International Society for Magnetic Resonance in Medicine • www.ismrm.org

ISMRM Workshop on

# Diffusion MRI: From Research to Clinic



10-14 October 2022 Postillion Hotel & Convention Centre Amsterdam Amsterdam, The Netherlands









# ORGANIZING COMMITTEE

## Chair:

Ivana Drobnjak, Ph.D. University College London London, England, UK

# **Committee Members:**

Maryam Afzali, Ph.D.
Leeds Institute of Cardiovascular
and Metabolic Medicine
Leeds, England, UK

Flavio Dell'Acqua, Ph.D. King's College London London, England, UK

Shawna Farquharson, Ph.D.

Australian National Imaging Facility (NIF)

St. Lucia, QLD, Australia

Els Fieremans, Ph.D. New York University School of Medicine New York, NY, USA

Liana Guerra-Sanches, Ph.D.

Douglas Research Center, McGill University

Montreal, QC, Canada

Andrada Ianus, Ph.D. Champalimaud Centre for the Unknown Lisbon, Portugal Jennifer McNab, Ph.D. Stanford University Stanford, CA, USA

Claire Mulcahy, M.SC.
The Florey Institute of
Neuroscience & Mental Health
Melbourne, VIC, Australia

lleana O. Jelescu, Ph.D. Ecole Polytechnique Fédérale de Lausanne Lausanne, Switzerland

> Kurt Schilling, Ph.D. Vanderbilt University Nashville, TN, USA

Farshid Sepehrband, Ph.D. University of Southern California Keck School Of Medicine Los Angeles, CA, USA

### **Local Organising Committee:**

Alberto De Luca, Ph.D.
University Medical Center Utrecht
Utrecht, The Netherlands

Alexander Leemans, Ph.D., Ph.D.h.c.mult.
University Medical Center Utrecht
Utrecht, The Netherlands

Chantal M.W. Tax, Ph.D.
University Medical Center Utrecht
Utrecht, The Netherlands

### **Advisors:**

Maxime Descoteaux, Ph.D. Université de Sherbrooke Sherbrooke, QC, Canada Christopher P. Hess, M.D., Ph.D. University of California, San Francisco San Francisco, CA, USA

### **OVERVIEW**

This workshop aims to elaborate a common vision for the future of the field and what is needed for its translation to everyday clinical practice. Key topics include the latest methodological developments in hardware and acquisitions, microstructure modelling, and the use of Al. A special attention is also given to novel developments of diffusion MRI outside the brain (prostate, fetal, placental, muscle, and breast, amongst others). The workshop will then focus on bridging the gap between research and clinic and establishing the translational path of the different themes, focusing on better links between experiments and modelling, consolidation of current approaches, and current and potential future integration into the clinical studies and practice.

The workshop will start with an optional educational "bootcamp" day designed for students and researchers new to the field of diffusion MRI. Here the lectures will be targeted and balanced for an audience with both basic science or technical backgrounds, as well as more applied or clinical backgrounds. Attendees will learn the basics of diffusion MRI, sequence design and contrast mechanisms, preprocessing, microstructure measurements and their validation, interpretation, and their clinical and research applications. Introductory lectures on anatomy and basic physiology will also be offered to better present the different areas of application of diffusion MRI. Sessions are divided into themes and each is followed by an expert led discussion spanning both Ph.D. and M.D. leaders in the field to provide both the scientific and clinical insights into the topics. The bootcamp will have an informal, intimate format to enable attendees to interact closely with lecturers, gain practical insights into working in the field of diffusion MRI, and prepare them for the formal workshop program following.

The formal workshop program will feature invited scientific presentations, proffered papers, poster sessions, and panel discussions. It has been carefully structured to be interdisciplinary and to bring together diffusion MRI researchers and clinicians, and it offers CME credits. The workshop is designed to be highly interactive, with regular scheduled breaks between sessions for informal discussions and poster presentations. There will be a balance of focused sessions led by leaders in the field and proffered scientific abstracts. Structured meals, receptions, and our highly popular "poster bars" for discussion and networking are integrated into the structure of the program.

# **TARGET AUDIENCE**

This workshop is designed for researchers (including Ph.D. students and postdocs); clinicians (e.g., neurologists, radiologists, neurosurgeons); MR technologists; government regulatory experts; nonprofit and academic groups interested in early diagnosis and public health; and members of the ISMRM Diffusion MRI and White Matter Study Groups.

The topics we propose are highly relevant for our attendees interested in continuing medical education. They will provide knowledge of new technical and methodological approaches in using diffusion MRI to diagnose and monitor a range of medical conditions, e.g. tissue injury, stroke, neurological conditions, prostate cancer, and cancer in general. Furthermore, they will provide methods for utilizing this knowledge and resources needed for it.

# **EDUCATIONAL OBJECTIVES**

Upon completion of this activity, participants should be able to:

- Review the fundamentals of diffusion acquisition, modelling, analysis and applications;
- Prepare an overview of key recent developments in diffusion MRI: acquisition and processing, tractography and connectivity, microstructure, and hardware advances;
- Describe the development and application of diffusion MRI outside the brain;
- Review the current uses of AI in diffusion MRI;
- Recognize the current limitations in diffusion MRI, both from the standpoint of physical limits and obstacles to clinical translation;
- Develop their own view on the common vision for the future of the diffusion MRI and its translation to everyday clinical practice;
- Explain the translational pathway from research to the clinic including: modelling, experiments, validation, application, and the corresponding links;
- Examine both the established and the more recent developments in diffusion MRI for use in the clinical applications; and
- Discuss setting guidelines on DTI, diffusion MRI processing, small-animal and ex vivo imaging, clinical tractography, IVIM and diffusion outside the brain, and clinical dMRI.

# **SPEAKER UPLOAD INFORMATION** (Audiovisual Preview)

The audio-visual staff will be located in the back of the meeting room.

Uploading presentations is available on a first-come, first-served basis. Hours are:

- Sunday, 09 October 2022: 16:00-18:00
- Tuesday, 11 October 2022: 07:30-08:30
- Wednesday, 12 October to Friday, 14 October 2022: 08:00-09:00

Please see program for additional times (breaks & lunch).

### PROGRAM CREDIT DESIGNATION

The International Society for Magnetic Resonance in Medicine designates this live activity for a maximum of 32.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The International Society for Magnetic Resonance in Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

# **CERTIFICATE OF PARTICIPATION**

To claim your credit or certificate of participation for this workshop, log into the ISMRM membership portal at www.ismrm.org, then click on "My Meeting Evaluations" on the menu, select "View Meeting Evaluation" by the appropriate meeting name, and follow the instructions provided.

## **DECLARATION OF FINANCIAL RELATIONSHIPS**

The ISMRM is committed to:

- 1. Ensuring balance, independence, objectivity, and scientific rigor in all Continuing Medical Education programs; and
- 2. Presenting CME activities that promote improvements or quality in healthcare and are independent of commercial interests.

