resolution MR images.

WaveTronica B.V. looks forward to collaborating with you on all MRI hardware-related projects.



Founded in in 2018, Spin-off company of UMCU, The Netherlands

### Workshops 13:30-14:10

### Workshop by Skope

Field monitoring and advanced imaging schemes

Skope focuses on bringing accuracy and detail to MRI by combining sensor technology with advanced MR signal processing and image reconstruction. At the heart of our technology

is the accurate and real-time monitoring of the encoding fields dynamics. This information is key to achieve the best image quality possible and really push the scanner to its limit. Indeed, field monitoring enables to reconstruct images based on the actual kspace trajectories. This leads to artifact-free images which are inherently more geometric consistent and hence reproducible.

#### Workshop by AmsterdamUMC and Imricor **Dexter 15-18** Interventional cardiac MR put into practice

This workshop will focus on clinical implementation of iCMR involving 1) iCMR infrastructure & equipment; 2) iCMR team from the MR technician's perspective; and 3) current clinical applications of MRI-guided cardiac ablations.

### Workshop by Lygature **Public-Private Partnerships**

### **Public-Private Partnerships: Key success** factors in public-private partnerships.

There is more to Public-Private Partnerships (PPP) than the 1:1 Academic-Industry collaboration. In this workshop you will learn about other successful types of PPP, what these can bring to you and what you need to know about setting-up and running these PPP.





Limousin I

Dexter 11-14

skope

### Parallel session II - Perfusion

### Parallel session II: 14:10-15:10 Dexter 11-14

Moderators:	Patricia Clement, Ghent University
	Lydiane Hirschler, Leiden UMC

### O-16 Elles Elschot – Maastricht UMC+

#### Measuring intra-to-extra-vascular cerebral water-transport in patients with small vessel disease using 3D T2-prepared timeencoded pCASL.

Department of Radiology and Nuclear medicine, MUMC, Maastricht, The Netherlands.

### O-17 Beatriz Padrela – Amsterdam UMC

# ASL blood-brain barrier permeability is associated with amyloid and cognitive impairment.

Department of Radiology and Nuclear Medicine, Amsterdam University Medical Center, Location VUmc, Amsterdam, The Netherlands

#### O-18 Mathijs Dijsselhof – Amsterdam UMC ASL-derived cerebrovascular brain-age improves associations with cognitive decline.

Department of Radiology and Nuclear Medicine, Amsterdam University Medical Centers, Vrije Universiteit, Amsterdam, The Netherlands.

#### O-19 Damon Verstappen – Maastricht UMC+ Arterial Spin Labeling and Phase-Contrast MRI suggest impaired cerebral blood flow autoregulation in small vessel disease.

Department of Radiology & Nuclear Medicine, Maastricht University Medical Centre, Maastricht, The Netherlands.

### O-20 Benthe Ariëns – Amsterdam UMC The effect of SGLT2-inhibition on the kidney perfusion and

#### diffusion in patients with T2D.

Internal medicine, Amsterdam UMC, Amsterdam, The Netherlands.

### Parallel session II - Motion

### Parallel session II: 14:10-15:10 Dexter 15-18

### Moderators: Eric Schrauben, Amsterdam UMC Marnix Maas, Radboud UMC

### O-21 Myrte Wennen – Amsterdam UMC Imaging of thorax and diaphragm movement in mechanically ventilated mice and rats.

Department of Radiology and Nuclear Medicine, Amsterdam University Medical Centers, Amsterdam, The Netherlands.

#### O-22 Katrinus Keijnemans – UMC Utrecht Better motion-compensated daily imaging using 4D-MRI for MR-linac gating workflows.

Department of Radiotherapy, University Medical Center Utrecht, Utrecht, The Netherlands.

# O-23 Reagan Tompkins – Amsterdam UMC Retrospective motion correction for fetal 4D flow MRI.

Department of Radiology & Nuclear Medicine, Amsterdam University Medical Center, location University of Amsterdam, the Netherlands.

