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& IMPROVING LIFE THROUGH MR

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

ISMRM Workshop on
Data Sampling & Image Reconstruction

08-11 January 2023
Enchantment Resort
Sedona, AZ, USA

www.ismrm.org

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ORGANIZING COMMITTEE

Chair:

James Pipe, Ph.D.
Mayo Clinic
Rochester, MN, USA

Committee Members:

Jakob Assländer, Ph.D.
New York University School of Medicine
New York, NY, USA

Peter Börnert, Ph.D.
Philips Research Labs Hamburg
Hamburg, Germany

Adrienne E. Campbell-Washburn, Ph.D.
National Institutes of Health
Bethesda, MD, USA

Kerstin Hammernik, Ph.D.
Technische Universität München
Munich, Germany

Sebastian Kozerke, Ph.D.
University & ETH Zürich
Zürich, Switzerland

Nicole E. Seiberlich, Ph.D.
University of Michigan
Ann Arbor, MI, USA

Martin Uecker, Ph.D.
Graz University of Technology
Graz, Austria

Julia V. Velikina, Ph.D.
University of Wisconsin-Madison
Madison, WI, USA

OVERVIEW

The workshop will be the 6th in a series of Sedona workshops (previously held in 2007, 2009, 2013, 2016, and 2020), and updated to reflect new trends in MRI but keeping many of the successful elements of the previous workshops. This workshop will continue to explore the practical boundaries of new and unconventional methods for collecting data (pulse sequences) and for reconstructing images from that data. This will include constrained reconstruction such as compressed sensing, AI-assisted reconstruction, quantitative imaging, image evaluation and reproducibility, non-Cartesian methodologies, and parallel imaging. The workshop will explore the challenges to these methods, how to measure and characterize them, and methods (both available and necessary to develop) to overcome them. In addition to invited scientific presentations, the program will include proffered papers and poster presentations.

TARGET AUDIENCE

Technical researchers who are developing next-generation methods in data sampling and reconstruction.

EDUCATIONAL OBJECTIVES

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

- Explain the rationale for collecting MRI data in different sampling patterns;
- Describe at least three ways to reconstruct incomplete data;
- Predict how upcoming changes in data sampling and reconstruction may alter the practice of radiology;
- Explain the need for a better framework for evaluating new technology and give three examples of possible components of that framework; and
- Identify four different types of quantitative MRI methods.

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, 08 January 2023: 16:00-18:00
- Monday-Tuesday, 09-10 January 2023: 07:00-08:00

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. This workshop does not offer CME credits.

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 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*™ 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

Jakob Assländer, Ph.D.....No relationships to disclose
Peter Börnert, Ph.D.....No disclosure provided
Adrienne E. Campbell-Washburn, Ph.D.....No relationships to disclose
Kerstin Hammernik, Ph.D.....No relationships to disclose
Sebastian Kozerke, Ph.D.....No relationships to disclose
James Pipe, Ph.D.....Grants/Research Support: Philips
Nicole E. Seiberlich, Ph.D.....No relevant relationships to disclose
Martin Uecker, Ph.D.....No relationships to disclose
Julia V. Velikina, Ph.D.....No relationships to disclose

MODERATORS

Jakob Assländer, Ph.D.....No relationships to disclose
Peter Börnert, Ph.D.....No disclosure provided
Adrienne E. Campbell-Washburn, Ph.D.....No relationships to disclose
Sebastian Kozerke, Ph.D.....No relationships to disclose
James Pipe, Ph.D.....Grants/Research Support: Philips
Nicole E. Seiberlich, Ph.D.....No relevant relationships to disclose
Martin Uecker, Ph.D.....No relationships to disclose
Julia V. Velikina, Ph.D.....No relationships to disclose

