

Programme

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Sunday, November 9th

12:30 - 14:00	Conference registration opens 📍 Ground Floor Foyer Setting up posters 📍 First Floor Foyer (Wandelhalle)	
14:00 - 14:15	Opening address 📍 Lecture Hall Linda Heskamp, <i>UMC Utrecht, Netherlands</i> Jordi Diaz-Manera, <i>Newcastle University, UK</i>	
14:15 - 16:15	Educational sessions	
	Muscle MRI in clinical trials 📍 Raum B. v. Langenbeck Moderators: Pierre Carlier and Doris Leung 14:15 - 14:55 Reproducible MRI protocols for multiple studies Donnie Cameron, <i>Radboud University Medical Centre, Netherlands</i> 14:55 - 15:35 Vendor-independent programming to boost imaging use in multicenter studies Andreia Gaspar, <i>Universidade de Lisboa, Portugal</i> 15:35 - 16:15 Tips and tricks for imaging processing Francesco Santini, <i>University of Basel, Switzerland</i>	Ultrasound of muscles and nerves 📍 Lecture Hall Moderators: Anna Pichiecchio and Ozge Findik Sener 14:15 - 14:35 Brachic plexus and upper limb Afarine Madani, <i>Erasme University Hospital, Belgium</i> 14:35 - 14:55 Lower limb nerves Marie Faruch, <i>Toulouse University Hospital, France</i> 14:55 - 15:15 Advanced ultrasound for muscle Carlo Martinoli, <i>University of Genoa, Italy</i> 15:15 - 15:35 Advanced ultrasound for nerves Stephan Goedee, <i>UMC Utrecht, Netherlands</i> 15:35 - 16:15 Practical demonstration of the Canon ultrasound machine
16:15 - 16:45	Networking break 📍 Ground Floor Foyer	
16:45 - 17:35	The ins and outs of skeletal muscle 📍 Raum B. v. Langenbeck Moderators: Werner Stenzel and David Berry 16:45 - 17:10 Basic muscle physiology: Pompe disease Anne Schänzer, <i>Justus-Leibig University Giessen, Germany</i> 17:10 - 17:35 Clinical pathophysiology of neuromuscular disorders: LGMD Willem de Ridder, <i>Antwert University Hospital, Belgium</i>	Exotic contrasts 📍 Lecture Hall Moderators: Valentina Mazzoli and Madison George 16:45 - 17:10 Biophysical modelling of muscle microstructure Martijn Froeling, <i>UMC Utrecht, Netherlands</i> 17:10 - 17:35 CEST metabolic imaging of muscle Feliks Kogan, <i>Stanford University, USA</i>
17:35 - 18:35	Keynote lecture 1 📍 Lecture Hall Treating NMD's - The future perspective on imaging Andrew Blamire, <i>Newcastle University, UK</i> Moderators: Linda Heskamp and Jordi Diaz Manera	