### O-24 Matthias Maeyens – UAntwerp

# Multi-resolution super-resolution reconstruction for better motion correction.

Molecular-morphology-microscopy, University of Antwerp, Antwerp, Belgium.

#### O-25 Frédérique van Gameren – UMC Utrecht Analysis of motion-compensated MRI efficiency in lung cancer patients based on a 1D-navigator signal.

Department of Radiotherapy, University Medical Center Utrecht, Utrecht, Netherlands



# AIR<sup>™</sup> Recon DL This is just the beginning



© 2024 GE HealthCare. GE is a trademark of General Electric Company. Used under trademark license. IB00297FB

### Parallel session II - Neuro Clinical II

### Parallel session II: 14:10-15:10

### Limousin I

### Moderators: Evita Wiegers, UMC Utrecht Anouk Schrantee, Amsterdam UMC

#### O-26 Noa van der Knaap – Maastricht UMC Long-term microvascular hypoperfusion in COVID-19 ICU survivors: a prospective multi-b-value DWI study.

Department of Radiology & Nuclear Medicine, Maastricht University Medical Center, The Netherlands.

#### O-27 Siebe Leysen – KU Leuven

Blind spherical deconvolution of multi-shell diffusion MRI to model regional changes in pathology.

Department of Electrical Engineering, ESAT/PSI, KU Leuven, Leuven, Belgium

#### O-28 Stanley Pham – UMC Utrecht

# Associations between small vessel function and progressive white matter injury in CADASIL using advanced 7T MRI.

Center for Image Sciences, University Medical Center Utrecht, Utrecht, The Netherlands.

#### O-29 Zarah van der Pal – Amsterdam UMC

# Stimulant medication and development of the dopamine system in ADHD: a pharmacological MRI study.

Department of Radiology & Nuclear Medicine, Amsterdam UMC location University of Amsterdam, Amsterdam, The Netherlands.

### O-30 Inge van Ooijen – UMC Utrecht

Inhomogeneous Magnetization Transfer Imaging in Extremely Preterm Neonates at 7T.

Department of Neonatology, University Medical Center Utrecht, Utrecht, The Netherlands.

### Parallel session III - Pre-Clinical

### Parallel session III: 16:00-16:45 Dexter 11-14

### Moderators: Elisabeth Jonckers, UAntwerp Bram Coolen, Amsterdam UMC

### O-31 Matic Pusovnik – KU Leuven

# Real time monitoring of Ca<sup>2+</sup> homeostasis by manganese enhanced cMRI in a remotely induced myocardial ischemia reperfusion injury mouse model.

Biomedical MRI, Department of Imaging and Pathology, KU Leuven, Leuven, Belgium.

### O-32 Leonardo Ricciardi – UAntwerp

# In vivo tracking of transcranial Manganese delivery with a novel hyaluronic acid hydrogel (HA)-based delivery device.

Bio-Imaging lab, University of Antwerp, Antwerp, Belgium

### O-33 Vanja Curcic – UMC Utrecht

From microscopy data to hemodynamic simulations: a vascular graph approach to understand the fMRI signal formation. *Department of Radiology, UMCU, Utrecht, The Netherlands.* 

#### O-34 Sam de Waegenaere – UAntwerp

Correlations between alterations in resting-state functional dynamics and memory impairments in the TgF344-AD rat model of Alzheimer's Disease

Bio-Imaging lab, University of Antwerp, Antwerp, Belgium.

### Parallel session III - Hardware

### Parallel session III: 16:00-16:45 Dexter 15-18

### Moderators: Martijn Froeling, UMC Utrecht Wyger Brink, University of Twente

### O-35 Rik Weersink – UMC Utrecht Accelerating MRI with a Wireless Insert Gradient Coil.

Department of Radiology, University Medical Center Utrecht, Utrecht, The Netherlands.

### O-36 Koen Vat – TU Eindhoven

# Evaluating Fractionated Dipole Antenna performance for 14 Tesla head imaging.

Biomedical Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands.