Therefore, it is the policy of the Society that any person who has influence over the content of a program designated for AMA PRA Category 1 Credits<sup>TM</sup> must disclose any real or apparent financial interest or other relationship (i.e., grants, research support, consulting fee, royalty, honorarium for promotional speakers' bureau, ownership interest) that they or their spouse/partner have had in the last 12 months with "any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients."

The ISMRM does not imply that such financial interests or relationships are inherently improper or that such interests or relationships would prevent the speaker or organizer from making an objective contribution. However, it is imperative that such financial interests or relationships be identified so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed in advance. It then remains for the audience to determine whether an individual's outside interests may reflect a possible bias in either the exposition or the conclusions presented.

Following are the names of all presenters, committee members, and other organizers who had influence upon program content. If individuals have disclosed real or apparent financial interests or relationships, the interests or relationships are described.

# **ORGANIZERS**

ORGANIZERS	
•	No relationships to disclose
·	No relationships to disclose
·	No relationships to disclose
•	No relevant relationships to disclose
•	No relationships to disclose
·	No relationships to disclose
,	No relevant relationships to disclose
Liana Guerra Sanches, Ph.D.	
Christopher P. Hess, M.D., Ph.D	No relationships to disclose
Andrada Ianus, Ph.D	No relationships to disclose
Ileana O. Jelescu, Ph.D	No relationships to disclose
	No relationships to disclose
JennferMcNab, Ph.D	Grant/Research Support, Use of Equipment: General Electric
Claire Mulcahy, M.Sc	No relationships to disclose
Kurt Schilling, Ph.D	No relationships to disclose
Farshid Seperhrband, Ph.D	No relationships to disclose
Chantal M.W. Tax, Ph.D	No relationships to disclose
MODERATORS	
Manisha Aggarwal, Ph.D	No relationships to disclose
	No relevant relationships to disclose
	No relationships to disclose
	No relationships to disclose
	No relationships to disclose
•	No relationships to disclose
	No relationships to disclose
<u> </u>	No relationships to disclose
•	No relationships to disclose
	No relevant relationships to disclose
	No relationships to disclose
•	
Shawna Farquharson, Ph.D	
,	No relationships to disclose
•	
<u> </u>	No relevant relationships to disclose
<u> </u>	No relevant relationships to disclose
	No relationships to disclose
	No relationships to disclose
•	No relationships to disclose
•	
	No relationships to disclose
·	Grant/Research Support, Use of Equipment: General Electric
	No relationships to disclose
•	
·	No relationships to disclose
•	· · · · · · · · · · · · · · · · · · ·
Anastasia Yendiki, Ph.D	No relationships to disclose

# **SPEAKERS**

SPEAKERS	
Manisha Aggarwal, Ph.D	No relationships to disclose
Francesca Bagnato, M.D., Ph.D	No relationships to disclose
David Berry, Ph.D	No relationships to disclose
Flavio Dell'Acqua, Ph.D	No relationships to disclose
Thijs Dhollander, Ph.D	No relationships to disclose
Ivana Drobnjak, Ph.D	·
Thomas K.F. Foo, Ph.D	Employment, Pension: General Electric
Martijn Froeling, Ph.D	No relationships to disclose
Oliver J. Gurney-Champion, Ph.D	No relevant relationships to disclose
Amy Howard, Ph.D.	No relevant relationships to disclose
Susie Yi Huang, M.D., Ph.D	No relevant relationships to disclose
Jana Hutter, Ph.D	No relevant relationships to disclose
Mami lima, M.D., Ph.D	No relevant relationships to disclose
Ben Jeurissen, Ph.D	No relevant relationships to disclose
Kouhei Kamiya, M.D., Ph.D	No relevant relationships to disclose
Eddie W. Lau, M.B.B.S.,FRANZCR	No relationships to disclose
Hong-Hsi Lee, M.D., Ph.D	No relevant relationships to disclose
Pratik Mukherjee, M.D., Ph.D	No relevant relationships to disclose
Peter Neher, Ph.D	No relationships to disclose
Markus Nilsson, Ph.D.	Ownership Interest: Random Walk Imaging
Marco Palombo, Ph.D	No relationships to disclose
Eleftheria Panagiotaki, Ph.D	No relationships to disclose
Francois Rheault, M.Sc	No relationships to disclose
Simona Schiavi, Ph.D	No relationships to disclose
Robert E. Smith, Ph.D	No relevant relationships to disclose
Filip A. Szczepankiewicz, Ph.D	No relevant relationships to disclose
Chantal M.W. Tax, Ph.D	No relationships to disclose
Peter Van Zijl, M.D., Ph.D	Grant/Research Support: Philips
Jelle Veraart, Ph.D	No relevant relationships to disclose
Bertram J. Wilm, Ph.D	No relevant relationships to disclose
Dan Wu, Ph.D	No relationships to disclose
Joseph (Yuan-Mou) Yang, M.D., Ph.D	No relationships to disclose
Anastasia Yendiki, Ph.D	
ISMRM STAFF	
Rhiannon Pinson	No relationships to disclose
Melissa Simcox	No relationships to disclose



# **ISMRM & ISMRT** ANNUAL MEETING & EXHIBITION

03-08 JUNE **2023** TORONTO

ABSTRACT DEADLINE: 09 NOVEMBER 2022



# Setup: Sunday, 09 October 2022

16:00 Badge Pickup & Speaker Upload Available

Day 1: Monday, 10 October 2022 Optional Boot Camp			
07:00			
07.00	Boot Camp Session 1: Foundations 1		
	Moderators: Jennifer Campbell, Ph.D. & Valerij G. Ki.	selev, Ph.D.	
08:15	An Overview of Diffusion & Its Measurement with Magnetic Resonance	Chantal Tax, Ph.D. University Medical Center Utrecht Utrecht University	
08:45	Neuroanatomy in Practice: Learning from a Neurosurgical Perspective	Joseph (Yuan-Mou) Yang, M.D., Ph.D. Royal Children's Hospital Parkville, VIC, Australia	
09:15	Expert-Initiated Discussion: Current Challenges, What We Do/Don't Measure, Common Mistakes, What We Are Still Pursuing	Jennifer Campbell, Ph.D. Valerij G. Kiselev, Ph.D.	
10:00	Break & Speaker Upload Available		
	<b>Boot Camp Session 2:</b> Foundations 2		
	Moderators: Claudia A. Gandini Wheeler-Kingshott, Ph.D. & Carl	o Pierpaoli, M.D., Ph.D.	
10:30	Sequence Design & Contrast Mechansims	Filip A. Szczepankiewicz, Ph.D. Lund University Lund, Sweden	
11:00	Acquistion Approaches: From Basic to Advanced	Ben Jeurissen, Ph.D. University of Antwerp Antwerp, Belgium	
11:30	Expert-Initiated Discussion: Current Challenges & Controversies	Claudia A. Gandini Wheeler-Kingshott, Ph.D. Carlo Pierpaoli, M.D., Ph.D.	
12:15	Lunch & Speaker Upload Available		
	Boot Camp Session 3: Analysis & Applicatio	ns 1	
	Moderators: Dara M. Cannon, Ph.D. & Maxime Desco	teaux, Ph.D.	
13:45	Pre-Processing: Pipelines & Pitfalls	Martijn Froeling, Ph.D. Utrecht University Utrecht, The Netherlands	
14:15	Qualitative Applications of DWI Data	Thijs Dhollander, Ph.D. Murdoch Children's Research Institute Royal Children's Hospital Parkville, VIC, Australia	
14:45	Expert-Initiated Discussion: Current Challenges & Controversies in Clinical & Neuroscientific Applications (Stroke, Tractography, Etc.)	Dara M. Cannon, Ph.D. Maxime Descoteaux, Ph.D.	
15:30	15:30 Speaker Upload Available		
Boot Camp Session 4: Analysis & Applications 2			
	Moderators: Tim B. Dyrby, Ph.D. & Els Fieremans	s, Ph.D.	
16:00	Why We Need Quantitative Measures of Microstructure	Kouhei Kamiya, M.D., Ph.D. University of Tokyo Tokyo, Japan	