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Monday, November 10th

08:00	Conference desk opens 📍 Ground Floor Foyer
09:00 - 11:00	Special focus session 1: 📍 Lecture Hall Novel contrasts in imaging Moderators: Hermien Kan and Lara Schlaffke
09:00 - 09:25	Opportunities and challenges with sodium imaging Teresa Gerhalter, <i>Medical University of Graz, Austria</i>
09:25 - 09:50	Muscle fibrosis imaging with MRI: opportunities and challenges Aurea Bach, <i>University of Oxford, UK</i>
09:50 - 10:15	Optoacoustic imaging in muscle imaging Lina Tan, <i>Kinder-und Jugendklinik, Germany</i>
10:15 - 11:00	Oral Presentations on Novel Contrasts in Imaging 📍 Lecture Hall O1.1 Non-invasive assessment of histological changes in dystrophic and developing skeletal muscles in GRMD and control dogs Using Bi-component T2 Relaxometry Mapping Ericky Caldas de Almeida Araujo, <i>Institute of Myology, France</i> O1.2 Conventional and in-magnet cardiopulmonary exercise testing of patients with neuromuscular disease to investigate peripheral causes of exercise intolerance Melissa Hooijmans, <i>Vrije Universiteit Amsterdam, Netherlands</i> O1.3 Mapping skeletal muscle mitochondrial oxidative phosphorylation in health and SMA using a novel technique OXCEST MRI Puneet Bagga, <i>St. Jude Children's Research Hospital, USA</i> O1.4 Magnetization transfer imaging in late-onset Pompe disease Michele Giovanni Croce, <i>University of Pavia, Italy</i>
11:00 - 11:30	Networking break 📍 Ground Floor Foyer
11:30 - 12:30	Poster session 1 📍 First Floor Foyer (Wandelhalle) Click here for details of Poster Session 1
12:30 - 13:30	Exhibition and lunch break 📍 Ground Floor Foyer
13:30 - 15:30	Special focus session 2: 📍 Lecture Hall Changing diagnostic patterns and outcome measures in MRI Moderators: Jodi Warman and Kristl Claey's
13:30 - 14:00	MRI as an outcome measure: correlation with function Doris Leung, <i>Kennedy Krieger Institute, USA</i>
14:00 - 14:30	MRI in myopathies: diagnosis, follow-up and opportunities for new techniques Fengdan Wang, <i>Peking Union Medical College Hospital, China</i>
14:30 - 15:30	Oral presentations on Changing diagnostic patterns and outcomes in MRI 📍 Lecture Hall O2.1 Towards an automated approach to muscle MRI segmentation, quantification and analysis for the characterisation and diagnosis of neuromuscular diseases Jose Verdu Diaz, <i>Newcastle University, UK</i>

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O2.2 Comparison of manual vs. Artificial Intelligence-based muscle segmentation for evaluating disease progression in patients with CMT1A

David Bendahan, *CRMBM, France*

O2.3 Quantitative muscle MRI for imaging denervation-induced muscle changes in patients with chronic inflammatory demyelinating polyneuropathy (CIDP)

Petros Dimitrios Chatziandreou, *Ruhr University Bochum, Germany*

O2.4 The utility of quantitative MRI parameters in monitoring disease progression in patients with Muscular dystrophy type 2

Viktória Kokošová, *University Hospital Brno, Czechia*

O2.5 Quantitative muscle MRI in LGMDR1: Insights from a prospective longitudinal cohort study

Robert Rehmann, *Berufsgenossenschaftliches Universitätsklinikum Bochum Bergmannsheil, Germany*

15:30 - 16:00 Networking break 📍 Ground Floor Foyer

16:00 - 17:00 **Keynote lecture 2:** 📍 Lecture Hall
Muscle and nerve MRI, from research to clinical application
Simonetta Gerevini, *Asst Papa Giovanni XXIII, Italy*
Moderators: Jordi Diaz Manera and Jodi Warman

17:00 - 18:00 **Round table discussion:** 📍 Lecture Hall
Unmet needs for pharmaceutical trials
Moderators: Jordi Diaz Manera and Jodi Warman
Paolo Bettica, *Italfarmaco, Italy*
Elena Hernandez Martinez, *EMA, Netherlands*
Kieren Hollingsworth, *Newcastle University, UK*
Markus Karlsson, *AMRA, Sweden*
Erik Niks, *LUMC, Netherlands*
Harmen Reyngoudt, *Institute of Myology, France*
Gerard Sheehan, *Sarepta, USA*
Krista Vandenborne, *University of Florida, USA*

