

Stanford



John M. Pauly

Reid Weaver Dennis Professor

Electrical Engineering

Bio

BIO

Interests include medical imaging generally, and magnetic resonance imaging (MRI) in particular. Current efforts are focused on medical applications of MRI where real-time interactive imaging is important. Two examples are cardiac imaging, and the interactive guidance of interventional procedures. Specific interests include rapid methods for the excitation and acquisition of the MR signal, and the reconstruction of images from the data acquired using these approaches.

ACADEMIC APPOINTMENTS

- Professor, Electrical Engineering
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Fellow, International Society for Magnetic Resonance in Medicine (2005)
- Fellow, IEEE (2022)
- Gold Medal, International Society of Magnetic Resonance in Medicine (2012)

PROFESSIONAL EDUCATION

- PhD, Stanford University (1990)

LINKS

- MRSRL Web Site: <http://www-mrsrl.stanford.edu>

Teaching

COURSES

2023-24

- Analog and Digital Communication Systems: EE 179 (Win)
- Dream It, Build It!: EE 11SC (Sum)
- Medical Imaging Systems II: BMP 269B, EE 369B (Spr)
- RF Pulse Design for Magnetic Resonance Imaging: EE 469B (Aut)

- The Electrical Engineering Profession: EE 100 (Aut)

2022-23

- Dream It, Build It!: EE 11SC (Sum)
- Introduction to Bioimaging: EE 169 (Aut)
- Mechanical Prototyping for Electrical Engineers: EE 64SI (Win)
- Medical Imaging Systems II: BMP 269B, EE 369B (Win)
- The Electrical Engineering Profession: EE 100 (Aut)
- The Wireless World, and the Data You Leak: EE 26N (Win)

2021-22

- Analog and Digital Communication Systems: EE 179 (Aut)
- Dream It, Build It!: EE 11SC (Sum)
- Signal Processing and Linear Systems II: EE 102B (Spr)
- The Electrical Engineering Profession: EE 100 (Aut)

2020-21

- Dream It, Build It!: EE 11SC (Sum)
- Introductory Research Seminar in Electrical Engineering: EE 301 (Aut, Sum)
- Medical Image Reconstruction: EE 369C (Aut)
- Signal Processing and Linear Systems II: EE 102B (Spr)
- The Electrical Engineering Profession: EE 100 (Aut)
- The Wireless World, and the Data You Leak: EE 26N (Win)

STANFORD ADVISEES

Onat Dalmaz, Irmak Sivgin

Doctoral Dissertation Reader (AC)

Phil Adamson, George Alexopoulos, Thurston Brevett, Anna Broome, Myunghoon(Young) Chin, Arjun Desai, Jonathan Fisher, Aidan Fitzpatrick, West Foster, Jonathan Goodman, Laurel Hales, Ali Mottaghi, Favour Nerrise, Cindy Nguyen, Mark Nishimura, JIAHONG OUYANG, Joanna Sands, Ajay Singhvi, Itamar Terem, Alex Toews, Eric Wu, Joon Yang, Yirong Yang

Doctoral Dissertation Advisor (AC)

Cagan Alkan, Matt McCready, Dave Van Veen, Mahmut Yurt

Master's Program Advisor

Sarah Abdalla, Yuexi Fan, Ruby Onsongo, Melvin Orichi Socana, Tianyun Zhao

Doctoral (Program)

Daniel Abraham, Kumar Ayush, Rachel Barclay, Arjun Desai, Laurel Hales, Alisa Hathaway, Benjamin Hofflich, Sabrina Liu, Matt McCready, Alice Tor, Dave Van Veen, Eric Wu, Yuxin Wu, Yirong Yang, Mahmut Yurt

Publications

PUBLICATIONS

- **Erratum: "Ultra-low-dose PET reconstruction using generative adversarial network with feature matching and task-specific perceptual loss".** *Medical physics*

