

ANNUAL MEETING **2022**

ISMIRM Benelux

14TH ANNUAL MEETING

25th of April, 2022

MECC, Maastricht

CHAPTER



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TECHNOLOGIES



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PROGRAMME BOOK

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The organising committee would like to thank all the sponsors of this year's ISMRM Benelux meeting for their kind contributions.

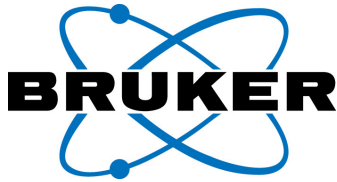
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In a fast changing healthcare environment innovation and research collaborations should be open fast and easy. Therefore we support the research community with various platforms. From high value MRI to 7T clinical research. From MRI hardware to sequence programming and advanced reconstruction/postprocessing.



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¹) The product is still under development and not commercially available yet.



MRS*DRYMAG

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Preclinical MR scanner
Dry magnet technology

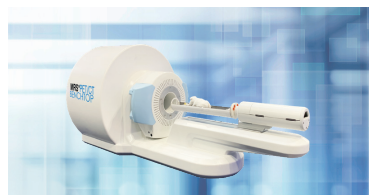
MRS*DRYMAG 9.4T
MRS*DRYMAG 7.0T
MRS*DRYMAG 4.7T
MRS*DRYMAG 3.0T



MRS*PET/CT

MR SOLUTIONS

Preclinical PET/CT

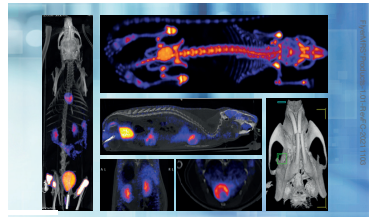


MRS*PET/MR 9.4T
MRS*PET/MR 7.0T
MRS*PET/MR 4.7T
MRS*PET/MR 3.0T

MRS*PET/MR

MR SOLUTIONS

Preclinical PET/MR scanner
Dry magnet technology

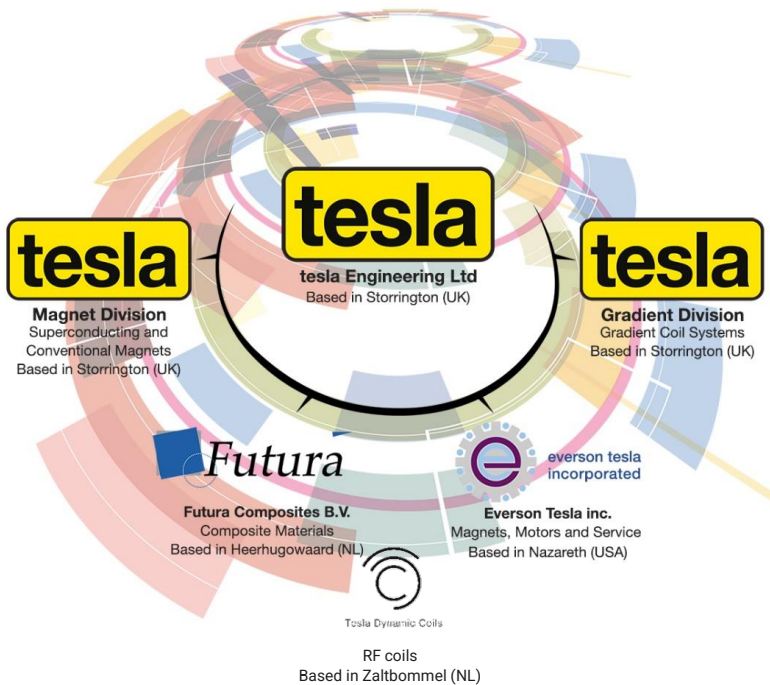


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Welcome

Dear colleagues and friends,

As chair of the 14th ISMRM Benelux chapter meeting I would like to welcome you to this year's event, which is taking place at the MECC in Maastricht. We are delighted that we are able to meet each other in person, after two years of virtual meetings due to the Coronavirus pandemic. The ISMRM Benelux meeting is known to attract MRI fanatics from Belgium, the Netherlands and Luxembourg, to discuss the latest findings, initiate new collaborations, meet old friends, and get to know new people. This is the main reason we decided to postpone our meeting to April, since networking is easier and more fun when you meet in person.

For this year's meeting, the organising committee has worked hard to set up an inspiring meeting that introduces the latest developments in the MRI field, but also highlights the (pre)-clinical applications of MRI. Therefore, we created a programme to broaden your knowledge about these different aspects. To this end, we are delighted to announce our keynote speaker, Professor Andrew Webb, who will give a talk titled "Low-field MRI - limited only by your imagination". Moreover, talented junior researchers will have the opportunity to talk about the latest advances in their MRI research in a power pitch session, nine fascinating parallel sessions, and two poster sessions. After the closing drinks, you are invited to join a tour of the Scannexus ultra-high field MR facility, which is just a few minutes away from the MECC. At the end of this exciting day, we will have time to socialise and relax with our fellow Benelux colleagues, while enjoying some excellent food at Tokyoto.

We would like to thank our new and returning sponsors for their support. Organising this meeting would not have been possible without them and we hope that you will visit their sponsor booths. We would also like to thank our presenters, reviewers, and moderators who have helped to create a fantastic scientific programme.

The ISMRM Benelux meeting is a great day to gain exposure and to meet the MRI community in the Benelux. Please enjoy the interesting science and each other's company.