18:00 - 19:30 Networking drinks reception 📍 Ground Floor Foyer

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Tuesday, November 11th

08:00	Conference desk opens 📍 Ground Floor Foyer
09:00 - 11:00	Special focus session 3: 📍 Lecture Hall Whole body imaging Moderators: Volker Straub and Frank Nap
09:00 - 09:30	Disease monitoring with whole body MR neurography Hans Katzberg, <i>University of Toronto, Canada</i>
09:30 - 10:00	Whole body MRI outcome measures in OPMD Jodi Warman, <i>Ottawa Hospital Research Institute, Canada</i>
10:00 - 11:00	Oral presentations on whole body imaging 📍 Lecture Hall
	03.1 Motor Unit Magnetic Resonance Imaging (MUMRI) as a novel biomarker in Spinal Muscular Atrophy (SMA) Matthew Birkbeck, <i>Newcastle University, UK</i>
	03.2 Fasciculations detection in the legs of healthy volunteers using DTI Karleen Oonk, <i>Umc Utrecht, Netherlands</i>
	03.3 MRI quantification of upper extremity muscle fat fraction in Dystrophinopathies: implications for mobility status stratification Kelly Rock, <i>University of Florida, USA</i>
	03.4 Rethinking diaphragm ultrasound: diaphragm thickening reflects lung volume not contractile effort Jeroen van Doorn, <i>Radboud University Medical Center, Netherlands</i>
	03.5 Bilateral analysis of upper limb endpoints in ambulant and non-ambulant Duchenne muscular dystrophy patients Michel Michaëls, <i>Leiden University Medical Center, Netherlands</i>
11:00 - 11:30	Networking break 📍 Ground Floor Foyer
11:30 - 12:30	Poster session 2 📍 First Floor Foyer (Wandelhalle) Click here for details of Poster Session 2
12:30 - 13:30	Exhibition and lunch break 📍 Ground Floor Foyer
13:30 - 15:30	Special focus session 4: 📍 Lecture Hall Technological innovations Moderators: Ferdinand Knieling and Susi Rauh
13:30 - 14:30	Oral presentations on technological innovations 📍 Lecture Hall
	04.1 Non-invasive MRI monitoring of glycogen accumulation in a mouse model of Pompe disease Nirbhay Yadav, <i>Johns Hopkins University, USA</i>
	04.2 Mapping Lung Function in Late-onset Pompe Disease using Label-free Functional MRI Lina Tan, <i>Kinder- & Jugendklinik, Germany</i>
	04.3 Comprehensive muscle tissue evaluation via whole-body MR Fingerprinting Constantin Slioussarenko, <i>Institute of Myology, France</i>

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O4.4 Assessing isometric muscle strength using shape and fiber orientation models

Salim Bin Ghouth, *NYU Langone Health, USA*

O4.5 Open MRI Pipeline for muscle strain calculation

Marta Brigid Maggioni, *University of Basel, Switzerland*

14:30 - 15:00

Advanced MRI neurography

Christoph Mooshage, *University Hospital Heidelberg, Germany*

15:00 - 15:30

Ultrafast MRI imaging

Nicole Seiberlich, *University of Michigan in Ann Arbor, USA*

15:30 - 16:00

Prize giving and closing of Conference 📍 Lecture Hall

Linda Heskamp, *UMC Utrecht, Netherlands*

Jordi Diaz-Manera, *Newcastle University, UK*

Posters

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Monday, November 10th

11:30 - 12:30 Poster session 1  First Floor Foyer (Wandelhalle)

P1.01 Volume of fasciculation measured on diffusion-weighted MRI correlates with muscle weakness in older adults

Gabrielle Baxter, *NYU Grossman School of Medicine, USA*

P1.02 Intraepineurial fat fraction: A novel MR Neurography-based biomarker in Transthyretin amyloidosis polyneuropathy

David Bendahan, *CRMBM France*

P1.03 Deciphering of skeletal muscle involvement in cystinosis with whole-body muscle MRI

Edouard Berling, *Raymond Poincaré University Hospital, France*

P1.04 Rotator Cuff Using a Fresh Cadaveric Pig Model

David Berry, *University of California, San Diego, USA*

P1.05 From Histology to Simulation: Open-Source Muscle Phantoms for Diffusion MRI Modeling