- Ouyang, J., Chen, K. T., Gong, E., Pauly, J., Zaharchuk, G.
2023; 50 (9): 5932
- **Noise2Recon: Enabling SNR-robust MRI reconstruction with semi-supervised and self-supervised learning.** *Magnetic resonance in medicine*
Desai, A. D., Ozturkler, B. M., Sandino, C. M., Boutin, R., Willis, M., Vasanaawala, S., Hargreaves, B. A., Re, C., Pauly, J. M., Chaudhari, A. S.
2023
 - **Optimization in the space domain for density compensation with the nonuniform FFT.** *Magnetic resonance imaging*
Dwork, N., O'Connor, D., Johnson, E. M., Baron, C. A., Gordon, J. W., Pauly, J. M., Larson, P. E.
2023
 - **Automated MRI Field of View Prescription from Region of Interest Prediction by Intra-Stack Attention Neural Network.** *Bioengineering (Basel, Switzerland)*
Lei, K., Syed, A. B., Zhu, X., Pauly, J. M., Vasanaawala, S. V.
2023; 10 (1)
 - **SLfRank: Shinnar-Le-Roux Pulse Design with Reduced Energy and Accurate Phase Profiles using Rank Factorization.** *IEEE transactions on medical imaging*
Ong, F., Zhong, Z., Liao, C., Lustig, M., Vasanaawala, S. S., Pauly, J. M.
2022; PP
 - **Deep Learning-Based Water-Fat Separation from Dual-Echo Chemical Shift-Encoded Imaging.** *Bioengineering (Basel, Switzerland)*
Wu, Y., Alley, M., Li, Z., Datta, K., Wen, Z., Sandino, C., Syed, A., Ren, H., Xing, L., Lustig, M., Pauly, J., Vasanaawala, S.
2022; 9 (10)
 - **A Semi-Blind Calibration and Compensation Method for Dynamic Range Recovery of Low-Power Pre-Amplifiers in MRI Receive Chains.** *IEEE transactions on medical imaging*
Vassos, C., Robb, F., Vasanaawala, S., Pauly, J., Scott, G.
2022; PP
 - **Rapid fat-water separated T1 mapping using a single shot radial inversion-recovery spoiled gradient recalled pulse sequence.** *NMR in biomedicine*
Li, Z., Mathew, M., Syed, A. B., Feng, L., Brunsing, R., Pauly, J. M., Vasanaawala, S. S.
2022
 - **A geometry-informed deep learning framework for ultra-sparse 3D tomographic image reconstruction.** *Computers in biology and medicine*
Shen, L., Zhao, W., Capaldi, D., Pauly, J., Xing, L.
2022: 105710
 - **NeRP: Implicit Neural Representation Learning With Prior Embedding for Sparsely Sampled Image Reconstruction.** *IEEE transactions on neural networks and learning systems*
Shen, L., Pauly, J., Xing, L.
2022; PP
 - **A Geometry-Informed Deep Learning Framework for Ultra-Sparse 3D Tomographic Image Reconstruction**
Shen, L., Zhao, W., Pauly, J., Xing, L.
ELSEVIER IRELAND LTD.2022: S287-S288
 - **Novel-view X-ray projection synthesis through geometry-integrated deep learning.** *Medical image analysis*
Shen, L., Yu, L., Zhao, W., Pauly, J., Xing, L.
2022; 77: 102372
 - **Attention-guided deep learning for gestational age prediction using fetal brain MRI.** *Scientific reports*
Shen, L., Zheng, J., Lee, E. H., Shpanskaya, K., McKenna, E. S., Atluri, M. G., Plasto, D., Mitchell, C., Lai, L. M., Guimaraes, C. V., Dahmouh, H., Chueh, J., Halabi, et al
1800; 12 (1): 1408
 - **Artifact- and content-specific quality assessment for MRI with image rulers.** *Medical image analysis*
Lei, K., Syed, A. B., Zhu, X., Pauly, J. M., Vasanaawala, S. S.
1800; 77: 102344
 - **Scale-Equivariant Unrolled Neural Networks for Data-Efficient Accelerated MRI Reconstruction**

Gunel, B., Sahiner, A., Desai, A. D., Chaudhari, A. S., Vasawala, S., Pilanci, M., Pauly, J., Wang, L., Dou, Q., Fletcher, P. T., Speidel, S., Li, S.
SPRINGER INTERNATIONAL PUBLISHING AG.2022: 737-747