### O-37 Mathijs Kikken – UMC Utrecht

# Temperature Changes in the Brain due to External Heat Sources: an MR Thermometry Study.

*Center for Image Sciences – Computational Imaging Group, University Medical Center Utrecht, The Netherlands.* 

### O-38 Michael McGrory – UMC Utrecht

#### Preliminary Results on Torso PNS Thresholds at the Ultrasonic Driving Frequency of 20 kHz using a Whole-Body Gradient Coil.

Department of Radiology, University Medical Center Utrecht, Utrecht, The Netherlands.

# **MAGNETOM Terra.X**

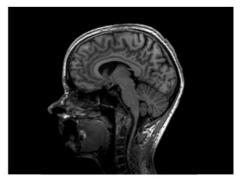
### Make the difference.

siemens-healthineers.com/terrax





MAGNETOM Terra.X<sup>\*</sup> introduces the next generation 7T MRI that will enable you to make the difference. With its groundbreaking Ultra IQ Technology, it will deliver unprecedented image clarity that allows you to confidently assess subtle pathological details. In combination with our Al-powered Deep Resolve, MAGNETOM Terra.X ultimately will take clinical routine to a new level. MAGNETOM Terra.X makes the difference for clinicians and scientists.



StudyID: 4aaaa0264 / 8Tx32Rx head coil

\* MAGNETOM Terra.X is still under development and not commercially available yet. Its future availability cannot be ensured.



### Parallel session III - Reproducibility

### Parallel session III: 16:00-16:45 Limousin I

### Moderators: Henk-Jan Mutsaerts, Amsterdam UMC Koen Baas, Amsterdam UMC

### O-39 Marie Galteau – Donders Institute

## How Variable Are Our Rat Sensory-Evoked Functional MRI Datasets?

Donders Institute for Brain, Behaviour, and Cognition, Nijmegen, The Netherlands

### O-40 Laura Kemper – Erasmus MC

### Multi-site multi-vendor reproducibility of APTw-CEST MRI at 3T.

Department of Radiology & Nuclear Medicine, Erasmus MC, Rotterdam, The Netherlands

#### O-41 Lonneke Bos – Amsterdam UMC Variability of brain-age estimates in multiple sclerosis within and between three different MR scanners.

MS Center Amsterdam, Radiology and Nuclear Medicine, Vrije Universiteit Amsterdam, Amsterdam Neuroscience, Amsterdam UMC location VUmc, Amsterdam, The Netherlands.

### O-42 Paul Roos – Leiden UMC

# Noninvasive Left Ventricular Pressure-Volume Loops Derived from 4D Flow CMR and CFD.

Radiology, LUMC, Leiden, The Netherlands.

ODD posters in poster session I: 10:45-11:40 Foyer EVEN posters in poster session II: 15:10-16:00 Foyer

#### LA = late breaking abstract, PP = power pitch

### Abdominal

- P-46 Evaluating Fetoplacental Response to Hypercapnia in Pregnant Rats: A Comparison Between T2\* MRI and Photoacoustic Imaging
- P-47 Testing diagnostic quality after speeding up prostate MRI by reducing the number of echo-trains in T2-weighted TSE
- P-48 Multiparametric MRI as a Diagnostic Tool for Metabolic Dysfunction-Associated Steatotic Liver Disease
- P-49 MR-based real-time bowel tracking for radiotherapy

### Acquisition strategies

- P-22 Simultaneous multi-slice MR-STAT for robust high-resolution full-brain relaxometry
- P-23 Reduced gadolinium dose by an optimized multi-parametric MR-STAT protocol
- P-24 Vendor-agnostic pulse programming on gammaSTAR: a traveling head experiment to test the Philips driver
- P-25 pTx Pulseq in hybrid sequences: Universal Pulses, made Truly Universal
- LA-7 Optimizing Prostate MRI: Assessing GRAPPA calibrated once's Impact on Prostate Image Quality and Scan Time