16:30	Overview of Quantitative Approaches & Applications	Robert E. Smith, Ph.D. Florey Institute of Neuroscience & Mental Health Heidelberg, VIC, Australia
17:00	Expert-Initiated Discussion: Current Challenges & Controversies in Microstructure & Connectivity Measures	Tim B. Dyrby, Ph.D. Els Fieremans, Ph.D.
18:00	Adjournment Power Pitch Upload, Update, Review	

Day 2: Tuesday, 11 October 2022		
07:30	Badge Pickup & Speaker Upload Available	
	Session 1: Introduction	
	Moderators: Ivana Drobnjak, Ph.D.	
08:30	Welcome	Ivana Drobnjak, Ph.D. Workshop Organizers
08:45	Keynote: DWI From Research to Clinic	Pratik Mukherjee, M.D., Ph.D. San Francisco Veterans Affairs Medical Center San Francisco, CA, USA
	Session 2: Acquisition & Processing	
	Moderators: Sune N. Jespersen, Ph.D. & Rita G. Nu	nes, D.Phil.
09:30	Beyond Single Diffusion Encoding: Application in Clinical Science	Markus Nilsson, Ph.D. Lund University Lund, Sweden
10:00	Imaging Moving Structures: Fetal & Placental Imaging	Jana Hutter, Ph.D. King's College London London, England, UK
10:30	Badge Pickup & Speaker Upload Available	
11:00	A Data-Driven Variabiilty Assessment of Brain Diffusion MRI Preprocessing Pipelines	Jelle Veraart, Ph.D. New York University Langone Medical Center New York, NY, USA
	Proffered Papers - Oral Session	
11:30	mrHARDIflow: A Reproducible Pipeline for Robust Preprocessing & Analysis of Non-Human Primates Diffusion MRI	Alex Valcourt Caron, M.Sc. Université de Sherbrooke Sherbrooke, QC, Canada
11:40	Elimination of Distortion & Slice Aliasing in 3D Diffusion MRI by Integrating Multiple Sampling Strategies into Reconstruction	Ziyu Li, B.Sc. University of Oxford Oxford, England, UK
11:50	Segmented Spiral Diffusion Acquisitions Using Motion Compensated Diffusion Encoding & High Performance Gradients	Eric Michael, M.Sc. Eidgenössische Technische Hochschule (ETH) Zurich, Switzerland
12:00	Expert-Led Panel Discussion	Sune N. Jespersen, Ph.D. Rita G. Nunes, D.Phil.
12:45	Lunch & Speaker Upload Available	

	Session 3: Tractography & Connectivity		
	Moderators: Adam Anderson, Ph.D. & Jacques-Donald Tournier, Ph.D.		
13:45	Challenges & Hidden Pitfalls of Tractography Today	Francois Rheault, M.Sc. Université de Sherbrooke Sherbrooke, QC, Canada	
14:15	Connectional Anatomy Across Scales: Linking Diffusion MRI to Microscopy	Anastasia Yendiki, Ph.D. Athinoula A. Martinos Center for Biomedical Imaging Charlestown, MA, USA	
14:45	Multimodal Integration for Global Tractography	Simona Schiavi, Ph.D. University of Genoa Genoa, Italy	
	Proffered Papers - Oral Session		
15:15	Hierarchical Modelling of Crossing Fibres in the White Matter	Hossein Rafipoor, Ph.D. Student University of Oxford Oxford, England, UK	
15:25	Walking in the Dark: Spherical Deconvolution Methods in Cortical Gray Matter	Andrey Zhylka, M.Sc. Eindhoven University of Technology Eindhoven, The Netherlands	
15:35	Reducing Redundancy in Tractography Using Blurred Streamlines	Ilaria Gabusi, M.Sc. University of Verona Verona, Italy	
16:00	Senior Expert-Led Panel Discussion	Adam Anderson, Ph.D. Jacques-Donald Tournier, Ph.D.	
16:30			
	Session 4: Power Pitches, Poster & Consensus Sessions (N	lo CME Available)	
	Moderators: Santiago Coelho, Ph.D. & Flavio Dell'A	cqua, Ph.D.	
17:00	7:00 Supporter Presentation (No CME Available)		
17:10	7:10 Power Pitch Session (No CME Available)		
18:10	18:10 Poster Vieweing Session (No CME Available) Appetizers		
19:00	Networking Dinner (until 20:30)		
20:30	Optional Round-Table Discussion on Consensus Paper (No CME Available) DW Image Processing	Facilitator: Jelle Veraart, Ph.D.	
21:30	Adjournment		

Day	Day 3: Wednesday, 12 October 2022	
08:00	Badge Pickup & Speaker Upload Available	
	Session 5: Microstructure of the Brain & Validation	
Moderators: Dmitry S. Novikov, Ph.D. & Carl-Fredrik Westin, Ph.D.		
09:00	Compartmental Modeling in Brain White Matter: Standard Model	Amy Howard, Ph.D. University of Oxford Oxford, England, UK
09:30	Beyond Standard Model/Time-Dependent Diffusion in Brain	Hong-Hsi Lee, M.D. New York University School of Medicine New York, NY, USA

