— INTERNATIONAL SOCIETY FOR —
ISMRM
MAGNETIC RESONANCE IN MEDICINE

ONE COMMUNITY FOR CLINICIANS AND SCIENTISTS

ISMRM WORKSHOP ON

Motion Correction in MR

03-06 SEPTEMBER 2024

Hôtel Château Laurier
Québec City, QC
Canada

www.ismrm.org | www.ismrt.org

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ORGANIZING COMMITTEE

Co-Chairs:

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Tuebingen, Germany

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ShanghaiTech University
Shanghai, China

Calder D. Sheagren, B.Sc.
(Trainee Observer)
University of Toronto
Toronto, ON, Canada

OVERVIEW

Motion during MRI is an ongoing problem but also presents an opportunity to characterize dynamic processes or utilize this information in other applications and methods. This workshop will cover advances in motion detection, prospective and retrospective corrections, registration, motion modeling, image reconstruction techniques handling motion, and deep learning solutions within this context. Possible themes include: tracking (optical, field cameras, navigators), fetal imaging, neurological motion, motion modeling for therapy planning, signal modeling (for fingerprinting or multi-parametric imaging), motion as an opportunity (cardiac, bowel motility, speech and swallowing, fetal motion, motor experiments, and fMRI), and data-driven/ deep learning techniques to identify, characterize, or utilize motion.

TARGET AUDIENCE

This workshop is aimed at three distinct groups:

- New MR scientists who would like to get hands-on experience and a good introduction to various motion correction techniques;
- Experienced MR scientists currently developing motion correction techniques and interested in alternative solutions and ongoing discussions about motion correction solutions; and
- Clinicians/radiographers interested in applying the latest correction methods to solve their motion problems.

EDUCATIONAL OBJECTIVES

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

- Explain the underlying causes, challenges, and pitfalls of motion artifacts in MRI;
- List the methods currently applied to prevent and correct for motion effects in (i) clinical MRI and (ii) research;
- Describe current work performed to develop new motion detection, prevention and correction methods, and the feasibility of a clinical translation;
- Examine hands-on experiences of available motion correction techniques; and
- Identify the potentials and challenges of machine learning for motion detection and correction and future research directions.

SPEAKER UPLOAD INFORMATION *(Audiovisual Preview)*

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

- Tuesday, 03 September 2024: 13:00-15:00
- Wednesday, 04 September 2024: 08:00-08:30
- Thursday-Friday, 05-06 September 2024: 08:00-08:45

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

PROGRAM CREDIT DESIGNATION

The International Society for Magnetic Resonance in Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The International Society for Magnetic Resonance in Medicine designates this live activity for a maximum of 11.0* *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The American Medical Association has an agreement of mutual recognition of Continuing Medical Education (CME) credits with the European Union of Medical Specialists (UEMS), the accreditation body for European countries. Physicians interested in converting *AMA PRA Category 1 Credits™* to UEMS-European Accreditation Council for Continuing Medical Education CME credits (ECMECs) should contact the UEMS at mutualrecognition@uems.eu.

Activities certified for *AMA PRA Category 1 Credits™* that take place within a member country of the UEMS are not eligible for conversion to ECMECs under this agreement.

The International Society for MR Radiographers & Technologists (ISMRT), a section of the ISMRM, is recognized by the American Registry of Radiologic Technologists (ARRT) as a Recognized Continuing Education Evaluation Mechanism (RCEEM). This workshop does not offer CE credits.

CERTIFICATE OF PARTICIPATION

To obtain your Certificate of Participation for this workshop, log into the ISMRM membership portal at www.ismrm.org, click the "Session Evaluations for Certificates" menu option, select "Begin Evaluation" next to 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.

The International Society for Magnetic Resonance in Medicine (ISMRM) adheres to the policies and guidelines, including the Standards for Integrity and Independence in Accredited CE, stating those activities where continuing education credits are awarded must be balanced, independent, objective, and scientifically rigorous. All persons in a position to control the content of an accredited continuing education program provided by the ISMRM are required to disclose all financial relationships with any ineligible company within the past 24 months to the ISMRM. All financial relationships reported are identified as relevant and mitigated by the ISMRM in advance of delivery of the activity to learners. The content of this activity was vetted by the ISMRM to assure objectivity and that the activity is free of commercial bias. All relevant financial relationships have been mitigated by the ISMRM.