**Interventional MRI** 

- P-16 Reduction of RF-heating on bilateral DBS leads using two channel RF-shimming on 3T MRI
- PP-6 Real-time MR image reconstruction in interventional MRguided biopsies
- LA-3 Integrated assessment of perfusion quality and TARE microsphere distribution through normothermic machine perfusion and MRI in ex vivo porcine livers

#### **ODD** numbers in poster session I, **EVEN** posters in poster session II LA = late breaking abstract, PP = power pitch

#### **Contrast mechanisms**

- P-17 Perfluorocarbon-PLGA particle ultrastructure affects pH sensitivity in 19F NMR and MRI
- P-18 Dependency of R2 and R2\* Relaxation on Gd-DTPA Concentration: From Whole-Blood to Realistic Brain Tumor Vasculature
- P-19 Automatic detection and measurement of WM lesions in MS patients using MR-STAT and a self-supervised bivariate Gaussian probabilistic model
- P-20 Total Deviation Index shows that IR-T1 and SE-ME T2 mapping values closely agree, but deviate from truth after a scanner upgrade
- PP-5 Hitting the mark: Comparing APT-weighted MTRasym and LD-maps for personalized radiotherapy target delineation of glioblastoma.

Spectroscopy

- P-70 Comparative Metabolite Analysis of Phelan-McDermid Syndrome: Spectroscopic Insights from SHANK3 Mouse Models
- P-71 Deuterium MR spectroscopy and imaging to assess differences in glycolytic/oxidative balance and its modulation in tumor models
- P-72 Magnetic Resonance Spectroscopy in (Pre-)Symptomatic Genetic Frontotemporal Lobar Degeneration
- P-74 Data-Driven MRS Signal Decomposition Using Wavelet Analysis
- P-75 Enhancing 2D MRSI: Implementation of CHEmical-shift Adiabatic Pulses (CHEAP) at a 7T Philips platform using Pulseq
- P-76 The effect of [6,6'-2H2]glucose dose on human brain deuterium metabolic imaging at 7T
- P-77 The effect of respiratory motion on in vivo 31P magnetic resonance spectroscopic imaging in the human liver at 7 Tesla

#### **ODD** numbers in poster session I, **EVEN** posters in poster session II LA = late breaking abstract, PP = power pitch

### Ultra-high field

P-84	Geometry Matters: High Performance Acceleration with
	Twisted Pair and Conventional Coil Designs at 7T MRI

- P-85 Simulation-based evaluation of the Coax Monopole antenna as a transmit array element for head imaging at 14T
- P-86 Combining pTx proton MR imaging and sTx localized phosphorus MR spectroscopy of leg muscles over a large FOV at ultra-high field

### **Functional MRI**

P-37	BOLD fMRI at 9.4T with 3D spiral readouts using Pulseq
P-38	Simulating pulsatile flow: towards understanding MRI sequences targeting microvascular fluid-structure interactions
P-39	Explainable depression classification: a machine learning approach based on brain network size and functional connectivity
P-40	One-year follow-up of visually stimulated task-based fMRI in Dutch-type and sporadic Cerebral Amyloid Angiopathy
P-41	Microvascular specificity of spin-echo BOLD fMRI at 7T: the impact of EPI echo train length
P-42	Exploring the cerebellar cortical stripes in humans with 7T, motion-corrected, RF-shimmed MRI
P-43	Protocol for awake task free fMRI using freely behaving head fixed mice.
LA-6	Evaluating acute stress effects on resting-state fMRI connectivity in awake habituated rats

#### **ODD** numbers in poster session I, **EVEN** posters in poster session II LA = late breaking abstract, PP = power pitch