David Berry, *University of California, San Diego, USA*

P1.06 Pre- and post-skeletal muscle biopsy quantitative magnetic resonance imaging reveals correlations with histopathological findings

Alice De Lorenzo, *BG Universitätsklinikum Bergmannsheil, Germany*

P1.07 Withdrawn

P1.08 MYO-RESO: Quantitative muscle MRI as biomarker of muscle involvement in myotonic dystrophy type I

Sebastian Ariel Figueroa Bonaparte, *Hospital Universitario Germans Trias i Pujol, Spain*

P1.09 Quantitative muscle MRI in inclusion body myositis (IBM): A prospective cohort study

Johannes Forsting, *Bg University Hospital Bergmannsheil, Ruhr-University Bochum, Germany*

P1.10 Evaluation of cell diameter distribution in a cross-sectional cohort and its correlation with muscle force.

Martijn Froeling, *Umc Utrecht, Netherlands*

P1.11 Effect of gradient non-linearity correction on whole leg Diffusion Tensor Imaging

Martijn Froeling, *Umc Utrecht, Netherlands*

P1.12 A Non-invasive Exploration of the Pathophysiology of Chronic Exertional Compartment Syndrome

Madison George, *Stanford University, USA*

P1.13 Muscle diffusion tensor imaging in Late-Onset Pompe Disease

Giulia Guicciardi, *University of Pavia, Italy*

P1.14 Creatine-CEST-based pH mapping in healthy volunteer leg muscles

Valentin Henriët, *Institute of Myology, France*

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P1.15 Determinants of qMRI variation in skeletal muscle: Effects of sex, age and muscle volume

Linda Heskamp, *Umc Utrecht, Netherlands*

P1.16 Whole-body DTI for assessing fasciculation and muscle microstructure in ALS in 10 minutes

Linda Heskamp, *Umc Utrecht, Netherlands*

P1.17 Dynamics not Magnitude of exercise hyperemia correlate with aerobic muscle metabolic performance

Melissa Hooijmans, *Vrije Universiteit, Netherlands*

P1.18 Advancing clinical trials in myotonic dystrophy type 1: refining radiological, clinical and patient-reported outcome measures

Louise Iterbeke, *KU Leuven, Belgium*

P1.19 Quadriceps Fatiguability and Recovery after Exercise Through the Menstrual Cycle

Carly Jones, *Stanford University, USA*

P1.20 Progression of Miyoshi muscular dystrophy in thigh muscles monitored by quantitative MRI

Ivica Just, *Medical University of Vienna, Austria*

P1.21 Tracking Muscle Degeneration and Disease Activity in FSHD Using Qualitative Longitudinal MR Imaging

Teresa Gerhalter, *Medical University of Graz, Austria*

P1.22 Multi-parametric 1H MRI of lower leg muscle in patients with Becker muscular dystrophy

Yvonne Mileder, *Tu Graz, Austria*

P1.23 Baseline quantitative whole-body muscle MRI and functional outcomes from a prospective natural history study in adults with FSHD1

Matthias Opsomer, *KU Leuven, Belgium*

Posters

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Tuesday, November 11th

11:30 - 12:30 Poster session 2 📍 First Floor Foyer (Wandelhalle)

P2.01 Personalized progressive resistance training and towards muscle profiling in patients with neuromuscular diseases

Lisa Pomp, *Umc Utrecht, Netherlands*

P2.02 Associations between MRI muscle structure and tensiomyography contractile parameters in older adults

Katarina Puš, *Science and Research Centre Koper, Slovenia*

P2.03 Investigating the effect of pulse-width in NMES with dynamic MRI in the forearm muscles

Sabine Räuber, *University of Basel, Switzerland*

P2.04 The "muscle toolbox": A multi-center multi-parametric natural history study in children with neuromuscular diseases using a harmonized protocol