10.00		
10:00	Gray Matter: Modeling & Validation	Marco Palombo, Ph.D. Cardiff University Cardiff, Wales, UK
10:30		
11:00	Brain Microstructure Imaging: Applications & Validation	Manisha Aggarwal, Ph.D. John Hopkins School of Medicine Baltimore, MD, USA
	Proffered Papers - Oral Session	
11:30	Comparison of Diffusion MRI White Matter Models with Microstructure Metrics Derived From 3D Electron Microscopy	Ricardo Coronado Leija, Ph.D. New York University Grossman School of Medicine New York, NY, USA
11:40	Optimizing the NEXI Acquisition Protocol for Human Gray Matter Microstructure Mapping on a Clinical MRI Scanner Using Explainable AI	Quentin Uhl, M.Sc. Lausanne University Hospital (CHUV) Lausanne, Switzerland
11:50	Correlation Tensor MRI Unravels Dynamic Alterations in Underlying Kurtosis Sources Along Stroke Progression	Rita Alves, M.Sc. Champalimaud Foundation Lisbon, Portugal
12:00	Expert-Led Panel Discussion	Dmitry S. Novikov, Ph.D. Carl-Fredrik Westin, Ph.D.
12:45	Lunch & Speaker Upload Available	
	Session 6: Microstructure Body & Cancer	
	Moderators: Christian Beaulieu, Ph.D. & Denis Le Bihar	n, M.D., Ph.D.
13:45	Applications for Prostate Cancer Imaging	Eleftheria Panagiotaki, Ph.D. University College London London, England, UK
14:15	Muscle Microstructure	David Berry, Ph.D. University of California, San Diego La Jolla, CA, USA
14:45	IVIM & Non-Gaussian Diffusion: Applications to Breast Tissue & Cancer	Mami Iima, M.D., Ph.D. Kyoto University Graduate School of Medicine Kyoto, Japan
	Proffered Papers - Oral Session	
15:15	Disentangling Intracellular & Extracellular Contributions to Apparent Diffusion Coefficients in Bone Metastases Using Histology	Alonso Garcia-Ruiz, M.Sc. Vall d'Hebron Institute of Oncology Barcelona, Spain
15:25	300 mT/M Diffusion MRI Beyond the Brain: Probing Restricted Diffusion in Prostate Cancer	Malwina Molendowska, M.Sc. Cardiff University Brain Research Imaging Centre (CUBRIC) Cardiff, Wales, UK
15:35	Decoding Liver Intra-Tumour Heterogeneity with Co-localized CT & Multi- Parametric MRI	Olivia Prior Palmonares, M.Sc. Vall d'Hebron Institute of Oncology Barcelona, Spain
15:45	Expert-Led Panel Discussion	Christian Beaulieu, Ph.D. Denis Le Bihan, M.D., Ph.D.
16:30	Break & speaker upload available	

# ISMRM RESEARCH & EDUCATION FUND



The ISMRM Research & Education Fund

was established to support the next generation of specialists in the field of magnetic resonance regardless of scientific disclipline, geography, country of origin and resources available.

# **DONATE TODAY**

and help us continue to

# CULTIVATE THE MR LEADERS OF TOMORROW

# MEET OUR STIPEND RECIPIENTS — THE NEXT GENERATION OF MR SPECIALISTS — AT TODAY'S WORKSHOP!

Rita Alves, M.Sc.

Palkin Arora, M.Sc.

Ruicheng Ba, B.Sc.

Jenny Chen, M.Sc.

Andrea De Simone, M.D. Student

Ilaria Gabusi, M.Sc.

Alonso Garcia-Ruiz, M.Sc.

Remy Gardier, M.Sc.

Trinidad González Padin, B.Sc.

Haotian Li, B.Sc.

Ziyu Li, B.Sc.

Meghan Maiani, M. Sc., Ph.D. Student

Alfredo Ordinola, M.Sc.

Álvaro Planchuelo-Gómez, Ph.D.

Naila Rahman, B.Sc.

Ricardo Rios-Carrillo, M.Sc.

Alex Valcourt Caron, M.Sc.

Mi Zhou, B.Sc.

	Session 7: Power Pitches, Poster & Consensus Sessions (No CME Available)		
	Moderators: Alberto De Luca, Ph.D. & Ileana O. Jelescu, Ph.D.		
17:00	Power Pitch Session (No CME Available)		
18:00	Poster Vieweing Session (No CME Available) Drinks		
19:00	Dinner on own		
20:30	Optional Parallel Round-Table Discussions on Consensus Papers (No CME Available)		
	Recommendations & Guidelines for Small Animal & Ex Vivo Diffusion Imaging	Facilitators: Ileana O. Jelescu, Ph.D. & Kurt Schilling, Ph.D.	
	Clinical Diffusion Tractography	Facilitator: Flavio Dell'Acqua, Ph.D.	
21:30	Adjournment		

Day 4: Thursday, 13 October 2022		
08:00	Badge Pickup & Speaker Upload Available	
	Session 8: From Research to the Clinic	
	Moderators: Shawna Farquharson, Ph.D. & Susie Yi Hua	ng, M.D., Ph.D.
09:00	Imaging Cancer in the Body: What I Have & What I Want	Eddie W. Lau, M.B.B.S.,FRANZCR Austin Hospital Heidelberg, VIC, Australia
09:30	Understanding Disease Progression in MS: What I Have & What I Want	Francesca Bagnato, M.D., Ph.D. Vanderbilt University Medical Center Nashville, TN, USA
10:00	Presurgical Planning & Intraoperative Neuronavigation in Neurosurgery: What I Have & What I Want	Joseph (Yuan-Mou) Yang, M.D., Ph.D. Royal Children's Hospital Parkville, VIC, Australia
10:30	QDWI - The Neuroradiologist's Perspective: Survey Results	Carlo Pierpaoli, M.D., Ph.D. National Institutes of Health Bethesda, MD, USA
10:45	Break & Speaker Upload Available	
	Proffered Papers - Oral Session	
11:15	Linking Disability & White Matter Microstructure in Multiple Sclerosis	Valentin Stepanov, M.D. New York University Grossman School of Medicine New York, NY, USA
11:25	Structural Connectivity of Visual Pathways in Children with Perinatal Stroke	Meghan Maiani, M.Sc., Ph.D. Student University of Calgary Calgary, AB, Canada
11:35	Multi-Site Normative Modeling of Diffusion MRI Metrics in Carriers of 16p11.2 Copy Number Variants	Julio Villalon-Reina, M.D, Ph.D. University of Southern California Los Angeles, CA, USA
11:45	Expert-Led Panel Discussion	Shawna Farquharson, Ph.D. Susie Yi Huang, M.D., Ph.D.
12:30	Lunch & Speaker Upload Available	

	Session 9: Hardware Advances		
	Moderators: Gigi Galiana, Ph.D. & Noam Shemesh, Ph.D.		
13:30	Research Applications Using High Performance Gradients for Whole Body Scanners	Peter Van Zijl John Hopkins University Baltimore, MD, USA	
14:00	Clinical Applications on the Connectome	Susie Yi Huang, M.D., Ph.D. Massachusetts General Hospital Boston, MA, USA	
14:30	Magnus High Performance Gradients & Head-Only Scanners	Thomas K.F. Foo, Ph.D. GE Global Research Niskayuna, NY, USA	
15:00	Dynamic Field Monitoring & Applications to Diffusion Imaging	Bertram J. Wilm, Ph.D. Skope Magnetic Resonance Technologies Zürich, Switzerland	
15:30	Break & Speaker Upload Available		
	Proffered Papers - Oral Session		
15:50	Prostate Nonlinear Gradient Coil Field & Eddy Current Characterization	Nahla Elsaid, Ph.D. Yale University New Haven, CT, USA	
16:00	Measuring Time-Dependent Diffusion Kurtosis in Human Gray Matter Using a High-Performance Head-Only Gradient System at 3T	Erpeng Dai, Ph.D. Stanford University Stanford, CA, USA	
16:10	Expert-Led Panel Discussion	Gigi Galiana, Ph.D. Noam Shemesh, Ph.D.	
16:55	Break & Speaker Upload Available		
	Session 10: Power Pitches, Poster & Consensus Sessions (I	No CME Available)	
	Moderators: Kurt Schilling, Ph.D. & Chantal M.W.	Tax, Ph.D.	
17:00	Power Pitch Session (No CME Available)		
18:00	Poster Vieweing Session <i>(No CME Available)</i> Drinks & appetizers		
20:30	Optional Parallel Round-Table Discussions on Consensus	Papers (No CME Available)	
	Best Practices for Quantitative Diffusion MRI in Clinical & Neuroscience Research	Facilitators: Shawna Farquharson, Ph.D. & Carlo Pierpaoli, M.D., Ph.D.	
21:30	Adjournment		