### Cardiovascular

Adiabatic pulses for outer volume suppression in non- contrast coronary Magnetic Resonance Angiography
Signal intensity and volume of carotid intraplaque hemorrhage on MRI and ipsilateral cerebrovascular events: the Plaque At RISK (PARISK) study
19F-MRI to detect treatment effect on inflammation after myocardial ischemia reperfusion injury
Complex B1+ field-based conductivity mapping in the human myocardium at 3T
Combining 4D balanced SSFP and 4D flow MRI for highly localized 3D pulse wave velocity calculations
A dynamic contrast-enhanced (DCE) MRI protocol optimized for imaging abdominal aortic aneurysms
Time-Resolved Cardiac function: Myocardium Strain and First-Pass Perfusion Using MR-MOTUS.
Double Inversion Recovery in myocardial Arterial Spin Labeling (ASL) for reduced physiological noise.
Real-time MR image reconstruction in interventional MR- guided biopsies
Quantifying hepatic arterial blood flow with 4D flow MRI to improve transarterial radioembolization: initial results from a repeatability study

**Musculoskeletal** 

P-45	The MOTION study – First quantitative muscle MRI results in
	a large cross-sectional cohort of healthy subjects

LA-5 Magnetic resonance of skeletal muscle metabolic and contractile function: Normative values and repeatability in healthy volunteers

#### **ODD** numbers in poster session I, **EVEN** posters in poster session II LA = late breaking abstract, PP = power pitch

### Neuroimaging

- P-1 Medial temporal lobe grey and white matter differences in late-life depression: a combined structural and multi-shell diffusion MRI analysis
- P-2 Can resting-state fMRI reflect hypometabolic glucose PET regions in focal epilepsy? A simultaneous PET-MR investigation
- P-3 Dose-dependent and dynamic effects of esketamine on neurometabolism: a 7T functional MRI/MRS Study
- P-5 A Voxel-Based investigation of Relaxometry using 3D-QALAS in recently recovered COVID-19 patients
- P-6 Exploring the ocular glymphatic system: The association of MRI-visible perivascular spaces with Intraocular Pressure and Tear Total-Tau
- P-7 Quantitative MRI of the upper arm in Duchenne muscular dystrophy: sensitivity of MR parameters and their correlation to muscle function

### Diffusion

P-65	Assessment of axonal fibre-bundle integrity using DWI MRI models in post-surgery low-grade glioma patients
P-66	Imaging the cerebellar dot fraction at 7T using spherical b- tensor diffusion encoding and super resolution reconstruction
P-67	Technical validation of DWI in the abdomen using different motion compensation techniques on a 1.5T MR-Linac
P-68	Characterizing blood and cerebrospinal fluid flow by D* tensor derived from cerebral intravoxel-incoherent-motion- diffusion-tensor-imaging
P-69	Intraoperative fiber tractography during pediatric posterior fossa tumor surgery - initial experience.
LA-2	Use of a plug-and-play gradient insert for strong diffusion encoding and fast readout at 7T

#### **ODD** numbers in poster session I, **EVEN** posters in poster session II LA = late breaking abstract, PP = power pitch

### Neuroimaging

P-8	An investigation of functional activity and connectivity disturbances within the cerebellum in multiple sclerosis using 7T MRI
P-9	Quantifying Spatial Variations of Cardiac-Induced Volumetric Strain Using DENSE MRI: Insight from an Observational Study
P-10	Effects of radiofrequency thermoCOagulation on brain NeTwork ACTivity in patients with epilepsy: CONTACT study. Study design
P-11	The effect of low frequency visual stimulation on CSF flow in the fourth ventricle measured with BOLD-fMRI
P-12	Measuring CSF net velocity using DENSE at 7T with improved correction for involuntary motion and eddy currents.
P-13	Strain tensor imaging using single-shot multi-slice DENSE in a pediatric population at 7T
P-14	Objective depression diagnosis derived from effective connectivity through dynamic causal modelling
PP-4	Investigating the relation between cardiac-induced brain strain and both global boundary conditions and local microstructure.
LA-1	Objective depression diagnosis derived from effective connectivity through dynamic causal modelling

### Body

P-15	In-vivo Magnetization Transfer neuroimaging at 46 mT
P-87	Effect of the RF shield-to-coil distance on coil efficiency for
	a 46 mT Halbach-based point-of-care MRI system