The faculty, authors, and content developers reported the following relevant financial relationships with ineligible companies:

ORGANIZERS

Thomas Ernst, Ph.D.....Stock Shareholder: KinetiCor
Andre van der Kouwe, Ph.D.....Consulting Fee, Stock Options: Turing Medical, Inc.

SPEAKERS

Jalal Andre, M.D.....Contracted Research: Subtle Medical & Philips Healthcare
Francisco Contijoch, Ph.D.....Research Support: Bayer Healthcare
Elisa Marchetto, Ph.D.....Research Support: TracInnovations
Alan McMillan, Ph.D.....Contracted Research: GE HealthCare; Stock Options: Weinberg Medical Physics
Stefan Skare, Ph.D.....Research Support: GE HealthCare

MODERATORS

Jalal Andre, M.D.....Contracted Research: Subtle Medical & Philips Healthcare
Thomas Ernst, Ph.D.....Stock Shareholder: KinetiCor
Andre van der Kouwe, Ph.D.....Consulting Fee, Stock Options: Turing Medical, Inc.

ABSTRACT PRESENTERS

Thomas Ernst, Ph.D.....Stock Shareholder: KinetiCor
Elisa Marchetto, Ph.D.....Research Support: TracInnovations
Sophie Schauman, Ph.D.....Research Support: GE HealthCare
Stefan Skare, Ph.D.....Research Support: GE HealthCare

The faculty, authors, and content developers reported having no financial relationships with ineligible companies:

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Thomas Küstner, Ph.D.
Bruno Madore, Ph.D.
Haikun Qi, Ph.D.
Calder Sheagren, B.Sc.
M. Dylan Tisdall, Ph.D.

SPEAKERS

Daniel Black, M.D.
Laura Bortolotti, Ph.D.
Douglas C. Dean, III, Ph.D.
Hannah Eichhorn, M.Sc.
Melanie Ganz-Benjaminsen, Ph.D.
Jana Hutter, Ph.D.
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M. Dylan Tisdall, Ph.D.
Joshua van Amerom, Ph.D.
Nan Wang, Ph.D.

MODERATORS

Jingjia Chen, Ph.D.
Gastao Cruz, Ph.D.
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M. Dylan Tisdall, Ph.D.
Adam van Niekerk, Ph.D.
Eddy Solomon, Ph.D.

ABSTRACT PRESENTERS

Suma Anand, M.Sc.
Samuel Bayih, Ph.D.
Jingjia Chen, Ph.D.
Aya Ghoul, M.Sc.
Bo Li, Ph.D.
Xiao Liang, Ph.D.
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Christoph Maier, M.D.
Lucile Quillien, M.Sc.
Saikat Sengupta, Ph.D.
Jakob Flinck Sheye, M.Sc.
Maarten Terpstra, Ph.D.
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Adam van Niekerk, Ph.D.
Steven Winata, Ph.D.
Qing Wu, B.Sc.

ACCREDITATION

Rhiannon Pinson

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IMPROVING LIFE THROUGH MAGNETIC RESONANCE

Aloha!

ISMRM & ISMRT Annual Meeting & Exhibition

10-15 MAY 2025 | HONOLULU, HAWAI'I, USA

ABSTRACT SUBMISSION DEADLINE: 06 NOVEMBER 2024

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Pre-Workshop: TUESDAY, 03 SEPTEMBER 2024		
13:00	Pre-Registration & Speaker Upload Available	
	Hands-On Tutorials	
15:00	*Pulseq*	Maxim Zaitsev, Ph.D. University Medical Center Freiburg Freiburg, Germany
15:06	*Motion Database Tool*	Stefan Skare, Ph.D. Karolinska Institutet Stockholm, Sweden
15:12	*Motion Corrections in BART*	Moritz Blumenthal, M.Sc. Graz University of Technology Graz, Austria
15:18	*Motion Simulation & Correction in Python*	Gastao Cruz, Ph.D. University of Michigan Ann Arbor, MI, USA
15:24	*OPERA*	Andrea Dell'Orso, M.Sc. AUSL Toscana Centro Florence, Italy
15:30	*Hands-On Exhibit of Ultrasound-Based MRI-Compatible Sensors*	Bruno Madore, Ph.D. Brigham & Women's Hospital, Harvard Medical School Boston, MA, USA
15:45	Hands-On with Each Presenter at Separate Desks	
17:00	Adjourn	
18:00	Networking Reception	