Day	Day 5: Friday, 14 October 2022	
08:00	Break & Speaker Upload Available	
	Session 11: Al & Big Data	
Moderators: Daniel C. Alexander, Ph.D. & Kurt Schilling, Ph.D.		
09:00	Machine Learning for Diffusion MRI Data Analysis	Oliver J. Gurney-Champion, Ph.D. Amsterdam University Medical Center Amsterdam, The Netherlands
09:30	Deep Learning for Tractography & Connectivity Mapping	Peter Neher, Ph.D. German Cancer Research Center Heidelberg, Germany

Proffered Papers - Oral Session		
10:00	You Only Autoencode Once	Jon Haitz Legarreta, M.Sc. Université de Sherbrooke Sherbrooke, QC, Canada
10:10	Differentiation of White Matter Histopathology Using B-Tensor Encoding & Machine Learning	Ricardo Rios-Carrillo, M.Sc. Universidad Nacional Autónoma de México Guanajuato, Mexico
10:20	Diffusion MRI tractometry Findings in Dystonia: A UK Biobank Study	Claire MacIver, M.Sc., MBBCh Cardiff University Cardiff, Wales, UK
10:30	Expert-Led Panel Discussion	Daniel C. Alexander, Ph.D. & Kurt Schilling, Ph.D.
11:15	Break	
	Session 12: Future Directions	
Moderators: Ivana Drobnjak, Ph.D.		
11:45	Panel Discussion: Strategic Directions	T.B.A.
12:45	Workshop Recap, Reflections & Awards	T.B.A.
13:30	Farewells	

# Take the 5-minute on-site survey!

See the registration desk for questions. This survey is not for CME credits.

# **FOLLOW THE CONVERSATION:**



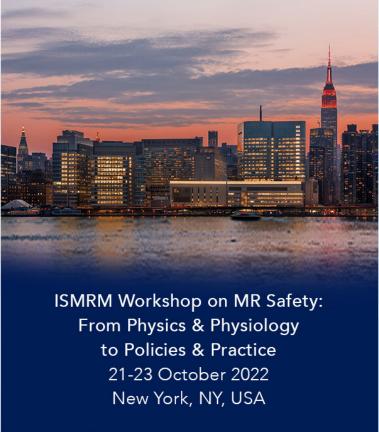




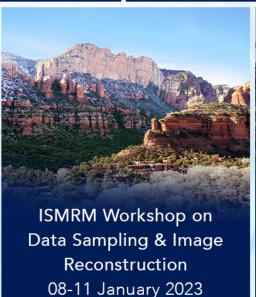


# Upcoming ISMRM Workshops











\*Dates and locations subject to change.

Sedona, AZ, USA

Visit www.ismrm.org for more information.

POSTER	TITLE	AUTHOR
1	MP-PCA Denoising of Complex-Valued Diffusion MRI at High Resolution for Visualization of Midbrain & Thalamic Tracts	Benjamin Ades-Aron, Ph.D. New York University Grossman School of Medicine Brooklyn, NY, USA
2	Diffusion-Weighted Half Fourier Acquisition Single Shot Turbo Spin Echo (HASTE) Imaging with Improved Sensitivity	Aidin Arbabi, Ph.D. Radboud University Nijmegen, The Netherlands
3	Age Associations of Diffusion MRI Depend on the Image Preprocessing Pipeline: A Comparison	Jenny Chen, M.Sc. New York University School of Medicine New York, NY, USA
4	Abandon All Shells: Rotational Invariants from Non-Rotationally-Invariant Acquisitions	Santiago Coelho, Ph.D.  New York University Grossman School of  Medicine  New York, NY, USA
5	Multiband T-Hex Spiral dMRI	Maria Engel, Ph.D. Cardiff University Cardiff, Wales, UK
6	Towards Reconstruction of White Matter Fiber Bundles Infiltrated by Peritumoral Edema	Patryk Filipiak, Ph.D. New York University Langone Health New York, NY, USA
7	Histogram-Metrics Extracted from Skeletonized DTI/DKI Parameters: Impact of Different Subsampling Strategies	Ana Fouto, M.Sc. Instituto Superior Técnico, Universidade de Lisboa Lisbon, Portugal
8	Enhancing Liver Diffusion Images with Post-Processing	Tobit Führes, M.Sc. Friedrich-Alexander-Universität Erlangen, Germany
9	Joint 3 Tesla IVIM-DKI Model for Prostate MRI-Guided Radiotherapy	Trinidad González Padin, B.Sc. Fundación Escuela Medicina Nuclear Medoza, Argentina
10	Comparing Signal Models for Correcting Diffusion-Weighted MR Images for Free-Water Partial Volume Effects	Irene Guadilla, Ph.D. Instituto Superior Técnico, Universidad de Lisboa Lisbon, Portugal
11	Fourier Transform Temporal Diffusion Spectroscopy	Franciszek Hennel, Ph.D. Eidgenössische Technische Hochschule (ETH) Zürich Zürich, Switzerland
12	ADC Precision & Geometric Distortion of Diffusion TSE & EPI Sequences with Different Fat Suppression Techniques on a 1.5T MR-Linac	Prashant Nair, M. Sc. The Institute of Cancer Research & The Royal Marsden National Health Service Foundation Trust London, England, UK
13	Development of DWI for Moving Targets	Robin Navest, Ph.D. The Netherlands Cancer Institute Amsterdam, The Netherlands
14	Measurement of the Apparent Diffusion Propagator	Alfredo Ordinola, M.Sc. Linköping University Linköping, Sweden
15	Characterizing Structure & Diffusion Exchange: Comparing Subsampling Strategies	Alfredo Ordinola, M.Sc. Linköping University Linköping, Sweden
16	HYDI-DSI: Efficient Estimation of the Generalised Cross Validation Regularisation Term from Several Diffusion Parameters	Guillem Paris, M.Sc. Universidad de Valladolid Barcelona, Spain