SPEAKERS

Jessica A.M. Bastiaansen, Ph.D.....No relationships to disclose
Daniel F. Gochberg, Ph.D.....No relationships to disclose
William A. Grissom, Ph.D.....Consulting Fee: Medtronic, Promaxo
Mark A. Griswold, Ph.D.....No disclosure provided
Vikas Gulani, Ph.D.....Grants/Research Support: Siemens; Consulting Fee: Cook Medical
Joseph V. Hajnal, Ph.D.....No disclosure provided
Andreas Hauptmann, Ph.D.....No relationships to disclose
Jürgen K. Hennig, Ph.D.....No relationships to disclose
Chris Hess, M.D., Ph.D.....No relevant relationships to disclose
Kevin M. Johnson, Ph.D.....Grants/Research: General Electric
Florian Knoll, Ph.D.....No relevant relationships to disclose
Tim Leiner, M.D., Ph.D.....No relationships to disclose
Vivek Muthurangu, M.D.....No relationships to disclose
James Pipe, Ph.D.....Grants/Research Support: Philips
Scott B. Reeder, M.D., Ph.D.....No relevant relationships to disclose
Klaus Scheffler, Ph.D.....No relationships to disclose
Nicole E. Seiberlich, Ph.D.....No relevant relationships to disclose
Daniel K. Sodickson, M.D., Ph.D.....Grants/Research Support: Siemens, Hyperfine, Facebook AI Research; Consulting Fee & Ownership Interest: Ezra; Royalty-bearing agreement: Siemens
Joshua D. Trzasko, Ph.D.....No relevant relationships to disclose
Lawrence Wald, Ph.D.....Grants/Research Support: Siemens; Ownership Interest: Neuro42 Inc.
Burhaneddin Yaman, Ph.D.....No relationships to disclose

ISMRM STAFF

Rhiannon Pinson.....No relationships to disclose
Melissa Simcox.....No relationships to disclose

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ISMRM & ISMRT Annual Meeting & Exhibition

TORONTO | 03-08 June **2023**

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Registration & Setup: Sunday, 08 January 2023		
16:00	Registration & Speaker Upload Available	
18:00	Opening Reception/Dinner	
Day 1: Monday, 09 January 2023		
07:00	Registration & Speaker Upload Available Breakfast	
Session 1: The Past, Present & Future of MRI		
Moderators: Peter Börnert, Ph.D. & Nicole E. Seiberlich, Ph.D.		
08:00	*Welcome*	James Pipe, Ph.D. Mayo Clinic Rochester, MN, USA
08:10	*Image Reconstruction After 16 Years of Sedona: Are We Moving the Needle?*	Peter Börnert, Ph.D. & Nicole E. Seiberlich, Ph.D.
08:40	*What MRI Needs To Be in 20 Years: A Clinical Perspective on New Imaging Paradigms*	Tim Leiner, M.D., Ph.D. Mayo Clinic Rochester, MN, USA
09:10	*What MRI Can Be in 20 Years: A Technical Perspective on New Imaging Technology*	Lawrence Wald, Ph.D. Athinoula A. Martinos Center for Biomedical Imaging Charlestown, MA, USA
09:40	Discussion	
10:00	Coffee Break	
Session 2: Mathematics of Machine Learning & Model-Based Reconstruction		
Moderators: Martin Uecker, Ph.D.		
10:30	*Introduction to Inverse Problems*	Andreas Hauptmann, Ph.D. University of Oulu Oulu, Finland
11:00	*Learning Unrolled Algorithms*	Burhaneddin Yaman, Ph.D. University of Minnesota Minneapolis, MN, USA
Proffered Papers - Oral Session		
11:30	*MRI Sampling Patterns Learned with Variational Information Maximization*	Cagan Alkan, M.Sc. Stanford University Stanford, CA, USA
11:36	*Motion Robust Reconstruction with Score-Based Generative Models*	Brett Levac, B.Sc. University of Texas at Austin Austin, TX, USA
11:42	*Enhancing GRASP with Locally Low-Rank Subspace Constraint: Towards Sub-Second DCE Resolution*	Eddy Solomon, Ph.D. Weill Cornell Medicine New York, NY, USA
11:48	*Universal k-Space Interpolation Network for Non-Cartesian CINE Imaging*	Wenqi Huang, M.Sc. Technical University of Munich Munich, Germany
11:54	Discussion	
12:00	*Motion Compensated Multicontrast MRI Using Deep Factor Model*	Yan Chen, Ph.D. Student University of Iowa Iowa City, IA, USA