Monica van den Berg,
– on behalf of the 2022 Organising Committee

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ISMRM Benelux Organising Committee 2022

Chair	Monica van den Berg; University of Antwerp, Antwerp, BE
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Proceedings/Challenge	Tom Bruijnen; University Medical Center Utrecht, Utrecht, NL
Treasurer	Kirsten Kapteijns; Radboud University Medical Center, NL

ISMRM Benelux Annual Members' Meeting

Annual Members' Meeting - Rome 0.8; 12:45 - 13:00

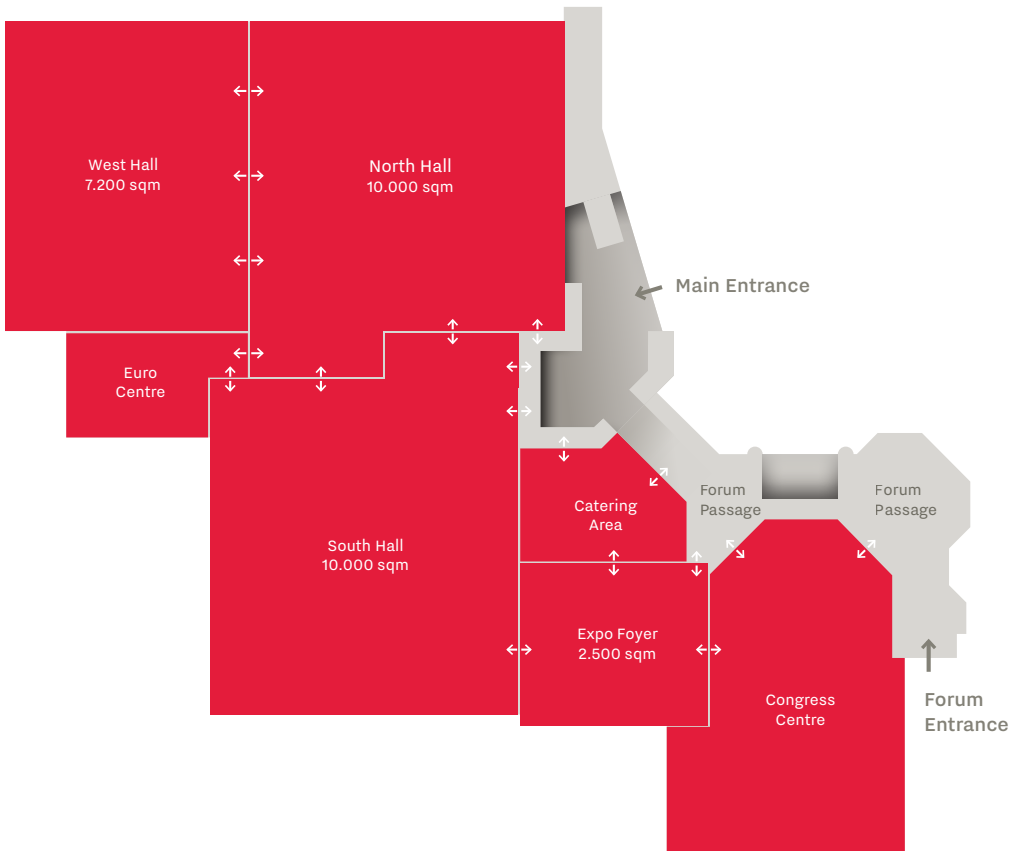
This year, the ISMRM Benelux Board will again host an annual members' meeting of the ISMRM Benelux Chapter. During this year's meeting we will discuss the current status of the Chapter. The meeting is open to everyone, especially to those who are willing to participate in the Chapter's future activities. More specifically, the agenda points comprise an evaluation of the present and previous annual meetings, a financial report and a discussion of future initiatives. All are welcome to present their own ideas for developing and improving our chapter.

Programme Overview

08:45	Registration
09:30	Morning Programme – O.4/O.5 Brussels/Paris
	Welcome
09:45	Power Pitch Presentations
10:00	'Low Field – Limited only by your imagination' – Andrew Webb
10:30	ISMRM Benelux Board vote
10:45	Coffee Break
11:15	Parallel Session 1: Oral Presentations
	Pre-clinical
	Perfusion Brain/Body – Let it Flow
	Hardware – Loops and Wires
12:15	Poster Session 1 + Sponsor Booths – Praetorium
	Odd-numbered posters
12:45	Annual Members' Meeting – O.8 Rome
13:00	Lunch Break
14:00	Poster Session 2 + Sponsor Booths – Praetorium
	Even-numbered posters
14:30	Parallel Session 2: Oral Presentations
	Clinical – Brain Matters
	Abdomen/Pelvic – Body Language
	Recon Magic
15:30	Coffee Break
16:00	Parallel Session 3: Oral Presentations
	Clinical – Oncology
	Acquisition strategies
	Vascular + MSK
17:00	Reception + Award Ceremony – O.4/O.5 Brussels/Paris
	Closing drinks – Praetorium
18:00	Scannexus tour (optional)
19:00	Dinner at Tokyoto
21:30	End of the meeting

Floor Plan

Ground Floor - Complete



Floor Plan

Ground Floor – Congress Centre

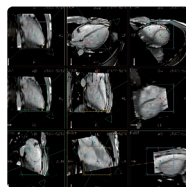
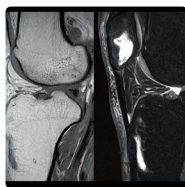
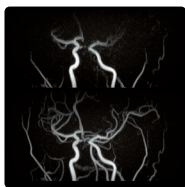
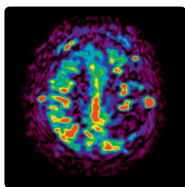
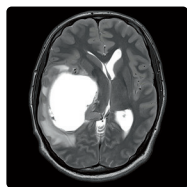




Vantage Galan 3T

Quiet Intelligence.