Susi Rauh, *Leiden University Medical Center, Netherlands*

P2.05 Deep automatic and interactive segmentation in MRI of pathological skeletal muscles

Louis Rigler, *Institute of Myology, France*

P2.06 MRI quantification of lower body muscle fat fraction is associated with NSAD functional decline in men with Becker muscular dystrophy

Kelly Rock, *University of Florida, USA*

P2.07 Determining the repeatability of the rapid qDESS sequence in the quantification of muscle-water T2 of the upper leg

Gabriel Rossetto, *Newcastle University, UK*

P2.08 Use of a rapid qDESS sequence to measure skeletal muscle T2 during intense exercise compared with MESE and spectroscopy

Gabriel Rossetto, *Newcastle University, UK*

P2.09 MyoQMRI 2.0 - A comprehensive open-source pipeline for quantitative muscle imaging

Francesco Santini, *University of Basel, Switzerland*

P2.10 Quantitative muscle MRI to assess muscle tissue preservation during a 10-Day extended fast: A Single-case pilot study

Lara Schlaffke, *BG Universitätsklinikum Bergmannsheil gGmbH / FH Dortmund, Germany*

P2.11 Agreement between 3D ultrasound and DTI for assessing tibialis anterior muscle architecture - a pilot study

Lara Schlaffke, *BG Universitätsklinikum Bergmannsheil gGmbH / FH Dortmund, Germany*

P2.12 Spatial heterogeneity of strain from dynamic magnetic resonance imaging using automated anatomically relevant partitioning of individual calf muscles

Shantanu Sinha, *University of California San Diego, USA*

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P2.13 Body Mass Index related differences in strains and co-activation in calf muscles using compressed sensing accelerated 4D Flow Magnetic Resonance Imaging

Shantanu Sinha, *University of California San Diego, USA*

P2.14 A simulation framework for dynamic phase-contrast MRI of the muscle

Maaïke Smit, *Leiden University Medical Center (LUMC), Netherlands*

P2.15 Evaluation of quantitative muscle MRI and intelligent phenotyping housing system as advanced and objective phenotyping methods in a mouse model of calpainopathy

Lara Schlaffke, *BG Universitätsklinikum Bergmannsheil gGmbH / FH Dortmund, Germany*

P2.16 Cross-manufacturer comparison of quantitative muscle MRI in healthy volunteers

Johanna Thomä, *BG University Hospital Bergmannsheil Bochum, Germany*

P2.17 Development of a quantitative muscle ultrasound protocol for murine models of neuromuscular disorders

Jeroen van Doorn, *Radboud University Medical Center, Netherlands*

P2.18 Respiratory muscle shear wave elastography to assess respiratory muscle function in congenital myopathies

Jeroen van Doorn, *Radboud University Medical Center, Netherlands*

P2.19 Spatiotemporal relationship between hamstring muscle activation and strain rate during dynamic knee flexion: A combined multi-channel electromyography and 3D time-resolved phase contrast study

Luuk Vos, *Amsterdam Umc, Netherlands*

P2.20 Correlations between muscle fat fraction MRI and instrumented gait assessments in Dysferlinopathy patients

Ian Wilson, *Newcastle University, UK*

P2.21 Blood flow restriction training induced morphology changes in M. quadriceps femoris – a prospective pilot study

Lionel Butry, *BG University Hospital Bergmannsheil Bochum, Germany*

P2.22 Exploring foundation models for multi-class muscle segmentation in neuromuscular disorders: Accuracy and uncertainty in MR Imaging

Domenico Aquino, *Fondazione IRCCS Istituto Neurologico C. Besta, Italy*

P2.23 T1 mapping of the sciatic nerve: A quantitative approach in healthy subjects and CIDP patient

Carlo Asteggiano, *Department of Brain and Behavioural Sciences, University of Pavia Italy*