12:06	*RT-NLINV-Net: Improved Temporal Resolution & Reconstruction Quality of Radial Cardiac Real-Time MRI via Self-Supervised Learning*	Moritz Blumenthal, M.Sc. Graz University of Technology Graz, Austria
12:12	*K-Band: Training Self-Supervised Reconstruction Networks Using Limited-Resolution Data*	Frederic Wang, B.Sc. University of California, Berkeley Berkeley, CA, USA
12:18	*SNR-Enhancing Spatiospectral Reconstruction Using Plug & Play Denoiser from Self-Supervised Training*	Ruiyang Zhao, B.Sc. University of Illinois Urbana-Champaign Urbana, IL, USA
12:24	Discussion	
12:30	Boxed Lunch & Afternoon Break	
Session 3: Post-Cartesian Imaging		
Moderators: Adrienne E. Campbell-Washburn, Ph.D. & Julia V. Velikina, Ph.D.		
16:00	*Non-Cartesian Imaging: A Practical Guide to Implementation & Artifacts*	Kevin M. Johnson, Ph.D. University of Wisconsin - Madison Madison, WI, USA
16:30	*New Things We Can See with Non-Cartesian Imaging*	Vivek Muthurangu, M.D. University College London London, England, UK
Proffered Papers - Oral Session		
17:00	*Optimizing Non-Cartesian Sampling Patterns via Gradient Methods*	Guanhua Wang, M.Sc. University of Michigan Ann Arbor, MI, USA
17:06	*Single-Shot Spiral TSE*	Juergen Hennig, Ph.D. University Medical Center Freiburg Freiburg, Germany
17:12	*Patient-Centric Sequence Design: Reducing the Other Noise*	Abdul Rahman Alfayad, B.Sc. Mayo Clinic Rochester, MN, USA
17:18	*Efficient 3D Cone Trajectory for Improved Combined Angiographic & Perfusion Imaging Using Arterial Spin Labelling*	Qijia Shen, Ph.D. Student University of Oxford Oxford, England, UK
17:24	Discussion	
17:30	*SSCUTE: 3D Spiral StairCase UTE Sequence for Thermometry of Frozen Tissue During MRI-Guided Cryoablation*	Guruprasad Krishnamoorthy, Ph.D. Philips Healthcare; Mayo Clinic Rochester, MN, USA
17:36	*Low-Latency Non-Cartesian Rt-MRI Reconstruction Using a Causal Variational Network*	Prakash Kumar, B.Sc. University of Southern California Los Angeles, CA, USA
17:42	*BladeNet: An Acquisition-Reconstruction Framework for Free-Breathing Dynamic MRI*	Efrat Shimron, Ph.D. University of California, Berkeley Berkeley, CA, USA
17:48	*Wave-Encoded Neurovascular 4D Flow Using Learned Sampling*	Chenwei Tang, B.Sc. University of Wisconsin - Madison Madison, WI, USA
17:54	Discussion	
18:00	Dinner	

Session 4: Getting on the Same Page		
Moderator: James Pipe, Ph.D. & Martin Uecker, Ph.D.		
19:30	*Reproducible Research*	Florian Knoll, Ph.D. Friedrich Alexander Universität Erlangen Nürnberg Erlangen, Germany
Proffered Papers - Oral Session		
20:00	*Standardization of Containerized "MRD Apps" for Reproducible & Deployable Research*	Kelvin Chow, Ph.D. Siemens Medical Solutions USA, Inc. Chicago, IL, USA
20:04	*Quantifying 3D-MRF Reproducibility Across Subjects, Sessions & Scanners Automatically Using MNI Atlases*	Andrew Dupuis, B.Sc. Case Western Reserve University Cleveland, OH, USA
20:08	*MRI Workflows for Measurement: Blackbox, Graybox & Glassbox Benchmarks on Reproducibility*	Agah M. Karakuzu, Ph.D. Polytechnique Montreal Montreal, QC, Canada
20:12	*Fully Automated Online Reconstruction, Registration & Analysis Pipeline for 3D Magnetic Resonance Fingerprinting*	Andrew Dupuis, B.Sc. Case Western Reserve University Cleveland, OH, USA
20:16	Discussion	
20:20	*Ad Hoc ISMRM Committee for Standardized Measures & Benchmarks*	Scott B. Reeder, M.D., Ph.D. University of Wisconsin Madison, WI, USA
Proffered Papers - Oral Session		
20:40	*Intrinsic Reproducibility Issues in Deep Learning-Based MR Reconstruction*	Chungseok Oh, B.Sc. Seoul National University Seoul, South Korea
20:44	*Task-Based Assessment of Image Quality for Magnetic Resonance Imaging*	Angel Pineda, Ph.D. Manhattan College Riverdale, NY, USA
20:48	*SSIM – Robustness of the Image Quality Metric*	Sophie Schauman, D. Phil Stanford University Stanford, CA, USA
20:52	Discussion	
21:00	Roundtable Discussion	
21:30	Adjourn	