Powered by AI, one of the quietest and most patient friendly 3T MRI systems available is now one of the most intelligent. Vantage Galan 3T not only produces stunning crisp and beautiful images, now the combination of Deep Learning Reconstruction, Parallel Imaging and Compressed sensing means whole body images can be captured quickly and efficiently to help breeze through your day.



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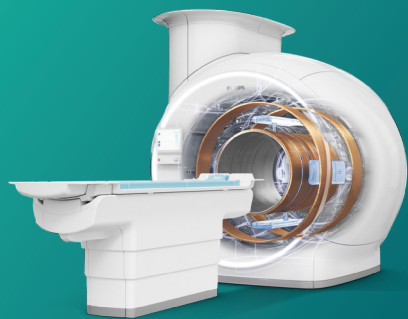
Ingenia Ambition 1.5T



De nieuwe realiteit op het gebied van MRI

De Philips Ingenia 1.5T, zonder complicaties door helium. Voorkom uitval van het systeem zodat jij je kunt richten op het bieden van betrouwbare, efficiënte en hoogwaardige zorg. Voer onderzoeken tot 50% sneller uit¹ met Compressed SENSE, en beperk de duur van het onderzoek door patiënten eenvoudiger te plaatsen in de MRI, door accurate en contactloze patiëntpositionering. Dit draagt bij aan een betere ervaring voor zowel patiënten als laboranten. Ontdek de nieuwe wereld van MRI, met de Philips Ingenia Ambition 1.5T.

innovation  you



Ontdek MRI-scannen zonder helium
op www.philips.com/ambition

1. Vergelijken met Philips-scans zonder Compressed SENSE.

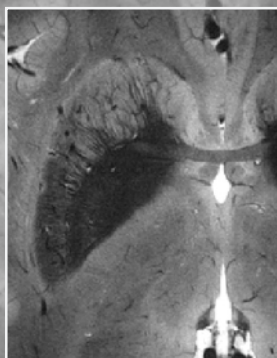
Bruker Ultra-high Field MRI - the Ultimate in Preclinical MRI

The unparalleled sensitivity of Bruker BioSpec ultra-high field instruments combined with the physical effects made possible only via ultra-high field allow groundbreaking discoveries ranging from basic research to treatment of disease.

- 11.7 Tesla and 15.2 Tesla for unparalleled SNR
- 1000 mT/m for exceptional resolution
- MRI CryoProbe for even greater SNR boost
- ParaVision 360 for fastest scanning combined with unlimited open-source possibilities



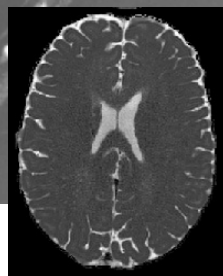
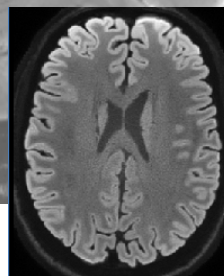
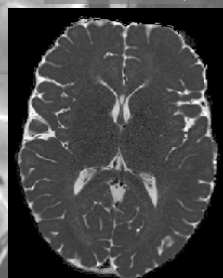
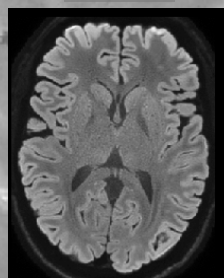
Fast and quantitative MRI methods are commonly limited by inaccurate or unstable image encoding. These limitations can be elegantly avoided by using the actual image encoding for reconstruction. The **NeuroCam™** provides an integrated solution for acquiring this encoding information. Together with the **skope™-i** image reconstruction software, the NeuroCam enables the deployment of cutting-edge field monitoring and push button image reconstruction.



Diffusion MRI is commonly limited by image artifacts and low SNR. In DWI, the SNR can be improved by spiral acquisition which reduces echo time. Normally this leads to strong image artefacts, which can be avoided by using field monitoring to track actual image encoding. Shown at right is an example of these types of results - high resolution single shot diffusion with high SNR.

Mean DWI

Mean Diffusivity



Courtesy of Klaas Prüssmann and group, IBT ETH Zurich and University of Zurich

right: $b = 1000$ spiral diffusion acquired at 0.8mm in plane nominal resolution, TE = 44ms

Courtesy of Yoojin Lee, IBT ETH Zurich and University of Zurich DOI: 10.1002/mrm.28554 (adapted image)



NeuroCam 3T

- Plug-and-Play brain coil array for 3T systems with integrated field monitoring
- Excellent whole-brain SNR and parallel imaging performance
- Improve diffusion MRI data quality by enabling rapid spiral imaging

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Scannexus is an ultra-high field MRI center in Maastricht, the Netherlands, with three state-of-the art MRI scanners ranging from 3T, 7T to 9.4T.

