

CONTENTS

■ EDITORIAL

- Matt Bernstein, Editor-in-Chief Emeritus,**
Peter Jezzard..... 11
Published online 1 October 2019

■ SPECTROSCOPIC METHODOLOGY

Note

- Effects of Different Macromolecular Models
on Reproducibility of FID-MRSI at 7T,**
Eva Heckova, Michal Považan, Bernhard Strasser,
Stanislav Motyka, Gilbert Hangel, Lukas Hingerl,
Philipp Moser, Alexandra Lipka, Stephan Gruber,
Siegfried Trattning, and Wolfgang Bogner 12
Published online 8 August 2019

■ PRECLINICAL AND CLINICAL SPECTROSCOPY

Full Paper

- Potential Clinical Impact of Multiparametric
Quantitative MR Spectroscopy in Neurological
Disorders: A Review and Analysis,** Ivan I. Kirov
and Assaf Tal 22
Published online 8 August 2019

■ IMAGING METHODOLOGY

Rapid Communication

- Natively Fat-Suppressed 5D Whole-Heart MRI
with a Radial Free-Running Fast-Interrupted
Steady-State (FISS) Sequence at 1.5T and 3T,**
Jessica A.M. Bastiaansen, Davide Piccini,
Lorenzo Di Sopra, Christopher W. Roy, John Heerfordt,
Robert R. Edelman, Ioannis Koktzoglou, Jérôme Yerly,
and Matthias Stuber 45
Published online 27 August 2019

Full Papers

- High-Fidelity, High-Isotropic-Resolution Diffusion
Imaging through gslider Acquisition with B^+ and T_1
Corrections and Integrated $\Delta B_0/R_x$ Shim Array,**
Congyu Liao, Jason Stockmann, Qiyuan Tian,
Berkin Bilgic, Nicolas S. Arango, Mary Kate Manhard,
Susie Y. Huang, William A. Grissom,
Lawrence L. Wald, and Kavin Setsompop 56
Published online 1 August 2019

- Cerebral OEF Quantification: A Comparison
Study between Quantitative Susceptibility
Mapping and Dual-Gas Calibrated BOLD
Imaging,** Yuhan Ma, Hongfu Sun,
Junghun Cho, Erin L. Mazerolle, Yi Wang,
and G. Bruce Pike 68
Published online 2 August 2019

- Fat Navigators and Moiré Phase Tracking
Comparison for Motion Estimation and
Retrospective Correction,** Frédéric Gretschi,
Hendrik Mattern, Daniel Gallichan,
and Oliver Speck 83
Published online 9 August 2019

- GRASP-Pro: Improving GRASP DCE-MRI
through Self-Calibrating Subspace-Modeling
and Contrast Phase Automation,** Li Feng,
Qiuting Wen, Chenchuan Huang, Angela Tong,
Fang Liu, and Hersh Chandarana 94
Published online 10 August 2019

- Systematic Assessment of Multi-Echo Dynamic
Susceptibility Contrast MRI Using a Digital
Reference Object,** Ashley M. Stokes,
Natenael B. Semmineh, Ashley Nespodzany,
Laura C. Bell, and C. Chad Quarles 109
Published online 9 August 2019

- Unsupervised Learning of a Deep Neural Network
for Metal Artifact Correction Using Dual-Polarity
Readout Gradients,** Kinam Kwon, Dongchan Kim,
Byungjai Kim, and HyunWook Park 124
Published online 12 August 2019

- Fully Automated Patellofemoral MRI
Segmentation Using Holistically Nested Networks:
Implications for Evaluating Patellofemoral
Osteoarthritis, Pain, Injury, Pathology,
and Adolescent Development,** Ruida Cheng,
Natalia A. Alexandridi, Richard M. Smith,
Aricia Shen, William Gandler, Evan McCreedy,
Matthew J. McAuliffe, and Frances T. Sheehan 139
Published online 11 August 2019

- SMS MUSSELS: A Navigator-Free Reconstruction
for Simultaneous Multi-Slice-Accelerated
Multi-Shot Diffusion Weighted Imaging,**
Merry Mani, Mathews Jacob, Graeme McKinnon,
Baolian Yang, Brian Rutt, Adam Kerr,
and Vincent Magnotta 154
Published online 12 August 2019

Notes

- Improving the Image Quality of 3D FLAIR
with a Spiral MRI Technique,** Zhiqiang Li,
James G. Pipe, Melvyn B. Ooi, Michael Kuwabara,
and John P. Karis 170
Published online 8 August 2019

CONTENTS

Whole-Heart T₁ Mapping Using a 2D Fat Image Navigator for Respiratory Motion Compensation, Giovanna Nordio, Torben Schneider, Gastao Cruz, Teresa Correia, Aurelien Bustin, Claudia Prieto, René M. Botnar, and Markus Henningsson 178
Published online 9 August 2019