#### **ODD** numbers in poster session I, **EVEN** posters in poster session II LA = late breaking abstract, PP = power pitch

### Perfusion

P-58	Feasibility and Sensitivity of TRUST Measurements in the Upper Arm
P-59	Velocity Selective Arterial Spin Labeling at 7T
P-60	Comparing Multi-Echo and T2-Prep te-pCASL sequences for measurements of water transport across BBB
P-61	Renal Mesh to Perform Regional Perfusion Analysis of The Kidney
P-62	Dynamic contrast-enhanced MRI of the synovium and synovial subregions in knee osteoarthritis
P-63	Towards Reproducible Intravoxel Incoherent Motion (IVIM) Analysis: The ISMRM Open Science Initiative for Perfusion Imaging
P-64	Investigation of technical variability in ASL data using a perfusion phantom.

Hardware development

P-78	Design of a segmented RF shield to minimize eddy currents on low-field Halbach MRI systems
P-79	Dynamic imaging of the heart from scattering parameters using deep learning – an MR based feasibility study
P-80	A Hybrid FDTD-FEM Simulation Approach For Safety Assessment of Geometrically Complex Birdcage Coils
P-81	A Wireless Receive Surface Coil at 1.5T
P-82	Feasibility of active B1+ shimming using remote switching of coupled dielectric pads
P-83	Receive-coil multiplexing with next-generation high-density coil arrays for MR-guided radiotherapy

#### **ODD** numbers in poster session I, **EVEN** posters in poster session II LA = late breaking abstract, PP = power pitch

### **Reconstruction and post-processing**

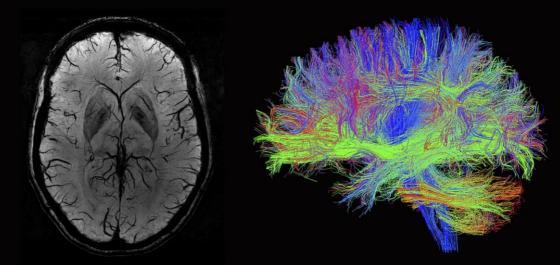
P-27	Generic and Robust Quantitative MRI Parameter Estimation using Neural Controlled Differential Equations
P-28	In vivo data-driven discovery of tissue's constitutive relations: proof of concept on a thigh muscle
P-29	AI reconstruction of phantom data acquired using custom sequences designed in Pulseq
P-30	Performance Analysis of Deep Learning in MRI Images with Reduced Gadolinium-Based Contrast Agent
P-31	MR-IQ: A new Reference-Free Metric for Quantitative MR Image Quality Assessment
P-32	Quantitative Dynamic Contrast-Enhanced MRI: A Gateway to Personalized Models of Solid Tumors
P-33	To SSIM, or to not SSIM: Investigating the impact of image artifacts and motion on image quality metrics
P-34	Adaptively Regularized Compressed Sensing in Low-Field MRI Requiring No Tuning of Regularization Parameters
P-35	A guide to advanced MRI processing for clinical glioma research
P-36	Direct Estimation of Quantitative MR Maps from Quantitative Transient Imaging K-space Data Using Recurrent Inference Machine

Low Field

P-44 Advancing Free-Breathing Liver MRI at 7T with Pseudo-Spiral Cartesian Sampling and Phase Shimming

### Other

P-21	A comparison of semi-automatic quality control methods for 3D-T1 weighted scans
P-26	Color-map recommendation for MR relaxometry maps



### Impactful Imaging across Applications: Made Possible with the NeuroCam<sup>™</sup> 3T & 7T



www.skope.swiss

The NeuroCam is not a medical device. The statements made regarding the NeuroCam have not been evaluated by the Food and Drug Administration. The safety and efficacy of the NeuroCam has not been confirmed by FDA-approved research. The NeuroCam is not intended to diagnose, treat, cure or prevent any disease. Not certified by the European Commission as Medical Device under MDR.





# See you next year!