We believe that many scientific disciplines have research questions that can be proceeded with MRI. Our mission therefore is to facilitate cutting edge clinical and fundamental research in all of its stages, from designing an experiment, developing required hardware, optimizing scanning protocols, acquiring and analysing the data, to dissemination of the results. We focus on a variety of disciplines, ranging from high resolution brain imaging to musculoskeletal projects, and from functional neuroscience to metabolism. Due to our close connections with both Maastricht University and the Maastricht University Medical Center MUMC+, we have repeatedly shown the efficiency and powerfulness of interdisciplinary collaborations (see <https://scannexus.nl/publications>).

With a team consisting of neuroscientists, clinical development experts, MR-physicists, data scientists and R&D scientists with over a decade of experience in the field, we aim to assist any clinician and researcher in the search for the answers to their questions.

Contact us for questions:

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6229 EV Maastricht, The Netherlands
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Find us online:

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Founded in 1993, Netherlands-based Prodrive Technologies designs and manufactures electronics, software, and mechatronic solutions using the very latest process techniques, many of which it has developed. In close cooperation with customers, Prodrive develops and delivers a wide range of high-tech products, systems and solutions, doing everything in-house to cater to many different markets. Prodrive Technologies owns flexible and fully automated manufacturing plants/factories in the Netherlands, U.S., and China where it effectively optimizes product designs for each customer.

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Moderators

Mohit Adhikari
University of Antwerp

Lydiane Hirschler
Leiden University Medical Center

PP-001 Beatriz Padrela

Amyloid burden and vascular risk factors correlate with regional cerebral blood flow in a cognitively unimpaired population

Department of Radiology and Nuclear Medicine, Amsterdam Neuroscience, Amsterdam University Medical Center, Location VUmc, Amsterdam, NL

Studying the association between cerebral blood flow (CBF), amyloid burden, and vascular risk factors in a cognitively unimpaired elderly population could clarify the role of CBF as a biomarker of cognitive decline. In 196 cognitively unimpaired participants, regional CBF was associated with regional amyloid-PET Centiloid. Vascular risk scores as measured by the Framingham risk score combined with amyloid Centiloid values were associated with increased CBF in vascular territories. Longitudinally, global CBF changes were associated with baseline precuneus amyloid burden. Therefore, we conclude that some muscles in DMI patients are trainable, preferably early on in the course of the disease.

PP-002 Merel van der Thiel

Sleep and waste clearance: The association of sleep quality with an 7T IVIM imaging derived proxy of interstitial fluid

Department of Radiology and Nuclear Medicine, Maastricht University Medical Center, Maastricht, NL

Cerebral clearance is most active during sleep, therefore reduced sleep quality might induce impaired clearance function. Interstitial fluid (ISF) washes waste products from in-between cells through the parenchyma and its volume is found to be regulated by the sleep-wake cycle. Assessment of the ISF-fraction through IVIM can be a potential, non-invasive method to determine sleep-related variations in ISF, without contamination of parenchymal or microvascular diffusion. The current exploratory study investigates the potential of the IVIM-derived ISF-fraction to assess ISF-volume changes in relation to sleep by examining whether these changes are driven by actual hours of sleep or self-reported sleep quality.

PP-003 Stanley Pham

Increased Pulsatility Index of Perforating Arteries as Novel 7T Marker in Sporadic Cerebral Small Vessel Disease – Results of ZOOM@SVDs Study

Department of Radiology, University Medical Centre Utrecht, Utrecht, NL

We assessed blood-flow velocity measurements on 7T MRI as a potential disease marker for cerebral small vessel disease (SVD). Two-dimensional phase-contrast velocity measurements were performed in perforating arteries of the basal ganglia (BG) and white matter of the centrum semiovale (CSO) in patients with sporadic SVD and age- and sex-matched controls. Pulsatility index (PI) was significantly higher in the BG, in patients (0.45 [0.41–0.49] vs. 0.36 [0.30–0.41] in controls) ($p=0.02$). In the CSO, similar number of vessels, mean velocity, and PI were observed between patients and controls. BG pulsatility could be a potential marker for SVD.

Moderators

Mohit Adhikari
University of Antwerp

Lydiane Hirschler
Leiden University Medical Center

PP-004 Sebastian Dresbach

High temporo-spatial resolution VASO reveals differential laminar reactivity to event-related stimuli at 7T

Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, NL

Due to its high specificity, VASO plays a major role in laminar fMRI. To mitigate its lower sensitivity compared to GE-BOLD researchers mostly employ block-designs to increase SNR. Here, we developed a VASO sequence with a short TR (895ms volume acquisition) and showed that it provides the means to capture layer-specific haemodynamic responses with high spatio-temporal resolution. During event-related stimulation, we show reliable responses in visual and somatosensory cortices. Furthermore, the short TR and high specificity of VASO enabled us to show differences in laminar reactivity and onset times, thus demonstrating the high value of event-related designs using CBV-based fMRI. Prefrontal cortex. Although an fMRI pilot confirmed the voxel location, no significant differences in metabolite concentrations or water amplitude between NoGo and Go trials was detected.

PP-005 Meike van Wijk

Improved ΔR_2^* calculation through voxelwise subtraction for MRI-based dosimetry of holmium-166 transarterial radioembolization

Department of Medical Imaging, Radboud Institute for Health Sciences, Radboud University Medical Center, Nijmegen, NL

Transarterial radioembolization (TARE) is a treatment for liver cancer, during which radioactive microspheres are administered through the hepatic artery. Microspheres containing holmium-166 enable MRI-based dosimetry, based on subtraction of pre- and post-treatment R_2^* values. This subtraction is performed using a mean pre-treatment R_2^* value. This does however not take pre-existing differences of R_2^* values into account, introducing an error in the dosimetry. In this work a voxelwise subtraction method is presented, using deformable registration to transform the pre-treatment R_2^* map to the post-treatment R_2^* map, enabling voxel-by-voxel subtraction. This method does take R_2^* differences into account and improves MRI-based dosimetry.