- **Unraveling Attention via Convex Duality: Analysis and Interpretations of Vision Transformers**
Sahiner, A., Ergen, T., Ozturkler, B., Pauly, J., Mardani, M., Pilanci, M., Chaudhuri, K., Jegelka, S., Song, L., Szepesvari, C., Niu, G., Sabato, S.
JMLR-JOURNAL MACHINE LEARNING RESEARCH.2022: 19050-19088
- **Learned Compression of High Dimensional Image Datasets**
Cole, E., Meng, Q., Pauly, J., Vasawala, S., IEEE
IEEE.2022: 1747-1751
- **Utilizing the Wavelet Transform's Structure in Compressed Sensing.** *Signal, image and video processing*
Dwork, N., O'Connor, D., Baron, C. A., Johnson, E. M., Kerr, A. B., Pauly, J. M., Larson, P. E.
2021; 15 (7): 1407-1414
- **Biopsy Marker Localization with Thermo-Acoustic Ultrasound for Lumpectomy Guidance.** *Medical physics*
Dixit, N., Daniel, B. L., Hargreaves, B. A., Pauly, J. M., Scott, G. C.
2021
- **Multi-Domain Image Completion for Random Missing Input Data** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Shen, L., Zhu, W., Wang, X., Xing, L., Pauly, J. M., Turkbey, B., Harmon, S., Sanford, T., Mehralivand, S., Choyke, P. L., Wood, B. J., Xu, D.
2021; 40 (4): 1113-22
- **Utilizing the wavelet transform's structure in compressed sensing** *SIGNAL IMAGE AND VIDEO PROCESSING*
Dwork, N., O'Connor, D., Baron, C. A., Johnson, E. M., Kerr, A. B., Pauly, J. M., Larson, P. Z.
2021
- **Analysis of deep complex-valued convolutional neural networks for MRI reconstruction and phase-focused applications.** *Magnetic resonance in medicine*
Cole, E. n., Cheng, J. n., Pauly, J. n., Vasawala, S. n.
2021
- **Ultra-low-dose 18F-FDG brain PET/MR denoising using deep learning and multi-contrast information**
Xu, J., Gong, E., Ouyang, J., Pauly, J., Zaharchuk, G., Isgum, Landman, B. A.
SPIE-INT SOC OPTICAL ENGINEERING.2021
- **Deep learning and multi-contrast based denoising for low-SNR Arterial Spin Labeling (ASL) MRI**
Gong, E., Guo, J., Liu, J., Fan, A., Pauly, J., Zaharchuk, G., Isgum, Landman, B. A.
SPIE-INT SOC OPTICAL ENGINEERING.2021
- **Fast Unsupervised MRI Reconstruction Without Fully-Sampled Ground Truth Data Using Generative Adversarial Networks**
Cole, E. K., Ong, F., Vasawala, S. S., Pauly, J. M., IEEE Comp Soc
IEEE COMPUTER SOC.2021: 3971-3980
- **Wasserstein GANs for MR Imaging: From Paired to Unpaired Training** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Lei, K., Mardani, M., Pauly, J. M., Vasawala, S. S.
2021; 40 (1): 105-15
- **Uncertainty Quantification in Deep MRI Reconstruction** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Eduvuganti, V., Mardani, M., Vasawala, S., Pauly, J.
2021; 40 (1): 239-50
- **Synthesize High-Quality Multi-Contrast Magnetic Resonance Imaging From Multi-Echo Acquisition Using Multi-Task Deep Generative Model** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Wang, G., Gong, E., Banerjee, S., Martin, D., Tong, E., Choi, J., Chen, H., Wintermark, M., Pauly, J. M., Zaharchuk, G.
2020; 39 (10): 3089-99
- **Rosette Trajectories Enable Ungated, Motion-Robust, Simultaneous Cardiac and Liver T2 * Iron Assessment.** *Journal of magnetic resonance imaging : JMIR*
Bush, A. M., Sandino, C. M., Ramachandran, S., Ong, F., Dwork, N., Zucker, E. J., Syed, A. B., Pauly, J. M., Alley, M. T., Vasawala, S. S.
2020: e27196