POSTER	TITLE	AUTHOR
17	Generating Realistic Vascular Meshes for Monte Carlo Simulations of Pseudo-Diffusivity	Elizabeth Powell, Ph.D. University College London London, England, UK
18	Accuracy & Test-Retest Reliability of Compressed Sensing Diffusion Spectrum Imaging	Hamsanandini Radhakrishnan, Ph.D. University of Pennsylvania Philadelphia, PA, USA
19	Investigating Over & Under Estimation of Fractional Anisotropy Using Monte Carlo Uncertainty Propagation	Agnieszka Sierhej, M.Sc. University College London London, England, UK
20	Multi-Scanner Reproducibility of Tri-Exponential IVIM Quantification in the Liver Using Pseudo-Diffusion & Physical IVIM Signal Models	Gregory Simchick, Ph.D. University of Wisconsin-Madison Madison, WI, USA
21	Extending the Brain Imaging Data Structure (BIDS) Specification to Diffusion Models & Their Derivatives	Robert Smith, Ph.D. The Florey Institute of Neuroscience & Mental Health Heidelberg, VIC, Australia
22	Fast Consensus Optimization in Diffusion MRI Modeling	Samuel St-Jean, Ph.D. Lund University Lund, Sweden
23	Elimination of Distortion & Slice Aliasing in 3D Diffusion MRI by Integrating Multiple Sampling Strategies Into Reconstruction	Ziyu Li, B.Sc. University of Oxford Oxford, England, UK
24	Segmented Spiral Diffusion Acquisitions Using Motion-Compensated Diffusion Encoding & High-Performance Gradients	Eric Michael, M.Sc. Institute for Biomedical Engineering Zurich, Switzerland
25	mrHARDIflow: A Reproducible Pipeline for Robust Preprocessing & Analysis of Non-Human Primates Diffusion MRI	Alex Valcourt Caron, M.Sc. Université de Sherbrooke Sherbrooke, QC, Canada
26	Towards a More Reliable Characterization of Myelin-Weighted Structural Connectivity	Sara Bosticardo, M.Sc. University of Verona Verona, Italy
27	Visualization of Superficial Association Fiber Tractography	Maxime Chamberland, Ph.D.  Donders Institute for Brain, Cognition, & Behavior Nijmegen, The Netherlands
28	Visualizing Fiber ODFs Glyphs Beyond the Plane	Maxime Chamberland, Ph.D.  Donders Institute for Brain, Cognition, & Behavior Nijmegen, The Netherlands
29	An Analysis of Diffusion MRI Tractography Endpoints in the Marmoset Hippocampus	Bradley Karat, B.Sc. Western University London, ON, Canada
30	Tracking Through the Wall: 3D Shape Based Tractography Seeding Strategy Enables Efficient Reconstruction of Subcortical Gray Matter Connectivity	Graham Little, Ph.D. Sherbrooke University Sherbrooke, QC, Canada
31	Average Fiber Trajectories (FiT) Within Voxels: Extracting Novel Measures from Short-Tracks Tractograms	Charles Poirier, B.Sc. Université de Sherbrooke Sherbrooke, QC, Canada
32	Update of the ISMRM 2015 Tractography Challenge: Curated Data & Enhanced Tractometer Scoring System	Emmanuelle Renauld, M.Sc. University of Sherbrooke Sherbrooke, QC, Canada
33	An Automated Processing Pipeline to Simultaneously Perform Probabilistic Tractography of Several Cranial Nerves	Giovanni Sighinolfi , M.Sc. University of Bologna Bologna, Italy

POSTER	TITLE	AUTHOR
34	Incorporating Anatomical Priors into Track-to-Learn	Antoine Theberge, M.Sc. Université de Sherbrooke Sherbrooke, QC, Canada
35	Stability of Various White Matter Tract Segmentation Methods with Decreasing Image Quality	Fiona Young, M.Res University College London London, England, UK
36	Reducing Redundancy in Tractography Using Blurred Streamlines	Ilaria Gabusi, M.Sc. University of Verona Verona, Italy
37	Hierarchical Modelling of Crossing Fibres in the White Matter	Hossein Rafipoor, Ph.D. Student University of Oxford Oxford, England, UK
38	Walking in the Dark: Spherical Deconvolution Methods in Cortical Gray Matter	Andrey Zhylka, M.Sc. Eindhoven University of Technology Eindhoven, The Netherlands
39	Reconstructing a Four-Dimensional Diffusion Magnetic Resonance Imaging Atlas of the Fetal Brain	Ruike Chen, Ph.D. Candidate Zhejiang University Hangzhou, China
40	Compartmentalized Model of Permeable Cell Tissue for Microstructure Estimation from DW-MRI Signals	Remy Gardier, M.Sc. Ecole Polytechnique Fédérale de Lausanne Lausanne, Switzerland
41	Disentangling Intracellular & Extracellular Contributions to Apparent Diffusion Coefficients in Bone Metastases Using Histology	Alonso Garcia-Ruiz, M.Sc. Vall d'Hebron Institute of Oncology Barcelona, Italy
42	300 mT/M Diffusion MRI Beyond the Brain: Probing Restricted Diffusion in Prostate Cancer	Malwina Molendowska, M.Sc. Cardiff University Brain Research Imaging Centre (CUBRIC) Cardiff, Wales, UK
43	Decoding Liver Intra-Tumour Heterogeneity With Co-Localized CT & Multi- parametric MRI	Olivia Prior Palmonares, M.Sc. Vall d'Hebron Institute of Oncology Barcelona, Spain
44	Characterization of Myelinated & Unmyelinated Axons in White Matter from Diffusion MRI Perspective	Ali Abdollahzadeh, Ph.D. New York University School of Medicine New York, NY, USA
45	The Effect of a Novel AQP4 Facilitator, TGN-073, on Glymphatic Transport Captured by Diffusion MRI & DCE-MRI	Alaa Alghanimy, Ph.D. Student University of Glasgow Glasgow, Scotland, UK
46	Abstract withdrawn by author	
47	Tensor-Valued Diffusion Encoding & Myelin Water Imaging Metrics Reveal Distinct Patterns Between & Within Brain Regions	Sharada Balaji, B.Sc. University of British Columbia Vancouver, BC, Canada
48	Detecting White-Matter Changes Due to Severe COVID-19 Infection With Tensor-Encoded Diffusion MRI: A Pilot Study	Deneb Boito, M.Sc. Linköping University Linköping, Sweden
49	Characterizing Non-Gaussian Diffusion & Kurtosis in Liposomal Tissue Mimics	Emily Buchanan University of Texas Southwestern Medical Center Dallas, TX, USA
50	Revealing Signatures of Demyelination & Axonal Loss in White Matter Extra Axonal Space Using Time Dependent Diffusion	Ricardo Coronado Leija, Ph.D New York University Grossman School of Medicine New York, NY, USA