Moderators

Elisabeth Jonckers
University of Antwerp

Benedict Descamps
Ghent University

O-001 – Nicholas Vidas-Guscic

Longitudinal Fixel-Based Analysis of diffusion MRI in the zQ175 Huntington's disease mouse model

*Bio-Imaging Lab, University of Antwerp, Antwerp, Belgium;
μNEURO Research Centre of Excellence, University of Antwerp, Antwerp, Belgium*

O-002 – Tamara Vasilkovska

Impaired brain perfusion and cerebrovascular reactivity in the zQ175 mouse model of Huntington's Disease, a longitudinal pCASL-MRI study

*Bio-Imaging Lab, University of Antwerp, Antwerp, Belgium;
μNEURO Research Centre of Excellence, University of Antwerp, Antwerp, Belgium*

O-003 – Amber Hillaert

Measurement of renal perfusion using ASL-MRI and renal oxygenation using BOLD-MRI in dogs: a pilot study

Department of Morphology, Imaging, Orthopedics, Rehabilitation and Nutrition, Ghent University, Merelbeke, Belgium

O-004 – Fatimah Al Darwish

Evaluation of Placenta Oxygenation and Perfusion in A Rat Model of Fetal Growth Restriction Using Quantitative T_2^* Mapping and 3D DCE-MRI

Biomedical Engineering and Physics, Amsterdam University Medical Center, Amsterdam, NL

Moderators

Sophie Schmid
Leiden University Medical Center

Soetkin Beun
Ghent University

O-005 – Elles Elschot

To what extent is DSC-MRI able to detect subtle blood-brain barrier leakage in cerebral small-vessel disease?

*Departments of Radiology and Nuclear Medicine, Maastricht University Medical Center, Maastricht, NL;
School for Mental Health and Neuroscience, Maastricht University, Maastricht, NL;*

O-006 – Daniëlle van Dorth

Influence of Arterial Transit Time Delay in Arterial Spin Labeling on Differentiating Tumor Progression and Pseudo-Progression in Glioblastoma

C. J. Gorter Center for High-Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, NL

O-007 – Fatemeh Arzanforoosh

Correlation of vessel size and cerebral blood volume measurements in glioma genetic subtypes

Department of Radiology and Nuclear Medicine, Erasmus MC, Rotterdam, NL

O-008 – Masa Bozic-Iven

Towards reproducible Arterial Spin Labelling in the myocardium: Impact of blood T_1 time and imaging readout parameters

*Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany;
Department of Imaging Physics, Delft University of Technology, Delft, NL*

Moderators

Irena Zivkovic
Technical University of Eindhoven

Bart Steensma
University Medical Center, Utrecht

O-009 – Bart de Vos

An Adaptive Target Field Framework for Complete Low Field MRI System Design

C. J. Gorter Center for High-Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, NL

O-010 – Paulina Šiurytė

Reducing MRI acoustic noise burden with Predictive Noise Cancelling

Department of Imaging Physics, Delft University of Technology, Delft, NL

O-011 – Thomas Roos

Ultra-high field done ultra-fast: Enhancing Wave-CAIPI using an single-axis
insert head gradient

Highfield research group, University Medical Center Utrecht, Utrecht, NL;

O-012 – Aris van Ieperen

Short-TE diffusion-MRI by combining strong gradients with ultrasonic readout

*Radiology, University Medical Center Utrecht, Utrecht, NL;
Electromechanics & Power Electronics, Eindhoven University of Technology, Eindhoven, NL*

Moderators

Anouk Schrantee

Academic Medical Center, Amsterdam

Gerald Drenthen

Maastricht University Medical Center

O-013 – Samantha Noteboom

Brain segmentation on 3D-FLAIR weighted images in multiple sclerosis

Department of Anatomy and Neurosciences, Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, NL

O-014 – Sarah Jacobs

7T metabolic MRI in focal epilepsy

Department of Radiology and Nuclear Medicine, University Medical Center Utrecht, Utrecht, NL

O-015 – Lonike Faes

CBV-sensitive layer-fMRI in the human auditory cortex at 7T:

Challenges and capabilities

Department of Cognitive Neuroscience, Maastricht University, Maastricht, NL

Moderators

Vera Schrauwen-Hinderling
Maastricht University Medical Center

Pim Pullens
Ghent University Hospital

O-016 – Maarten Terpstra

Accelerated respiratory-resolved 4D-MRI with separable spatio-temporal
neural networks

*Department of Radiotherapy, University Medical Center Utrecht, Utrecht, NL;
Computational Imaging Group for MR Diagnostics & Therapy, University Medical Center Utrecht, Utrecht, NL*

O-017 – Lisan Morsinkhof

Assessment of pessary position using upright MR imaging of patients
with pelvic organ prolapse

Magnetic Detection & Imaging, University of Twente, Enschede, NL

O-018 – Nienke Wassenaar

Breathing task paradigm to improve the quality of pancreatic
Magnetic Resonance Elastography

*Department of Radiology and Nuclear Medicine, Amsterdam University Medical Centers,
University of Amsterdam, Amsterdam, NL*