Day 1: WEDNESDAY, 04 SEPTEMBER 2024 *(5.0 CME Available)*		
08:00	Registration & Speaker Upload Available	
08:30	Welcome & Opening Statements	Organizing Committee
08:45	Orientation	Organizing Committee
	Session 1: Motion in All Its Forms	
	Moderators: Bruno Madore, Ph.D. & Eddy Solomon, Ph.D.	
08:50	*How Do Eyes & Brains Actually See Motion?*	Daniel Black, M.D. Laval University Québec City, QC, Canada
09:10	*How Do Other Modalities like PET & SPECT Handle Motion?*	Alan McMillan, Ph.D. University of Wisconsin-Madison Madison, WI, USA
09:30	*Motion in the Human Body: What Moves, How Does It Move & by How Much?*	Laura Bortolotti, Ph.D. University of Nottingham Nottingham, England, UK
09:50	*When Two (or More) People Share One Bore: Motion in Pregnant Patients*	Jana Hutter, Ph.D. University Hospital Erlangen Erlangen, Germany

10:10	*The Cost of Motion in MRI: A Hospital Management Perspective*	Jalal Andre, M.D. University of Washington Seattle, WA, USA
10:30	Break & Speaker Upload Available	
	Session 2: Practical Challenges of Motion from a Technician Perspective	
	Moderators: Andrea Dell'Orso, M.Sc. & Christoph Maier, M.D.	
11:00	*Common & Not-So-Common Tricks To Handle Motion & Patients Who Move*	Martin Sherriff, B.Appl.Sc.,MRT(MR) Queensland University of Technology Brisbane City, QLD, Australia
11:20	*Motion Handling in the HBCD*	Douglas C. Dean, III, Ph.D. University of Wisconsin Ann Arbor, MI, USA
11:40	*The Kids Aren't Alright: Motion in Research Pediatric MRI*	Liana Guerra Sanches, Ph.D. McGill University Montreal, QC, Canada
	Proffered Papers - Oral Session	
12:00	*Double Volumetric-Self-Navigated Prospective Motion Correction for Repeated 3D-EPI Acquisition*	Samuel Bayih, Ph.D. University of Cape Town Cape Town, South Africa
12:08	*A Fast Navigator To Measure Through-Plane Velocities in 2D Sequences Using Spin-History Profiles*	Thomas Ernst, Ph.D. University of Maryland Baltimore, MD, USA
12:16	*Head Movement in the Resting-State Functional Magnetic Resonance Imaging (Rs-fMRI) Data of the Adolescent Brain Cognitive Development (ABCD) Study*	Jakob Flinck Sheye, M.Sc. University of Copenhagen Copenhagen, Denmark
12:24	*A 25-Min Awake Paediatric Brain Exam: Lessons Learnt from a Recent Study*	Adam van Niekerk, Ph.D. Karolinska Institutet Stockholm, Sweden
12:32	Lunch & Discussion Speaker Upload Available	
	Session 3: Mastering Motion	
	Moderators: Jalal Andre, M.D. & Andre van der Kouwe, Ph.D.	
14:00	*Mastering Non-Cartesian Acquisition & Deep Learning for Imaging Complex Motion*	Victor Murray, Ph.D. Memorial Sloan Kettering Cancer Center New York, NY, USA
14:20	*Diffusion & Motion-Compensated Gradients*	Stephan Maier, M.D., Ph.D. Harvard University Cambridge, MA, USA
14:40	*Navigating the Complexities of N-D Flow Motion*	Liliana Ma, M.D., Ph.D. Stanford University Stanford, CA, USA
	Proffered Papers - Oral Session	
15:00	*Improved Velocity Navigator for First-Order Motion Compensation in Diffusion MRI*	Bo Li, Ph.D. University of Maryland Baltimore, MD, USA
15:08	*Motion-Sampling Plots: A Step Towards Standardized Motion Experiments*	Sophie Schauman, Ph.D. Karolinska Institutet Stockholm, Sweden