Day 2: Tuesday, 10 January 2023

07:00	Breakfast	
Session 5: Quantitative Imaging		
Moderators: Sebastian Kozerke, Ph.D. & Nicole E. Seiberlich, Ph.D.		
08:00	*Quantitative Imaging Is the Future!*	Jessica A.M. Bastiaansen, Ph.D. University of Bern Bern, Switzerland
08:30	*Quantitative Imaging Will Not Completely Replace Weighted Imaging*	Joseph V. Hajnal, Ph.D. King's College London London, England, UK

Proffered Papers - Oral Session		
09:00	*Nonlinear Inversion of the Bloch Equations for Quantitative MRI*	Nick Scholand, M.Sc. Graz University of Technology, Institute of Biomedical Imaging Graz, Austria
09:06	*A Fast High-Resolution MT-Corrected T1 Mapping Technique Using a Radial Inversion Recovery SPGR Pulse Sequence*	Zhitao Li, Ph.D. Stanford University Stanford, CA, USA
09:12	*Free-Breathing 3D Stack-of-Spiral Cardiac Quantitative Susceptibility Mapping for Cardiac Chamber Oxygenation*	Jiahao Li, M.Sc. Cornell University New York, NY, USA
09:18	*Deep Subspace Reconstruction with Zero-Shot Learning for Multiparametric Quantitative MRI*	Yohan Jun, Ph.D. Athinoula A. Martinos Center for Biomedical Imaging Charlestown, MA, USA
09:24	Discussion	
09:30	*Self-Calibrated Subspace Reconstruction Using Temporally Local Matrix Completion for Multidimensional MR Fingerprinting*	Zhilang Qiu, Ph.D. Case Western Reserve University Cleveland, OH, USA
09:36	*Selective Encoding Through Nutation & Fingerprinting (SENF) Using Quadratic RF Phase Modulation & the Bloch-Siegert Shift*	Christopher Vaughn, M.Sc. Vanderbilt University Nashville, TN, USA
09:42	*Improved T1/T2/PDFF Rosette Cardiac MRF Using Virtual-Coil + Low-Rank + Patch-Based Regularization*	Gastao Cruz, Ph.D. University of Michigan Ann Arbor, MI, USA
09:48	*Simultaneous T1 T2 T2* Quantification Using 2D Epi-MRF by Shuffled Sampling & Compressed Time-Resolved Reconstruction with Self B0 B1+ Correction*	Di Cui, Ph.D. University of California, San Francisco San Francisco, CA, USA
09:54	Discussion	
10:00	Coffee Break	
Session 6: Proffered Papers		
Moderators: Peter Börnert Ph.D. & Julia V. Velikina, Ph.D.		
Power Pitch Session		
10:30	*A Motion-Robust, Short-TR Alternative to Multi-Echo SPGR*	Peter Lally, Ph.D. Imperial College London London, England, UK
10:36	*Distortionless, Free-Breathing & Respiratory Resolved 3D Diffusion-Weighted Imaging of the Abdomen*	Philip Lee, Ph.D. Stanford University Stanford, CA, USA
10:42	*Water/Fat Separated Navigator-Free Multi-Shot Diffusion-Weighted EPI Using Structured Low-Rank Reconstruction*	Yiming Dong, M.Sc. Leiden University Medical Center Leiden, The Netherlands
10:48	Discussion	
10:54	*Water/Fat Separation with Spatio-Temporal EPI-Based Acquisition & Reconstruction in Body Imaging*	Xuetong Zhou, B.Sc. Stanford University Stanford, CA, USA
11:00	*Rapid 3D Lung Imaging with bSSFP Stack-of-Spiral Out-In (SoSoi) Sampling at 0.55T*	Ye Tian, Ph.D. University of Southern California Los Angeles, CA, USA