O-019 – Leonard Seelen

In-vivo ^{31}P MRSI in healthy and malignant human pancreas at 7 Tesla

*Department of Radiology, University Medical Center Utrecht, Utrecht, NL;
Department of Surgery, UMC Utrecht Cancer Center and St Antonius Hospital Nieuwegein: Regional
Academic Cancer Center Utrecht, Utrecht University, Utrecht, NL*

Moderators

Ben Jeurissen
University of Antwerp

Daan Christaens
KU Leuven

O-O20 – Emiel Hartsema

Joint sparsity multi-component MRF reconstruction – directly from k -space
to component maps

Radiology Department, Center for Image Sciences, UMC Utrecht, Utrecht, NL

O-O21 – Ivo Maatman

Eliminating limits of spatiotemporal resolution in radial stack-of-stars imaging
using FID navigators and single-readout binning

Department of Imaging, Radboud University Medical Centre, Nijmegen, NL

O-O22 – Dimitrios Karkalousos

Recurrent Variational Inference for fast and robust reconstruction of
accelerated FLAIR MRI in Multiple Sclerosis

Department of Biomedical Engineering & Physics, Amsterdam UMC, University of Amsterdam, Amsterdam, NL

O-O23 – Martijn Nagtegaal

Accuracy and repeatability of joint sparsity multi-component
estimation in MR Fingerprinting

Department of Imaging Physics, Delft University of Technology, Delft, NL

Moderators

Astrid van Leer
University Medical Center, Utrecht

Esther Warnert
Erasmus MC, Rotterdam

O-024 – Angeliki Stamatelatou
Multivariate Curve Resolution (MCR) application for prostate
cancer localization

Department of Imaging, Radboud University Medical Centre, Nijmegen, NL

O-025 – Klijs de Koning
Ex vivo 7T MRI of resection specimen of oral cancer
to improve margin control

Head and Neck Surgical Oncology, University Medical Center Utrecht, Utrecht, NL

O-026 – Ivar Wameling
APT-CEST Scan-Rescan Reproducibility in Healthy Volunteers and
Brain Glioma Patients at 3 Tesla

Department of Radiology and Nuclear Medicine, Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, NL

O-027 – Tim Ottens
Deep learning DCE-MRI parameter estimation:
Application in pancreatic cancer

*Department of Radiology and Nuclear Medicine, Cancer Center Amsterdam, Amsterdam UMC,
University of Amsterdam, Amsterdam, NL*

Moderators

Benedikt Poser
Maastricht University

Bram Coolen
Amsterdam University Medical Center

O-028 – Miha Fuderer

Non-steady-state sequences for multi-parametric MRI need to be
evaluated in the context of gradient-encoding

*Computational Imaging Group for MR Diagnostics and Therapy, Center for Image Sciences,
University Medical Center Utrecht, Utrecht, NL;*

Department of Radiology, Division of Imaging and Oncology, University Medical Center Utrecht, Utrecht, NL

O-029 – Emiel Roefs

The Relative Contribution of the Vascular Architecture and Reactivity
to the BOLD signal Formation

Radiology Department, Center for Image Sciences, UMC Utrecht, Utrecht, NL

O-030 – Alejandro Monreal

Combining the benefits of 3D acquisitions and spiral readouts in VASO fMRI

Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, NL

O-031 – Denizhan Kurban

VASO fMRI using 2D-SMS spiral readouts

Maastricht Brain Imaging Centre, Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, NL

Moderators

Lena Václavů
Leiden University Medical Center

Alberto de Luca
University Medical Center, Utrecht

O-032 – Kevin Keene

Extra-ocular muscle volume, T2water and fat fraction are slightly increased
in patients with myasthenia gravis

C. J. Gorter Center for High-Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, NL

O-033 – Rick van Tuijl

Wall shear stress and velocity pulsatility in the parent artery of an unruptured
intracranial aneurysm – a 7T 4D flow MRI study

Department of Radiology, UMC Utrecht Brain Center, University Medical Center Utrecht, Utrecht University, NL

O-034 – Mohamed Kassem

Comparison between Multi-contrast Atherosclerosis Characterization (MATCH)
and multi-sequence MRI For scoring carotid plaque composition

CARIM School for Cardiovascular Diseases, Maastricht University, Maastricht, NL;

Department of Radiology and Nuclear Medicine, Maastricht University Medical Center, Maastricht, NL

O-035 – Laura Secondulfo

A comparison of muscle pennation angles measured with DTI
fiber tractography and 3D-ultrasound

Department of Biomedical Engineering and Physics, Amsterdam University Medical Centers, University of Amsterdam, NL

Poster no. First author

Clinical: Brain Matters

P-001	Alic	Heterogeneity of ASL perfusion MRI in low-grade paediatric glioma as imaging biomarker to assess treatment effect
P-002	Deckers	Narcosis depresses the BOLD-CVR response to acetazolamide in pediatric moyamoya vasculopathy
P-003	Heij	Quantitative MRI in Major Depressive Disorder at 7T
P-004	Kleinloog	Synthetic MRI with MR-STAT: results from a clinical trial
P-005	Radwan	A comparison of tractography and fMRI pre-surgical planning approaches with intraoperative mapping-based validation.
P-006	van der Pluijm	Neuromelanin MRI as biomarker for treatment resistance in first episode schizophrenia patients
P-007	van Ooijen	Vital Signs, Temperature and COMFORT Scale Scores in Infants During Ultra-High-Field MR Imaging
P-008	Warnert	GDPR compliant reuse of medical data: encouraging patients to contribute to research (video)