- **Two-dimensional UTE overview imaging for dental application.** *Magnetic resonance in medicine*
Stumpf, K., Kaye, E., Paul, J., Wundrak, S., Pauly, J. M., Rasche, V.
2020
- **Multi-scale Unrolled Deep Learning Framework for Accelerated Magnetic Resonance Imaging.** *Proceedings. IEEE International Symposium on Biomedical Imaging*
Nakarmi, U., Cheng, J. Y., Rios, E. P., Mardani, M., Pauly, J. M., Ying, L., Vasanaawala, S. S.
2020; 2020: 1056–59
- **DIAGNOSTIC IMAGE QUALITY ASSESSMENT AND CLASSIFICATION IN MEDICAL IMAGING: OPPORTUNITIES AND CHALLENGES.** *Proceedings. IEEE International Symposium on Biomedical Imaging*
Ma, J. J., Nakarmi, U., Kin, C. Y., Sandino, C. M., Cheng, J. Y., Syed, A. B., Wei, P., Pauly, J. M., Vasanaawala, S. S.
2020; 2020: 337-340
- **Multi-scale Unrolled Deep Learning Framework for Accelerated Magnetic Resonance Imaging**
Nakarmi, U., Cheng, J. Y., Rios, E. P., Mardani, M., Pauly, J. M., Ying, L., Vasanaawala, S. S., IEEE
IEEE.2020: 1052–55
- **Fast variable density Poisson-disc sample generation with directional variation for compressed sensing in MRI.** *Magnetic resonance imaging*
Dwork, N. n., Baron, C. A., Johnson, E. M., O'Connor, D. n., Pauly, J. M., Larson, P. E.
2020
- **Compressed Sensing: From Research to Clinical Practice With Deep Neural Networks: Shortening Scan Times for Magnetic Resonance Imaging** *IEEE SIGNAL PROCESSING MAGAZINE*
Sandino, C. M., Cheng, J. Y., Chen, F., Mardani, M., Pauly, J. M., Vasanaawala, S. S.
2020; 37 (1): 117–27
- **Compressed Sensing: From Research to Clinical Practice with Deep Neural Networks.** *IEEE signal processing magazine*
Sandino, C. M., Cheng, J. Y., Chen, F., Mardani, M., Pauly, J. M., Vasanaawala, S. S.
2020; 37 (1): 111-127
- **DIAGNOSTIC IMAGE QUALITY ASSESSMENT AND CLASSIFICATION IN MEDICAL IMAGING: OPPORTUNITIES AND CHALLENGES**
Ma, J. J., Nakarmi, U., Kin, C., Sandino, C. M., Cheng, J. Y., Syed, A. B., Wei, P., Pauly, J. M., Vasanaawala, S. S., IEEE
IEEE.2020: 337–40
- **Ultra-low-dose PET Reconstruction using Generative Adversarial Network with Feature Matching and Task-Specific Perceptual Loss.** *Medical physics*
Ouyang, J., Chen, K. T., Gong, E., Pauly, J., Zaharchuk, G.
2019
- **An MRI Compatible RF MEMs Controlled Wireless Power Transfer System** *IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES*
Byron, K., Winkler, S. A., Robb, F., Vasanaawala, S., Pauly, J., Scott, G.
2019; 67 (5): 1717–26
- **An MRI Compatible RF MEMs Controlled Wireless Power Transfer System.** *IEEE transactions on microwave theory and techniques*
Byron, K., Winkler, S. A., Robb, F., Vasanaawala, S., Pauly, J., Scott, G.
2019; 67 (5): 1717-1726
- **Evaluation of a Flexible 12-Channel Screen-printed Pediatric MRI Coil** *RADIOLOGY*
Winkler, S., Corea, J., Lechene, B., O'Brien, K., Bonanni, J., Chaulhari, A., Alley, M., Taviani, V., Grafendorfer, T., Robb, F., Seem, G., Pauly, J., Lustig, et al
2019; 291 (1): 179–84
- **Evaluation of a Flexible 12-Channel Screen-printed Pediatric MRI Coil.** *Radiology*
Winkler, S. A., Corea, J., Lechene, B., O'Brien, K., Bonanni, J. R., Chaudhari, A., Alley, M., Taviani, V., Grafendorfer, T., Robb, F., Scott, G., Pauly, J., Lustig, et al
2019: 181883
- **Data-driven self-calibration and reconstruction for non-cartesian wave-encoded single-shot fast spin echo using deep learning.** *Journal of magnetic resonance imaging : JMRI*
Chen, F. n., Cheng, J. Y., Taviani, V. n., Sheth, V. R., Brunsing, R. L., Pauly, J. M., Vasanaawala, S. S.
2019