15:16	*Real-Time Multislice-to-Volume Motion Correction with Single & Parallel Transmission for Task-Based Functional MRI at 7T*	Steven Winata, Ph.D. MD Anderson Cancer Center Houston, TX, USA
15:24	*Reduced FOV Motion-Robust Sagittal T2s SSFSE of the Spine: A Rubber Band Solution*	Stefan Skare, Ph.D. Karolinska Institutet Stockholm, Sweden
15:32	Break & Speaker Upload Available	
15:45	Poster Session *(No CME Available)*	
16:45	Adjourn	

Day 2: THURSDAY, 05 SEPTEMBER 2024 *(4.50 CME Available)*

08:00	Registration & Speaker Upload Available	
	Session 4: Sensing Motion & Guiding Corrections	
	Moderators: M. Dylan Tisdall, Ph.D & Adam van Niekerk, Ph.D.	
08:45	*MRI Guidance for Prospective Correction of Therapy*	Maarten Terpstra, Ph.D. University Medical Center Utrecht Ultrecht, The Netherlands
09:05	*Sensing Motion Without Contact*	Eddy Solomon, Ph.D. Weill Cornell Medicine New York, NY, USA
09:25	*Optical Tracking*	Elisa Marchetto, Ph.D. New York University School of Medicine New York, NY, USA
	Proffered Papers - Oral Session	
09:45	*Retrospective Three-Dimensional Head Motion Correction with Multi-Input Multi-Output Beat Pilot Tone (MIMO-BPT)*	Suma Anand, M.Sc. University of California, Berkeley Berkeley, CA, USA
09:53	*Navigator-Free Retrospective Head Motion Correction Using a Soft Sensing Pad*	Saikat Sengupta, Ph.D. Vanderbilt University Medical Center Nashville, TN, USA
10:01	*Sensor-Free Respiratory & Cardiac Signals Extracted from Free-Breathing Cardiac Cine k-Space Data*	Lucile Quillien, M.Sc. Université de Lorraine Lorraine, France
10:09	*Contactless Sensing of Internal Motion Using Frequency-Dependent Doppler Radar*	Christoph Maier, M.D. New York University Grossman School of Medicine New York, NY, USA
10:17	Break & Speaker Upload Available	
	Session 5: Retrospective Correction	
	Moderators: Jingjia Chen, Ph.D. & Jaykumar Patel, Ph.D. Candidate	
10:45	*Heart in Harmony: Advancing Cardiac MRI with Motion Correction*	Matthias Stuber, Ph.D. University Hospital Lausanne Lausanne, Switzerland

11:05	*Unveiling the Fetus: Correcting Motion in Fetal MRI*	Joshua van Amerom, Ph.D. University of Toronto Toronto, ON, Canada
11:25	*Precision Unleashed: Deep Learning for Retrospective Motion Correction*	Hannah Eichhorn, M.Sc. Helmholtz Munich Neuherberg, Germany
	Proffered Papers - Oral Session	
11:45	*Head Motion Correction Based on Pilot Tone Signals*	Bruno Madore, Ph.D. Brigham & Women's Hospital, Harvard Medical School Boston, MA, USA
11:53	*Contrast-Optimized Basis Functions for Self-Navigated Motion Correction in 3D Quantitative MRI*	Elisa Marchetto, Ph.D. New York University Grossman School of Medicine New York, NY, USA
12:01	*Fetal 4D Flow MRI with Retrospective Motion Correction & Compressive Recovery with Outlier Rejection*	Reagan Tompkins, M.Sc. Amsterdam University Medical Center Utrecht, The Netherlands
12:09	*Joint Under-Sampling Radial MRI Reconstruction & Rigid Motion Correction via Unsupervised Neural Representation*	Qing Wu, B.Sc. Shanghai Tech University Shanghai, China
12:17	Lunch & Discussion Speaker Upload Available	
	Session 6: Dancing with the Data: Embracing Motion in MRI	
	Moderators: Gastao Cruz, Ph.D. & Calder Sheagren, B.Sc.	
14:00	*Creating a Symphony with Motion-Resolved Quantitative MRI*	Nan Wang, Ph.D. Stanford University Stanford, CA, USA
14:20	*Crafting a Clearer Picture with Amplified MRI*	Mehmet Kurt, Ph.D. University of Washington Seattle, WA, USA
14:40	*Capturing the Moment with Real-Time MRI*	Francisco Contijoch, Ph.D. University of California, San Diego San Diego, CA, USA
	Proffered Papers - Oral Session	
15:00	*Capturing Breathing Variability Using Surface Tracking-Assisted Real-Time 4D Lung MRI*	Xiao Liang, Ph.D. University of Maryland School of Medicine Baltimore, MD, USA
15:08	*Sub-Second DCE-MRI of the Liver Using GRASP-Pro with Navi-Stack-of-Stars Sampling*	Jingjia Chen, Ph.D. New York University Grossman School of Medicine New York, NY, USA
15:16	*Efficient 3D Non-Rigid Registration in k-Space To Enable Highly Temporal-Resolved Motion*	Aya Ghoul, M.Sc. University Hospital of Tübingen Tuebingen, Germany
15:24	*Fast 5D Cardiac MRI Using the CMR-MOTUS Framework on a 1.5T MR-Linac*	Maarten Terpstra, Ph.D. University Medical Center Utrecht Utrecht, The Netherlands