Ultra-High Field

P-009	Kikken	High-precision MR thermometry of RF heating in the upper thigh at 7T using a multi-echo water-fat separation model
P-010	Harreveld	Retrospective correction of B1 field inhomogeneities in T2w 7T prostate patient data
P-011	Ma	Investigating Spiral Arterial Spin Labeling with Pulseq and Field Monitoring at 7T
P-012	Raimondo	Spin-echo line-scanning at 7T
P-013	Runderkamp	Whole-liver flip angle shimming at 7T using eight-channel parallel transmission kt-points pulses with FPE-DREAM B1+ mapping
P-014	Schulz	A software-based TIAMO approach to enable high resolution large FOV body imaging at 7T ultra-high field

Methods: Contrast

P-015	Chan	Semi-supervised learning for fast multi-compartment relaxometry myelin water imaging (MCR-MWI)
P-016	Feddersen	Multi-echo gradient echo sequences: which is best for thermometry?
P-017	Mandija	The first MR Electrical Properties Tomography (MR-EPT) reconstruction challenge
P-018	Meerbothe	A semi-relativistic and reusable 3D printed brain phantom for MR-based Electrical Properties Tomography
P-019	Naeyaert	Intra- and inter-scanner variability at 3T of brain segmentation using the 3D-QALAS sequence in volunteers
P-020	Schmitz Abecassis	A preliminary investigation into the contribution of Amines to the CEST contrast at 2 ppm and 3 ppm in high-grade gliomas at 7T
P-021	van Asten	Nodal detection in head and neck cancer by USPIO enhanced MRI: Where are the USPIOs in the blood?

12:15 – 12:45 Authors of odd numbered posters must be available at their posters

14:00 – 14:30 Authors of even numbered posters must be available at their posters

Poster no. First author

Perfusion/Diffusion

P-023	Anania	Optimal acquisition settings for simultaneous diffusion kurtosis, free water fraction and T2 estimation
P-024	Christiaens	Correlating neurite density and synaptic density in the human brain in vivo with diffusion-weighted PET-MR
P-025	De Luca	Resolving heterogeneous crossing fibers with Adaptive modelling and Generalized Richardson Lucy spherical deconvolution (AGRL)
P-026	Drenthen	Optimal b-value sampling for interstitial fluid estimation in cerebral IVIM, a genetic algorithm approach
P-027	Rauh	Accelerating IVIM and DTI for assessing microstructural changes after acute hamstring injury
P-028	Sabidussi	dtiRIM: A recurrent inference machine for diffusion tensor estimation
P-029	Tseng	Comparison of arterial input functions obtained through back-to-back acquisition of DCE and DSC MRI
P-030	Václavů	FO determination at the labeling plane: the neglected factor for successful pCASL perfusion MRI

Acquisition – Body/Cardiac

P-031	Maas	Feasibility of T1-weighted USPIO-enhanced MR imaging of pelvic lymph nodes using stack-of-spirals UTE
P-032	Sardjoe Mishre	High temporal-resolution MRI during mild-cold exposure enables the assessment of brown adipose tissue with a low inter-image variability
P-033	Kotek	Comprehensive 3D quantitative transient response MRI
P-034	van Schelt	Feasibility of compressed sensing accelerated ristretto magnetic resonance elastography in the pancreas
P-035	Schrauben	Impact of Bowel-preparation methods on pancreatic Magnetic Resonance Elastography
P-036	Tourais	Single Breath-hold Simultaneous T2 and TRAFF2 Mapping for Approximate Spin-lock Dispersion Mapping in the Myocardium at 3T
P-037	Merton	Reproducibility of aortic diameter and displacement derived from free-breathing 3D balanced steady-state free precession CINE images at 3T
P-038	Klarenberg	Single breath-hold native myocardial T1 and T2 mapping using SENSE and a 72-channel cardiac receive array

Recon Magic

P-039	Liebrand	Accelerated deep learning reconstruction of highly-undersampled 3D FLAIR in acute neurological deficit
P-040	Rizzuti	Retrospective motion correction with structural priors for conventional clinical MRI protocols

12:15 – 12:45 Authors of odd numbered posters must be available at their posters

14:00 – 14:30 Authors of even numbered posters must be available at their posters

Poster no. First author

P-042	Uher	DeepFLAIR: a neural network approach to mitigate signal loss in temporal lobe regions of 7 Tesla FLAIR images
P-043	van Nederpelt	Cross-sectional robustness of 6 freely available software packages for brain volume measurements in multiple sclerosis
P-044	Zhao	M-Estimator for Robust Parameter Fitting in Quantitative Cardiac T1 Mapping
P-045	van der Heide	Repeatability and accuracy of MR-STAT quantitative T1 and T2 measurements
P-046	Straetemans	Automatic 3D bladder segmentation from low-field MR images using 3D U-Net
P-047	Licht	A Multi-Dimensional Compressed Sensing Model for ^{23}Na Multi-Quantum Coherences MRI
P-048	Burman Ingeberg	Estimating brain tissue stiffness from cardiac-induced 7T MRI displacement measurements using 3D subzone-based reconstruction