POSTER	TITLE	AUTHOR
51	Time Dependent Diffusion & Kurtosis of Human Brain Metabolites Using DW-MR Spectroscopy on the Connectom	André Döring, Ph.D. Cardiff University Brain Research Imaging Centre (CUBRIC) Cardiff, Wales, UK
52	Impact of Local White Matter Complexity on the Reliability of Longitudinal Diffusion & Myelin-Specific MRI Measures	Manon Edde, Ph.D. Univversité de Sherbrooke Sherbrooke, QC, Canada
53	Structural Alterations of the Dentato-Rubro-Thalamo-Cortical Tract in Spinocerebellar Ataxia Type 3	Mónica Ferreira, M.Sc. Deutsches Zentrum für Neurodegenerative Erkrankungen (DZNE) Göttingen, Germany
54	Multi-TE SANDI: Distinguishing Between Compartmental T2 Relaxation Times in the Grey Matter	Ting Gong, Ph.D. University College London London, England, UK
55	Correlation Tensor Imaging Reveals Histologic Differences Between Mouse Glioblastoma Subtypes	Rafael Henriques, Ph.D. Champalimaud Foundation Lisbon, Portugal
56	Real-Time Rendering of Massive Multi-Tensor Fields Using Modern OpenGL	Erick Hernandez-Gutierrez, M.Sc. Université de Sherbrooke Sherbrooke, QC, Canada
57	Diffusion Simulations in Human Brain White Matter From 3D EM Evaluate the Applicability of Axon Diameter Mapping	Hong Hsi-Lee, M.D., Ph.D. Massachusetts General Hospital Charlestown, MA, USA
58	Localization Regime of Diffusion (LoRD) in Mouse Cortical Gray Matter & Its Sensitivity to Soma Size	Hong Hsi-Lee, M.D., Ph.D. Massachusetts General Hospital Charlestown, MA, USA
59	Influence of Saturation Effects on Biexponential Liver Intravoxel Incoherent Motion	Martin Loh, M.Sc. University Hospital Erlangen Erlangen, Germany
60	Early Life Adversity in Mice Alters Structural Connectivity Within the Cingulum	Andre Obenaus, Ph.D. University of California, Irvine Irvine, CA, USA
61	Measuring Compartmental T2 & T2* Orientation Dependence in White Matter.	Veronica Pinuccia Dell'Acqua, M.Sc. Cardiff University Brain Research Imaging Centre (CUBRIC) Cardiff, Wales, UK
62	Can We Neglect the Axonal Radial Diffusivity?	Marco Pizzolato, Ph.D. Technical University of Denmark Lyngby, Denmark
63	Extra-Axonal Compartment: Ball or Zeppelin?	Marco Pizzolato, Ph.D. Technical University of Denmark Lyngby, Denmark
64	Inversion Free Identification of Microstructural Changes	Hossein Rafipoor, Ph.D. Student University of Oxford Oxford, England, UK
65	An Open-Source In-Vivo Rodent Microstructural MRI Dataset & Analysis Pipeline	Naila Rahman, B.Sc. Western University London, ON, Canada
66	Incorporating Orientation-Dependent Susceptibility Effects in the Standard Model of Diffusion in White Matter	Anders Sandgaard, M.Sc. Aarhus University Aarhus, Denmark

POSTER	TITLE	AUTHOR
67	Investigating Microstructure Changes Between In-Vivo & Ex-Vivo Marmoset Brains Using Advanced Diffusion MRI at 9.4T & Monte Carlo Simulations	Tales Santini, Ph.D. Western University London, ON, Canada
68	Comparing the Performances of Sequential & Simultaneous Fitting of DW-MRS Data for Various Diffusion Representations & Models	Kadir Şimşek, Ph.D. Cardiff University Cardiff, Wales, UK
69	The Combination of B-Tensor Encoding & Diffusion Time Variation Enables Axon Volume Fraction & Beading Amplitude Mapping in Acute Stroke	Robb W. Stobbe, Ph.D. University of Alberta Edmonton, AB, Canada
70	Investigating Tissue Microstructure Using Steady State Diffusion MRI	Benjamin Tendler, Ph.D. University of Oxford Oxford, England, UK
71	Human Gray Matter Microstructure Mapping Using NEXI & 300 mT/M Gradients	Quentin Uhl, M.Sc. Lausanne University Hospital (CHUV) Lausanne, Switzerland
72	Optimised Temporal Diffusion Ratio for Imaging Restricted Diffusion	William Warner University College London London, England, UK
73	Exploring the Impact of Diffusion Time Difference on Tensor Valued Diffusion Encoding in Human Acute Ischemic Stroke	Mi Zhou, B.Sc. University of Alberta Edmonton, AB, Canada
74	Correlation Tensor MRI Unravels Dynamic Alterations in Underlying Kurtosis Sources Along Stroke Progression	Rita Alves, M.Sc. Champalimaud Foundation Lisbon, Portugal
75	Comparison of Diffusion MRI White Matter Models With Microstructure Metrics Derived From 3D Electron Microscopy	Ricardo Coronado Leija, Ph.D. New York University Grossman School of Medicine New York, NY, USA
76	Optimizing the NEXI Acquisition Protocol for Human Gray Matter Microstructure Mapping on a Clinical MRI Scanner Using Explainable AI	Quentin Uhl, M.Sc. Lausanne University Hospital (CHUV) Cugy, Switzerland
77	A Deep Learning Model for Predicting Electrophysiological Functional Connectivity From Structural Connectivity	Qing Cai, Ph.D. Candidate Cardiff University Cardiff, Wales, UK
78	Simulation-Driven Machine Learning Framework To Estimate Brain Microstructure Using Diffusion MRI	Chengran Fang, M.Sc. INRIA Palaiseau, France
79	µGUIDE: A Framework for Microstructure Imaging via Generalized Uncertainty Driven Inference Using Deep Learning	Maëliss Jallais, Ph.D. Cardiff University Cardiff, Wales, UK
80	The Impact of Deep Learning Training Features & Learning Strategies for IVIM Fitting	Misha Kaandorp, M.Sc. St. Olav's University Hospital Trondheim, Norway
81	Improved Co-Registration of Diffusion & Anatomical MRI Data Assisted by Deep Learning-Based Image Synthesis	Ziyu Li, B.Sc. University of Oxford Oxford, England, UK
82	A Systematic Comparison of Machine Learning Approaches for Diffusion Relaxation MRI Protocol Enhancement in Advanced Solid Tumours	Carlos Macarro, B.Sc. Vall d'Hebron Institute of Oncology (VHIO) Barcelona, Spain
83	Comparison Between Manual & Automatic Segmentation of Fibroglandular Tissue Using a U-Net in DWI	Astrid Müller, M.Sc. Friedrich-Alexander-University Erlangen- Nuernberg (FAU) Erlangen, Germany