Iterative Correction of RF Envelope Distortion with GRATER-Measured Waveforms, Vanessa L. Landes and Krishna S. Nayak..... 188
Published online 23 August 2019

In-Phase Zero TE Musculoskeletal Imaging, Mathias Engström, Graeme McKinnon, Cristina Cozzini, and Florian Wiesinger..... 195
Published online 20 August 2019

■ PRECLINICAL AND CLINICAL IMAGING

Rapid Communication

In Vivo Potassium MRI of the Human Heart, Daniel Wenz, Armin Michael Nagel, Johanna Lott, Andre Kuehne, Sebastian Christian Niesporek, and Thoralf Niendorf..... 203
Published online 27 August 2019

Full Papers

MEMRI-based Imaging Pipeline for Guiding Preclinical Studies in Mouse Models of Sporadic Medulloblastoma, Harikrishna Rallapalli, I-Li Tan, Eugenia Volkova, Alexandre Wojcinski, Benjamin C. Darwin, Jason P. Lerch, Alexandra L. Joyner, and Daniel H. Turnbull 214
Published online 12 August 2019

An Iterative Sparse Deconvolution Method for Simultaneous Multicolor ¹⁹F-MRI of Multiple Contrast Agents, Jasper Schoormans, Claudia Calcagno, Mariah R.R. Daal, Rob C.I. Wüst, Christopher Faries, Alexander Maier, Abraham J.P. Teunissen, Sonum Naidu, Brenda L. Sanchez-Gaytan, Aart J. Nederveen, Zahi A. Fayad, Willem J.M. Mulder, Bram F. Coolen, and Gustav J. Strijkers..... 228
Published online 23 August 2019

High-Resolution Intravascular MRI-Guided Perivascular Ultrasound Ablation, Xiaoyang Liu, Nicholas Ellens, Emery Williams, Everette C. Burdette, Parag Karmarkar, Clifford R. Weiss, Dara Kraitchman, and Paul A. Bottomley..... 240
Published online 11 August 2019

Note

SAR Comparison between CASL and pCASL at High Magnetic Field and Evaluation of the Benefit of a Dedicated Labeling Coil, Lydiane Hirschler, Nora Collomb, Jérôme Voiron, Sascha Köhler, Emmanuel L. Barbier, and Jan M. Warnking 254
Published online 20 August 2019

■ BIOPHYSICS AND BASIC BIOMEDICAL RESEARCH

Rapid Communication

Dissolved Hyperpolarized Xenon-129 MRI in Human Kidneys, Jorge Chacon-Caldera, Adam Maunder, Madhwesha Rao, Graham Norquay, Oliver I. Rodgers, Matthew Clemence, Claudio Puddu, Lothar R. Schad, and Jim M. Wild 262
Published online 9 August 2019

Full Paper

Automated Adaptive Preconditioner for Quantitative Susceptibility Mapping, Zhe Liu, Yan Wen, Pascal Spincemaille, Shun Zhang, Yihao Yao, Thanh D. Nguyen, and Yi Wang 271
Published online 11 August 2019

■ COMPUTER PROCESSING AND MODELING

Full Papers

Pharmacokinetic Modeling of Dynamic Contrast-Enhanced MRI Using a Reference Region and Input Function Tail, Zaki Ahmed and Ives R. Levesque 286
Published online 8 August 2019

Parallel Transmission to Reduce Absorbed Power Around Deep Brain Stimulation Devices in MRI: Impact of Number and Arrangement of Transmit Channels, Bastien Guerin, Leonardo M. Angelone, Darin Dougherty, and Lawrence L. Wald 299
Published online 7 August 2019

Deep Learning How to Fit an Intravoxel Incoherent Motion Model to Diffusion-Weighted MRI, Sebastiano Barbieri, Oliver J. Gurney-Champion, Remy Klaassen, and Harriet C. Thoeny 312
Published online 7 August 2019

Highly Undersampled Magnetic Resonance Imaging Reconstruction Using Autoencoding Priors, Qiegen Liu, Qingxin Yang, Huitao Cheng, Shanshan Wang, Minghui Zhang, and Dong Liang.... 322
Published online 20 August 2019

CONTENTS

Quantitative Brain Relaxation Atlases for Personalized Detection and Characterization of Brain Pathology, Gian Franco Piredda, Tom Hilbert, Cristina Granziera, Guillaume Bonnier, Reto Meuli, Filippo Molinari, Jean-Philippe Thiran, and Tobias Kober337
Published online 16 August 2019

■ HARDWARE AND INSTRUMENTATION

Full Paper

Peripheral Nerve Stimulation Limits of a High Amplitude and Slew Rate Magnetic Field Gradient Coil for Neuroimaging, Ek T. Tan, Yihe Hua, Eric W. Fiveland, Mark E. Vermilyea, Joseph E. Piel, Keith J. Park, Vincent B. Ho, and Thomas K. F. Foo 352
Published online 6 August 2019