15:32	Break & Speaker Upload Available
15:45	Poster Session *(No CME Available)*
16:45	Adjourn
19:30	Networking Dinner

Day 3: FRIDAY, 06 SEPTEMBER 2024 *(1.50 CME Available)*

08:00	Registration & Speaker Upload Available	
	Session 7: Community Efforts	
	Moderators: Thomas Küstner, Ph.D. & Eric Schrauben, Ph.D.	
08:45	*Motion Coding Challenges*	Laura Bortolotti, Ph.D. University of Nottingham Nottingham, England, UK
09:05	*Image Quality Metrics for Motion Assessment*	Melanie Ganz-Benjaminsen, Ph.D. University of Copenhagen Copenhagen, Denmark
09:25	*Patient Motion Data in a Global Motion Database & What To Do with It*	Stefan Skare, Ph.D. Karolinska University Hospital Stockholm, Sweden
09:45	*Recommendations for Prospective Evaluation of Neuro Motion Correction Methods*	Stefan Skare, Ph.D. & M. Dylan Tisdall, Ph.D.
10:05	Break & Speaker Upload Available	
	Session 8: Commercial Solutions *(No CME Available)*	
	Moderator: Laura Bortolotti, Ph.D. & Thomas Ernst, Ph.D.	
10:35	*ProCo: Prospective Motion Correction in Neuroimaging*	Xinyue Zhang United Imaging
10:50	*Siemens Neuro Moco Strategy*	Nicolas Splitthoff & Tobias Kober Siemens Healthineers
11:10	*Shaping the Future of Scanner-Independent, Markerless Motion Correction with TracInnovations*	Stefan Glimberg TracInnovations
11:40	*GE HealthCare*	Dan Rettmann GE HealthCare
12:00	*Motion Correction Solutions Powered by AI*	Hassan Haji-Valizadeh Canon Medical Systems
12:15	*Motion Correction: Commercial Solutions & Outlook*	Guillame Gilbert, Ph.D. Philips Canada
12:25	Closing Remarks & Poster Prizes	Organizing Committee
12:35	Boxed Lunch & Adjourn	

Take the 5-minute on-site survey!

See the registration desk for questions.

This survey is not for CME credits.

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ONE COMMUNITY IMPROVING LIFE THROUGH MAGNETIC RESONANCE

Investing in the Future of MR

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 discipline, geography, country of origin and resources available.

MEET OUR STIPEND RECIPIENTS

THE NEXT GENERATION OF MR SPECIALISTS

AT TODAY'S WORKSHOP!

Abdoljalil Addeh, M.Sc.

Suma Anand, M.Sc.

Musa Tunç Arslan, Ph.D.

Saad Bin Ashraf, B.Sc.

Zekang Ding, B.Sc.

Bei Liu, Ph.D. Candidate

Christoph Maier, M.D.

Lucile Quillien, M.Sc.

Asiimwe Robert, B.Sc.

Sophie Schauman, Ph.D.

Reagan Tompkins, M.Sc.

Tianqi Wu, M.Sc.

