Programme

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, *UMC Utrecht, Netherlands*
Jordi Diaz-Manera, *Newcastle University, UK*

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, *Radboud University Medical Centre, Netherlands*

14:55 -15:35 Vendor-independent programming to boost imaging use in multicenter studies
Andreia Gaspar, *Universidade de Lisboa, Portugal*

15:35 - 16:15 Tips and tricks for imaging processing
Francesco Santini, *University of Basel, Switzerland*

Ultrasound of muscles and nerves
Lecture Hall
Moderators: Anna Pichiecchion and Ozge Findik Sener

14:15 - 14:35 Brachic plexus and upper limb
Afarine Madani, *Erasme University Hospital, Belgium*

14:35 - 14:55 Lower limb nerves
Marie Faruch, *Toulouse University Hospital, France*

14:55 - 15:15 Advanced ultrasound for muscle
Carlo Martinoli, *University of Genoa, Italy*

15:15 - 15:35 Advanced ultrasound for nerves
Stephan Goedee, *UMC Utrecht, Netherlands*

15:35 - 16:15 Practical demonstration of the Canon ultrasound machine

16:15 - 16:45 Networking break — Ground Floor Foyer

16:45 - 17:30

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, *Justus-Leibig University Giessen, Germany*

17:10 - 17:35 Clinical pathophysiology of neuromuscular disorders: LGMD
Willem de Ridder, *Antwert University Hospital, Belgium*

Exotic contrasts
Lecture Hall
Moderators: Valentina Mazzoli and Madison George

16:45 - 17:10 Biophysical modelling of muscle microstructure
Martijn Froeling, *UMC Utrecht, Netherlands*

17:10 - 17:35 CEST metabolic imaging of muscle
Feliks Kogan, *Stanford University, USA*

17:35 - 18:35 **Keynote lecture 1** — Lecture Hall
Treating NMD's - The future perspective on imaging
Andrew Blamire, *Newcastle University, UK*
Moderators: Linda Heskamp and Jordi Diaz Manera

Programme

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, *Medical University of Graz, Austria*
09:25 - 09:50	Muscle fibrosis imaging with MRI: opportunities and challenges Aurea Bach, *University of Oxford, UK*
09:50 - 10:15	Optoacoustic imaging in muscle imaging Lina Tan, *Kinder-und Jugendklinik, Germany*
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, *Institute of Myology, France* **O1.2** Conventional and in-magnet cardiopulmonary exercise testing of patients with neuromuscular disease to investigate peripheral causes of exercise intolerance Melissa Hooijmans, *Vrije Universiteit Amsterdam, Netherlands* **O1.3** Mapping skeletal muscle mitochondrial oxidative phosphorylation in ehalth and SMA using a novel technique OXCEST MRI Puneet Bagga, *St. Jude Children's Research Hospital, USA* **O1.4** Magnetization transfer imaging in late-onset Pompe disease Michele Giovanni Croce, University of Pavia, Italy
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 Claeys
13:30 - 14:00	MRI as an outcome measure: correlation with function Doris Leung, *Kennedy Krieger Institute, USA*
14:00 - 14:30	MRI in myopathies: diagnosis, follow-up and opportunities for new techniques Fengdan Wang, *Peking Union Medical College Hospital, China*
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, *Newcastle University, UK*

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

Programme

Tuesday, November 11th

08:00	Conference desk opens Ground Floor Foyer
09:00 - 11:00	**Special focus session 1:** Lecture Hall **Whole body imaging** Moderators: Volker Straub and Frank Nab
09:00 - 09:30	Disease monitoring with whole body MR neurography Hans Katzberg, *University of Toronto, Canada*
09:30 - 10:00	Whole body MRI outcome measures in OPMD Jodi Warman, *Ottowa Hospital Research Institute, Canada*
10:00 - 11:00	**Oral presentations on whole body imaging** Lecture Hall
	O3.1 Motor Unit Magnetic Resonance Imaging (MUMRI) as a novel biomarker in Spinal Muscular Atrophy (SMA) Matthew Birkbeck, *Newcastle University, UK* **O3.2** Fasciculations detection in the legs of healthy volunteers using DTI Karleen Oonk, *Umc Utrecht, Netherlands* **O3.3** MRI quantification of upper extremity muscle fat fraction in Dystrophinopathies: implications for mobility status stratification Kelly Rock, *University of Florida, USA* **O3.4** Rethinking diaphragm ultrasound: diaphragm thickening reflects lung volume not contractile effort Jeroen van Doorn, *Radboud University Medical Center, Netherlands* **O3.5** Bilateral analysis of upper limb endpoints in ambulant and non-ambulant Duchenne muscular dystrophy patients Michel Michaëls, *Leiden University Medical Center, Netherlands*
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 2:** Lecture Hall **Technological innovations** Moderators: Ferdinand Knieling and Susi Rauh
13:30 - 14:30	**Oral presentations on technological innovations** Lecture Hall
	O4.1 Non-invasive MRI monitoring of glycogen accumulation in a mouse model of Pompe disease Nirbhay Yadav, *Johns Hopkins University, USA* **O4.2** Mapping Lung Function in Late-onset Pompe Disease using Label-free Functional MRI Lina Tan, *Kinder- & Jugendklinik, Germany* **O4.3** Comprehensive muscle tissue evaluation via whole-body MR Fingerprinting Constantin Slioussarenko, *Institute of Myology, France*

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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

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 Henriet, *Institute of Myology, France*

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P1.15 Determinants of qMRI variation in skeletal muscle: Effects of sex, age and mucle 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 DegeneraP1.21 tion 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

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
Maaike 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 IRRCS Instituto Neurologico C. Besta, Italy*

P2.23 T1 mapping of the sciatic nerve: A quantative approach in healthy subjects and CIDP patient
Carlo Asteggiano, *Department of Brain and Behavioural Sciences, University of Pavia Italy*