11:06	*Temporally Efficient High-SNR, High-Contrast, Volumetric T1W FLAIR Enabled by LQ Encoding*	Dahan Kim, Ph.D. Mayo Clinic Rochester, MN, USA
11:12	*SNR-Driven Imaging Using Closed-Loop Feedback Between Image Reconstruction & Acquisition*	Rajiv Ramasawmy, Ph.D. National Institutes of Health Bethesda, MD, USA
11:18	Discussion	
11:26	Break	
Power Pitch Session		
11:34	*Towards Rapid & Accurate Navigators for Motion & B0 Tracking Using QUEEN (Quantitatively-Enhanced Parameter Estimation from Navigators)*	Yannick Brackenier, M.Sc. Stanford University Stanford, CA, USA
11:40	*Improved Structured Low-Rank Reconstruction for 3D Multi-Shot EPI with Joint Motion Modelling*	Xi Chen, M.Sc. University of Oxford Oxford, England, UK
11:46	*Accelerated Imaging of Airway Collapse in Obstructive Sleep Apnea with Variable Density Spirals & Variational Manifold Learning*	Wahidul Alam, B.Sc. University of Iowa Iowa City, IA, USA
11:52	Discussion	
12:00	*Radial Stack-of-Stars Abdominal MRI at 7 Tesla*	Ivo Maatman, M.Sc. Radboud University Medical Center Nijmegen, The Netherlands
12:06	*Multi-Echo RF Spatial Phase Encoding for Gradient-Free Imaging in a Nonuniform B0-Field at Low-Field*	Kartiga Selvaganesan, M.Sc. Yale University New Haven, CT, USA
12:12	*A Multiplexed Auto-Focusing Framework for Spiral MRI with Parallel Imaging*	Tzu Cheng Chao, Ph.D. Mayo Clinic Rochester, MN, USA
12:18	*Metabolite-Specific 3D bSSFP Sequences for Hyperpolarized MRI*	Xiaoxi Liu, Ph.D. University of California, San Francisco San Francisco, CA, USA
12:24	Discussion	
12:30	GE Presentation	
12:45	Subtle Medical, Inc. Presentation	
13:00	Boxed Lunch & Afternoon Break	
Session 7: Outdoor Poster Session		
Moderators: Julia V. Velikina, Ph.D.		
16:00	Outdoor Poster Session	
18:00	Dinner	
Session 8: Objective Goodness		
Moderators: Jakob Assländer, Ph.D. & Sebastian Kozerke, Ph.D.		
19:30	*Oh My Contrast: Information in Contrast Dimensions*	Daniel F. Gochberg, Ph.D. Vanderbilt University Medical Center Nashville, TN, USA
20:00	*Encoding & Decoding: Information in Spatiotemporal Domains*	Josh Trzasko, Ph.D. Mayo Clinic Rochester, MN, USA

20:30	*Guess My Case: Radiologists at Work*	Vikas Gulani, M.D., Ph.D. Christopher Hess, M.D., Ph.D. Tim Leiner, M.D., Ph.D. Scott. B. Reeder, M.D., Ph.D.
21:30	Adjourn	

Day 3: Wednesday, 11 January 2023		
07:00	Breakfast	
Session 9: Bringing MRI to More People		
Moderators: Jakob Assländer, Ph.D. & Adrienne E. Campbell-Washburn, Ph.D.		
08:00	*Managing Complexity & Challenging Perceptions*	James Pipe, Ph.D. Mayo Clinic Rochester, MN, USA
08:30	*Technical Requirements for Point-of-Care MRI*	William A. Grissom, Ph.D. Vanderbilt University Nashville, TN, USA
09:00	*Unmet Needs That MRI Can Address*	Daniel K. Sodickson, M.D., Ph.D. New York University Grossman School of Medicine New York, NY, USA
09:30	*Ideas To Take Home: Unmet Needs/Future Opportunities*	Mark Griswold, Ph.D. Vikas Gulani, M.D., Ph.D. Jürgen Hennig, Ph.D. Scott Reeder, M.D., Ph.D. Klaus Scheffler, Ph.D. Nicole Seiberlich, Ph.D. Lawrence Wald, Ph.D.
10:00	Coffee Break, Checkout	
Session 10: Wrap-Up		
Moderators: James Pipe, Ph.D. & Nicole E. Seiberlich, Ph.D.		
10:45	Poster Awards	Julia V. Velikina, Ph.D.
11:00	Discussion About Important Things	Everyone
12:00	Boxed Lunch & Adjourn	

Take the 5-minute on-site survey!