Methods – Neuro –fMRI

P-049	Brouwer	A separation between motor and sensory somatotopic maps in the human cerebellum
P-050	Eussen	Network efficiency of structural covariance networks relate to cognitive performance in children with childhood absence epilepsy
P-051	Hirschler	Effects of the cardiac and respiratory cycles on CSF-mobility in human subarachnoid and perivascular spaces
P-052	Koiso	Towards whole-brain layer-fMRI connectivity: methodological advancements for functional layer connectomics
P-053	Nuñez Gonzalez	MAGiC in glioma: Are pre-contrast quantitative MRI parameters different in tumors with versus without contrast-enhancement?
P-054	Obdeijn	Repeatability of APTw imaging at 7T
P-055	Oliveira	Comparing population Receptive Field mapping using VASO-CBV and BOLD
P-056	Pizzuti	Laminar and columnar functional organization of human area MT using VASO at 7T
P-057	Schipper	Vascular reactivity measurements are insensitive to changes in visual stimulus presentation method
P-058	van Schuerbeek	Monte Carlo simulations of weighted overlap map thresholds to reduce the risk for type I errors in fMRI
P-059	Pretorius	Comparison of Language Areas determined by Resting State and Task Based fMRI using healthy subjects HCP data
P-060	Venugopal	Quantification of microvascular properties of gliomas using DSC – Hybrid EPI based MR Vascular Fingerprinting (MRVF) compared with Vessel Size Imaging (VSI)
P-061	van der Voort	Measuring CSF net flow velocities in the human brain with 7T MRI
P-062	Priovoulos	Combining Arterial Blood Contrast with BOLD improves fMRI laminar specificity

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Clinical

P-063	Broek	Probing diffusion of water and metabolites to assess white matter microstructure in Duchenne muscular dystrophy
P-064	Klaassen	3D MRI vs conventional ultrasound tumour measurements for treatment planning of eye tumours
P-065	Navest	Personalized MRI contrast for treatment guidance on an MRI–linac in patients with liver metastases
P-066	van Houdt	Open Science Initiative for Perfusion Imaging (OSIPI): A community-led, open-source code library for analysis of DCE/DSC-MRI
P-067	Zhyhka	Multi-level fiber tractography evaluation using transcranial magnetic stimulation (TMS) mapping for validation
P-068	Dijsselhof	Cerebrovascular brain-age
P-069	Keller	The association between white matter hyperintensity shape and long-term dementia outcome in community-dwelling older adults

Spectro

P-070	Gursan	Measurement of gastric emptying with dynamic 3D DMI using a deuterium body array at 7 T
P-071	Nam	3D Deuterium Metabolic Imaging (DMI) of the Human Liver at Using Low-rank and Subspace Modeling
P-072	Shams	31P multi-echo imaging with low B1+ dual-band refocusing pulses
P-073	van Ormondt	Integral 2-dimensional HP-MRS model-fitting with an advanced Levenberg–Marquardt algorithm
P-074	Buitinga	Single-shot 3T 1H MRS with dual water/lipid VAPOR suppression for intrahepatic acetylcarnitine detection
P-075	van Riel	Protocol Optimization of Spectro-Dynamic MRI
P-076	Najac	Glycogen accumulation in the brain of classic-infantile Pompe patient measured with single-voxel 1H MRS and 2D-MRSI at 7T
P-077	van den Wildenberg	Effect of PCA-based denoising on quantification of in-vivo 31P MRSI test-retest data from the whole human liver at 7 Tesla

Pre-clinical

P-078	van der Toorn	Post-mortem T2*-weighted imaging of the mouse brain for plaque or microbleed detection
P-079	Nijsink	Deep-learning based passive marker detection for MRI-guided endovascular interventions in a pulsatile flow phantom
P-080	Wielenga	Imaging white matter changes in alternate motor fibers after experimental focal stroke in rats

Poster no. First author

Hardware – Loops and Wires

P-081	Brink	Fast Subject-Specific SAR and B1+ Prediction for PTx at 7T using only an Initial Localizer Scan
P-082	Costa	Investigation of correlation between surface current and coupling using conventional coils and shielded coaxial cable coils operating at 7T
P-083	Fornier	Feasibility study of novel 8-channel stacked 1H/31P transceiver coil as PET insert for 7T MRI
P-084	O'Reilly	A New Approach to Shimming Halbach Arrays Using Higher Order Halbach Array Inserts
P-085	Oosterveld	Radiofrequency Safety of External Defibrillation Electrodes at 1.5T
P-086	Parsa	A new single channel method for electromagnetic interference reduction on a 50 mT permanent magnet system
P-087	Steensma	Measuring stroke volume with wearable RF antennas: a validation study with EM simulations and MRI
P-088	Sumser	Towards motion robust MRT during Microwave Hyperthermia by integrating an 8-channel receiver coil array into the MRcollar
P-089	Versteeg	A lightweight silent gradient axis with integrated 32 channel receive array for fast and quiet brain imaging at 3 Tesla
P-090	Koolstra	Three-dimensional magnetic resonance fingerprinting at 50 mT with integrated estimation and correction for image distortions due to B0 inhomogeneities

Diffusion Recon

P-091	Dong	Model-based self-navigated water/fat decomposition for segmented diffusion-weighted EPI
P-092	Kaandorp	The impact of learning rate, network size, and training time on unsupervised deep learning for intravoxel incoherent motion (IVIM) model fitting
P-093	Voorter	Three-component IVIM fitting in cerebrovascular disease using physics-informed neural networks: repeatability and accuracy
P-094	de Jong	Investigating the stability of the extended IVIM-DTI tensor model: Accuracy and precision as function of SNR and f

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