Mohamed Aziz Zeroual, Ph.D. Candidate

Posters

POSTER #	TITLE	AUTHOR
1	*The Useful Side of Motion: Using Head Motion Parameters To Correct for Respiratory Confounds in BOLD fMRI*	Abdoljalil Addeh, M.Sc. University of Calgary Calgary, AB, Canada
2	*Neonatal Brain MRI Motion Correction Using Adult MRI*	Saad Bin Ashraf, B.Sc. University of Calgary Calgary, AB, Canada
3	*MRI-Based Quantification of the Deformation of an Anthropomorphic Heart Phantom*	Manon Aubert, M.Sc. University Medical Center Utrecht Utrecht, The Netherlands
4	*Double Volumetric-Self-Navigated Prospective Motion Correction for Repeated 3D-EPI Acquisition*	Samuel Bayih, Ph.D. University of Cape Town Cape Town, South Africa
5	*Ghostbusting: Body Motion Correction at Standing Position in 0.5T Upright Scanner*	Laura Bortolotti, Ph.D. University of Nottingham Nottingham, England, UK
6	*Simulating Head Motion in MRI: A Silicone Phantom Approach with Machine Learning Integration*	Mads Daugaard, M.Sc. University of Copenhagen Copenhagen, Denmark
7	*Reduction of Ringing Artifacts Induced by Diaphragm Drifting in Free-Breathing Dynamic Pulmonary MRI Using 3D Koosh-Ball Acquisition*	Zekang Ding, B.Sc. Shanghai Jiao Tong University Shanghai, China
8	*A Fast Navigator To Measure Through-Plane Velocities in 2D Sequences Using Spin-History Profiles*	Thomas Ernst, Ph.D. University of Maryland Baltimore, MD, USA
9	*Benefits of Deep Learning-Based Prospective Motion Estimation Using Guidance Lines*	Julian Hossbach, M.Sc. Friedrich-Alexander-University Erlangen-Nuremberg Erlangen, Germany
10	*Light Versus Sound: Validating Pilot Tone Motion Estimates Using Camera Tracking for High-Temporal-Resolution Retrospective Motion Correction*	Yan Tu Huang, M.Sc. Siemens Shenzhen Magnetic Resonance Ltd. Shenzhen, China
11	*Hybrid Motion Correction: Within-Echo-Train Motion Correction for 3D T2w-TSE Inner Ear MRI*	Malte Laustsen, M.Sc. TracInnovations Ballerup, Denmark
12	*Improved Velocity Navigator for First-Order Motion Compensation in Diffusion MRI*	Bo Li, Ph.D. University of Maryland Baltimore, MD, USA
13	*2D Shot-By-Shot Self-Navigated 3D-EPI Navigator Correction for Enabling High-Resolution fMRI with Reduced Motion & Aliasing*	Steen Moeller, Ph.D. University of Minnesota Minneapolis, MN, USA
14	*Sensor-Free Respiratory & Cardiac Signals Extracted from Free-Breathing Cardiac Cine k-Space Data*	Lucile Quillien, M.Sc. Université de Lorraine Lorraine, France
15	*Motion-Sampling Plots: A Step Towards Standardized Motion Experiments*	Sophie Schauman, Ph.D. Karolinska Institutet Stockholm, Sweden