See the registration desk for questions.

This survey is not for CME credits.

FOLLOW THE CONVERSATION:

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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.

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— THE NEXT GENERATION OF MR SPECIALISTS —

AT TODAY'S WORKSHOP!

Cagan Alkan, M.Sc.
Moritz Blumenthal, M.Sc.
Yannick Brackenier, M.Sc.
Yan Chen, Ph.D. Student
Di Cui, Ph.D.
Omer Demirel, M.Sc.
Sarah Garrow, B.Sc.
Siyuan Hu, B.Sc.
Brandon Jones, B.Sc.
Yohan Jun, Ph.D.
Agah Karakuzu, Ph.D.
Prakash Kumar, B.Sc.
Philip Lee, Ph.D.
Brett Levac, B.Sc., Ph.D. Student
Ivo Maatman, M.Sc.
Julio Oscanoa, M.Sc.
Zhilang Qiu, Ph.D.
Sophie Schauman, D. Phil
Nick Scholand, M.Sc.
Qijia Shen, Ph.D. Student
Shu-Fu Shih, M.Sc.
Efrat Shimron, Ph.D.
Chenwei Tang, B.Sc.
Marc Vornehm, M.Sc.
Guanhua Wang, M.Sc.
Frederic Wang, B.Sc.
Jiayao Yang, B.Sc.
Mahmut Yurt, M.Sc.
Ruiyang Zhao, B.Sc.
Xuetong Zhou, B.Sc.

POSTERS

POSTER	TITLE	AUTHOR
1	*Image Reconstruction with Pose-Dependent Field Modeling Enabled by Prospective Motion Navigation & Randomized Sampling*	Malte Riedel, Ph.D. Eidgenössische Technische Hochschule (ETH) Zürich Zürich, Switzerland
2	*Real-Time Correction of Rigid Motion & 1st-Order Shims Using Rapid 3D Orbital Navigators*	Malte Riedel, Ph.D. Eidgenössische Technische Hochschule (ETH) Zürich Zürich, Switzerland
3	*Rigid Body Rotation Estimation for Spiral MRI with Conventional Sampling*	Zeyu Zhou, Ph.D. Mayo Clinic Rochester, MN, USA
4	*Iterative Motion-Compensated Reconstruction with Convolutional Neural Network (iMoCo-Net) for Ultrashort Echo Time (UTE) Proton Lung MRI*	Fei Tan, Ph.D. University of California, San Francisco San Francisco, CA, USA
5	*5D Free Running Motion Resolved Reconstruction Using Variable Projection*	Yitong Yang, B.Sc. Emory University Atlanta, GA, USA
6	*Database-Free Zero-Shot Deep Learning Reconstruction for Rapid Free-Breathing Cartesian Real-Time Cine MRI*	Omer Demirel, M.Sc. University of Minnesota Minneapolis, MN, USA
7	*Zero-Shot Prior Learning of Spatio-Temporal Multi-Echo/Contrast MRI Reconstruction with Iterative Refinement*	Tae Hyung Kim, Ph.D. Hongik University Seoul, South Korea
8	*Self-Supervised Learning with Self-Supervised Regularization Reconstruction for Accelerated Singleband & Multiband Myocardial Perfusion MRI*	Changyu Sun, Ph.D. University of Missouri, Columbia Columbia, MO, USA
9	*Artificial Intelligence-Based Denoising for Clinical Magnetic Resonance Imaging: From Head to Toe*	Dallas Turley, Ph.D. Philips Healthcare Port Orchard, WA, USA
10	*2.5D Physics-Guided Neural Networks for 3D Non-Cartesian MRI Reconstruction with Limited Training Data*	Chi Zhang, B.Sc. University of Minnesota Minneapolis, MN, USA
11	*A Stochastic Approach for Faster Learning of Sampling Pattern & Deep Learning Reconstruction in Accelerated MRI*	Marcelo Zibetti, Ph.D. New York University Grossman School of Medicine New York, NY, USA
12	*Super-Resolution Residual U-Net for Simultaneous Proton MRF & Sodium MRI*	Hector Lise de Moura, Ph.D. New York University Grossman School of Medicine New York, NY, USA
13	*A Dedicated DL Approach for Combined Slice Separation & k-Space-to-Image Reconstruction of SMS-PI-Accelerated Knee MRI*	Mahmoud Mostapha, Ph.D. Siemens Healthineers Princeton, NJ, USA
14	*Investigating the Feasibility of Unrolled Methods for Scan-Specific, Physics-Informed Reconstruction of Multicontrast MRI Acquisitions*	Kalina Slavkova, Ph.D. University of Pennsylvania Philadelphia, PA, USA
15	*Improving the Feasibility of Deep Learning Based Super-Resolution MRI Using Noisy High-Resolution Reference Data (SRNR)*	Jiaxin Xiao, B.Sc. Tsinghua University Beijing, China