POSTER	TITLE	AUTHOR
84	Data-Driven & Physics-informed Learning of Efficient Acquisition Protocols	Álvaro Planchuelo-Gómez, Ph.D. Cardiff University Cardiff, Wales, UK
85	You Only Autoencode Once	Jon Haitz Legarreta, M.Sc. Université de Sherbrooke Sherbrooke, QC, Canada
86	Diffusion MRI tractometry findings in Dystonia: a UK Biobank Study	Claire MacIver, M.Sc., MBBCh Cardiff University Cardiff, Wales, UK
87	Differentiation of White Matter Histopathology Using B-Tensor Encoding & Machine Learning.	Ricardo Rios-Carrillo, M.Sc. The National Autonomous University of Mexico Mexico City, Mexico
88	Prostate Non-Linear Gradient Diffusion Phantom Using Polyvinylpyrrolidone (PVP) Water Solution	Andrea De Simone, M.D. Student Yale University New Haven, CT, USA
89	Deep Learning Based Accelerated Water-Fat Separation for 2D-Navigated Multi-Shot EPI-Based Diffusion-Weighted Images	Yiming Dong, M.Sc. Leiden University Medical Centre Leiden, The Netherlands
90	Tensors & Tracts at 64 mT	Alix Plumley, M.Sc. Cardiff University Cardiff, Wales, UK
91	Joint q-Space Regularization & Dynamic Field-Informed Advanced Fourier Reconstruction for Robust Multi-Shot EPI Diffusion MRI at Ultra-High Gradient Strength	Gabriel Ramos-Llorden, Ph.D. Athinoula A. Martinos Center for Biomedical Imaging Charlestown, MA, USA
92	OGSE Diffusion Encoding in High-Performance Gradient 3.0T MRI Probes Short Tissue Length Scale in Human Brain	Ante Zhu, Ph.D. GE Research New York, NY, USA
93	Measuring Time-Dependent Diffusion Kurtosis in Human Gray Matter Using a High Performance Head Only Gradient System at 3T	Erpeng Dai, Ph.D. Stanford University Stanford, CA, USA
94	Prostate Nonlinear Gradient Coil Field & Eddy Current Characterization	Nahla Elsaid, Ph.D. Yale University New Haven, CT, USA
95	Deep Learning-Based Super Resolution for Diffusion-Weighted Prostate MRI	Batuhan Gundogdu, Ph.D. University of Chicago Chicago, IL, USA
96	Whole-Body MRI with Diffusion: What Patients Think, What Clinicians Want To Know & What Radiologists Need in Order to Provide the Best Comprehensive Patient Care	Raj Attariwala, M.D., Ph.D. AIM Medical Imaging Vancouver, BC, Canada
97	Identification of Brain Networks Associated with Alzheimer's Disease Risk	Alexandra Badea, Ph.D.  Duke University Medical Center  Durham, NC, USA
98	Inflammation Has the Opposite Effect on Gray Matter Diffusion MRI Metrics Than Expected in the Context of Major Depressive Disorder	Ryn Flaherty, B.Sc. New York University New York, NY, USA
99	Impact of Experimental Design in Longitudinal Diffusion & Myelin-Specific MRI Study in Multiple Sclerosis	Francis Houde, M.Sc. Imeka Solutions Inc. / Université de Sherbrooke Sherbrooke, QC, Canada
100	White Matter Integrity in Multiple Sclerosis Patients with & Without Diabetes	Michael Lan, B.S. New York University Grossman School of Medicine New York, NY, USA

POSTER	TITLE	AUTHOR
101	Nigral Pathology Differentially Underlie the Microstructural Alterations of Striatal & Frontal Tracts in Parkinson's Disease	Chen-Pei Lin, M.Sc. Amsterdam University Medical Center Amsterdam, The Netherlands
102	Diffusion Kurtosis Imaging in the Lower Leg of a Preclinical Model of Amyotrophic Lateral Sclerosis	Ethan Mathew, M.Sc. Barrow Neurological Institute Phoenix, AZ, USA
103	Bi-Exponential Analyzed Diffusion Signal Decays in Cancerous Human Breast In-Vivo	Masoumeh Moradi Golchin, M.Sc. Tarbiat Modares University Tehran, Iran
104	Diffusion MRI Maps Accelerated Aging in a Brain Region Specific Distribution After Juvenile Concussion	Andre Obenaus, Ph.D. University of California, Irvine Irvine, CA, USA
105	Comparison of Diffusion Tensor Metrics on Multiple Sclerosis Patients That Are Stable or Show Progression Independent of Relapse Activity	Mario Ocampo-Pineda , Ph.D. University of Basel Basel, Switzerland
106	White Matter Microstructure Alterations in Early Psychosis & Schizophrenia	Tommaso Pavan, M.Sc. Lausanne University Hospital (CHUV) Lausanne, Switzerland
107	Assessment of Microstructural Changes After Acute Hamstring Injury with IVIM-Corrected DTI: Towards a Clinically Feasible Acquisition Time	Susanne Rauh, M.Sc. Amsterdam University Medical Center Amsterdam, The Netherlands
108	Muscle Diffusion Tensor Imaging in Pompe Mice Reveals Structural Alterations Prior to Altered Phenotype	Marlena Rohm, M.Sc. BG University Hospital Bergmannsheil Bochum Bochum, Germany
109	Relationship Between Limbic DTI Metrics, Impulse Control & Addictive Behavior	David Romascano, Ph.D. Ecole Polytechnique Fédérale de Lausanne Lausanne, Switzerland
110	The Role of Susceptibility & Diffusion MRI in Differentiating Multiple Sclerosis & Migraine	Simona Schiavi, Ph.D. University of Genoa Genoa, Italy
111	Extra-Neurite Diffusion Radiomics for Genetic Subtyping of Autism Spectrum Disorder (ASD)	Ajay Singh, A.B. University of Wisconsin-Madison Madison, WI, USA
112	Mapping Healthy Placental Development Over Gestation with Combined T2*-Diffusion MRI & InSpect	Paddy Slator, Ph.D. University College London London, England, UK
113	Diffusion MRI as a Promising Biomarker to Measure the Effects of Lowering Mutant Huntingtin in a Mouse Model of Huntington's Disease	Joëlle van Rijswijk, M.Sc. University of Antwerp Antwerp, Belgium
114	Altered Sensorimotor & Cognitive Systems Identified in Williams Syndrome	Michael Green, Ph.D.  Neuroscience Research Australia Sydney, NSW, Australia
115	Structural Connectivity of Visual Pathways in Children with Perinatal Stroke	Meghan Maiani, M.Sc., Ph.D. Student University of Calgary Calgary, AB, Canada
116	Linking Disability & White Matter Microstructure in Multiple Sclerosis	Valentin Stepanov , M.D. New York University Grossman School of Medicine New York, NY, USA
117	Multi-Site Normative Modeling of Diffusion MRI Metrics in Carriers of 16p11.2 Copy Number Variants	Julio Villalon-Reina, M.D, Ph.D. University of Southern California Los Angeles, CA, USA

# Future ISMRM Annual Meetings







International Society for Magnetic Resonance in Medicine • www.ismrm.org

The ISMRM wishes to thank the following supporters for their contributions to the ISMRM Workshop on Diffusion MRI: From Research to Clinic:

### Tier IV

GE Healthcare

# Tier III

Medtronic
PreOperative Performance
Skope

### Tier I

Siemens Healthineers

# **Exhibitor**

**TracInnovations** 

The International Society for Magnetic Resonanace in Medicine (ISMRM) gratefully acknowledges the following corporate members who have elected to commit generous suport to the scientific and educational activities of the Society:

# **GOLD CORPORATE MEMBERS**

Canon/Olea Medical Systems Corporation

GE Healthcare

Philips Healthcare

Siemens Healthineers

# **BRONZE CORPORATE MEMBERS**

Bruker Fujifilm Healthcare United Imaging Healthcare

# **ASSOCIATE CORPORATE MEMBERS**

Nova Medical, Inc.
ZMT Zurich MedTech AG