Posters

POSTER #	TITLE	AUTHOR
16	*Technical Advances in Prospective Motion Correction with Wireless NMR Markers: Channel-Wise Marker Tracking & Variable Flip Angle Navigators*	Saikat Sengupta, Ph.D. Vanderbilt University Medical Center Nashville, TN, USA
17	*Head Movement in the Resting-State Functional Magnetic Resonance Imaging (Rs-fMRI) Data of the Adolescent Brain Cognitive Development (ABCD) Study*	Jakob Flinck Sheye, M.Sc. University of Copenhagen Copenhagen, Denmark
18	*Reduced FOV Motion-Robust Sagittal T2s SSFSE of the Spine: A Rubber Band Solution*	Stefan Skare, Ph.D. Karolinska Institutet Stockholm, Sweden
19	*A 25-Min Awake Paediatric Brain Exam: Lessons Learnt from a Recent Study*	Adam van Niekerk, Ph.D. Karolinska Institutet Stockholm, Sweden
20	*Calibration-Free Real-Time Head Motion Detection with Pilot Tone*	Paul Wighton, Ph.D. Athinoula A. Martinos Center for Biomedical Imaging Charlestown, MA, USA
21	*Real-Time Multislice-to-Volume Motion Correction with Single & Parallel Transmission for Task-Based Functional MRI at 7T*	Steven Winata, Ph.D. MD Anderson Cancer Center Houston, TX, USA
22	*Assessing Motion Artifact Simulation Frameworks for Structural MRI with MP-RAGE Sequence Using Analytical Phantom*	Tianqi Wu, M.Sc. University College London London, England, UK
23	*Open-Source Real-Time Prospective Motion Correction with MoCo-Pulseq*	Maxim Zaitsev, Ph.D. University Medical Center Freiburg Freiburg, Germany
24	*Retrospective Three-Dimensional Head Motion Correction with Multi-Input Multi-Output Beat Pilot Tone (MIMO-BPT)*	Suma Anand, M.Sc. University of California, Berkeley Berkeley, CA, USA
25	*High Temporal Resolution Inertial Sensor Based Motion Detection*	Musa Tunç Arslan, Ph.D. Boston Children's Hospital, Harvard Medical School Boston, MA, USA
26	*Live-View GRASP 4D MRI Framework for Robust Real-Time Respiratory Motion Tracking with a Sub-Second Imaging Latency*	Jingjia Chen, Ph.D. New York University Grossman School of Medicine New York, NY, USA
27	*Sub-Second DCE-MRI of the Liver Using GRASP-Pro with Navi-Stack-of-Stars Sampling*	Jingjia Chen, Ph.D. New York University Grossman School of Medicine New York, NY, USA
28	*Deep Learning-Enhanced Motion-Corrected 3D MR Neuro-Imaging at 0.55T*	Bryan Clifford, Ph.D. Siemens Medical Solutions, USA Belmont, MA, USA
29	*Generative Models for Children's Head Motion in Resting-State Functional Magnetic Resonance Imaging (Rs-fMRI)*	Hristo Atanasov Georgiev, M.Sc. University of Copenhagen Copenhagen, Denmark

Posters

POSTER #	TITLE	AUTHOR
30	*Efficient 3D Non-Rigid Registration in k-Space To Enable Highly Temporal-Resolved Motion*	Aya Ghoul, M.Sc. University Hospital Tuebingen Tuebingen, Germany
31	*Volumetric Navigators for Prospective Motion Correction of Slab-Selective High-Resolution GRE at 7T*	Daniel Haenelt, Ph.D. Athinoula A. Martinos Center for Biomedical Imaging Charlestown, MA, USA
32	*XPACE-REST: Prospective Motion Correction with External Tracking Using REST API*	Patrick Hucker, Ph.D. University of Freiburg Freiburg, Germany
33	*Markerless Optical Tracking for Prospective Motion Correction Using an Open Scanner Interface*	Komel Kowalczyk, M.Sc. TracInnovations Ballerup, Denmark
34	*Hybrid Motion Correction: Combining Prospective & Retrospective Motion Correction*	Malte Laustsen, M.Sc. TracInnovations Ballerup, Denmark
35	*Capturing Breathing Variability Using Surface Tracking-Assisted Real-Time 4D Lung MRI*	Xiao Liang, Ph.D. University of Maryland School of Medicine Baltimore, MD, USA
36	*Scan-Specific Unsupervised Highly Accelerated Non-Cartesian Dynamic MRI Using Tensor Decomposition Encoding Implicit Neural Representation*	Bei Liu, Ph.D. Candidate Shanghai Jiao Tong University Shanghai, China
37	*Cardiac Triggering Based on Ultrasound Sensor Signals*	Bruno Madore, Ph.D. Brigham & Women's Hospital, Harvard Medical School Boston, MA, USA
38	*Head Motion Correction Based on Pilot Tone Signals*	Bruno Madore, Ph.D. Brigham & Women's Hospital, Harvard Medical School Boston, MA, USA
39	*Contactless Sensing of Internal Motion Using Frequency-Dependent Doppler Radar*	Christoph Maier, M.D. New York University Langone Medical Center New York, NY, USA
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