POSTERS

POSTER	TITLE	AUTHOR
16	*Synergistic Combination of Interpretable Image Denoising & Deep Learning Reconstruction for 0.5mm fMRI*	Omer Demirel, M.Sc. University of Minnesota Minneapolis, MN, USA
17	*Improved Model Based Deep Learning Using Monotone Operator Learning*	Aniket Pramanik, B.Sc. University of Iowa Iowa City, IA, USA
18	*Motion-Informed Locally Low-Rank 5D Flow MRI*	Sébastien Emery, M.Sc. Eidgenössische Technische Hochschule (ETH) Zürich Zürich, Switzerland
19	*Inline Deformation-ENcoding Transformer (DENT) for High Frame Rate Cine MRI*	Manuel Morales, Ph.D. Beth Israel Deaconess Medical Center Charlestown, MA, USA
20	*Space-Time-Coil Reconstruction Network Without K-Space Data Consistency for Fast 4D MRI*	Victor Murray, Ph.D. Memorial Sloan Kettering Cancer Center New York, NY, USA
21	*Coil Sketching: G-Factor Analysis & Total Variation Reconstruction*	Julio Oscanoa, M.Sc. Stanford University Stanford, CA, USA
22	*Suppression of Signal from Undesired Echo Pathways in the Presence of B1 Inhomogeneity Using a Locally Low Rank Constrained k-Space Reconstruction*	Meredith E. Sadinski, Ph.D. Promaxo Oakland, CA, USA
23	*Automated Phase-Preserving 3D Beamforming Multi-Coil Reconstruction for Undersampled Radial MRI*	Shu-Fu Shih, M.Sc. University of California, Los Angeles Los Angeles, CA, USA
24	*K-T Adaptive Regularization in Variational Networks for Cardiac Cine Reconstruction*	Marc Vornehm, M.Sc. Friedrich-Alexander-Universität Erlangen-Nürnberg Erlangen, Germany
25	*Embedding a K-Means Denoiser into the Forward Model for Noisy, Undersampled Reconstructions*	Gastao Cruz, Ph.D. University of Michigan Ann Arbor, MI, USA
26	*Generative Smoothness Regularization on Manifolds (G-SToRM): An Efficient Approach for Accelerated Dynamic MRI*	Mathews Jacob, Ph.D. University of Iowa Iowa City, IA, USA
27	*Deep Modular Reconstruction Network with Patch-Embedding Architecture for Accelerated 3D MRI of Brain Cancer in Under One Minute*	Anthony Mekhanik, M.Sc. Memorial Sloan Kettering Cancer Center New York, NY, USA
28	*T2 Shuffling Fast 3D Spin-Echo Reconstruction with Score-Based Generative Modeling*	Sidharth Kumar, M.Sc. University of Texas at Austin Austin, TX, USA
29	*High-Dimensional Confidence Regions in Sparse MRI*	Claudio Mayrink Verdun, M.Sc. Technical University of Munich Munich, Germany
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