- **Thermo-acoustic ultrasound for noninvasive temperature monitoring at lead tips during MRI.** *Magnetic resonance in medicine*
Dixit, N. n., Pauly, J. M., Scott, G. C.
2019
- **Task-GAN: Improving Generative Adversarial Network for Image Reconstruction**
Ouyang, J., Wang, G., Gong, E., Chen, K., Pauly, J., Zaharchuk, G., Knoll, F., Maier, A., Rueckert, D., Ye, J. C.
SPRINGER INTERNATIONAL PUBLISHING AG.2019: 193–204
- **Accelerated MRI Reconstruction with Dual-Domain Generative Adversarial Network**
Wang, G., Gong, E., Banerjee, S., Pauly, J., Zaharchuk, G., Knoll, F., Maier, A., Rueckert, D., Ye, J. C.
SPRINGER INTERNATIONAL PUBLISHING AG.2019: 47–57
- **Deep Generative Adversarial Neural Networks for Compressive Sensing MRI** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Mardani, M., Gong, E., Cheng, J. Y., Vasawala, S. S., Zaharchuk, G., Xing, L., Pauly, J. M.
2019; 38 (1): 167–79
- **Automatically Determining the Confocal Parameters From OCT B-Scans for Quantification of the Attenuation Coefficients** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Dwork, N., Smith, G. T., Leng, T., Pauly, J. M., Bowden, A. K.
2019; 38 (1): 261–68
- **Deep residual network for off-resonance artifact correction with application to pediatric body MRA with 3D cones.** *Magnetic resonance in medicine*
Zeng, D. Y., Shaikh, J. n., Holmes, S. n., Brunsing, R. L., Pauly, J. M., Nishimura, D. G., Vasawala, S. S., Cheng, J. Y.
2019
- **Ultra-Low-Dose 18F-Florbetaben Amyloid PET Imaging Using Deep Learning with Multi-Contrast MRI Inputs.** *Radiology*
Chen, K. T., Gong, E., de Carvalho Macruz, F. B., Xu, J., Boumis, A., Khalighi, M., Poston, K. L., Sha, S. J., Greicius, M. D., Mormino, E., Pauly, J. M., Srinivas, S., Zaharchuk, et al
2018: 180940
- **Hyperpolarized 13C MRI: Path to Clinical Translation in Oncology.** *Neoplasia (New York, N.Y.)*
Kurhanewicz, J., Vigneron, D. B., Ardenkjaer-Larsen, J. H., Bankson, J. A., Brindle, K., Cunningham, C. H., Gallagher, F. A., Keshari, K. R., Kjaer, A., Laustsen, C., Mankoff, D. A., Merritt, M. E., Nelson, et al
2018; 21 (1): 1–16
- **Technique development of 3D dynamic CS-EPSI for hyperpolarized C-13 pyruvate MR molecular imaging of human prostate cancer** *MAGNETIC RESONANCE IN MEDICINE*
Chen, H., Larson, P. Z., Gordon, J. W., Bok, R. A., Ferrone, M., van Criekinge, M., Carvajal, L., Cao, P., Pauly, J. M., Kerr, A. B., Park, I., Slater, J. B., Nelson, et al
2018; 80 (5): 2062–72
- **Variable-Density Single-Shot Fast Spin-Echo MRI with Deep Learning Reconstruction by Using Variational Networks** *RADIOLOGY*
Chen, F., Taviani, V., Malkiel, I., Cheng, J. Y., Tamir, J. I., Shaikh, J., Chang, S. T., Hardy, C. J., Pauly, J. M., Vasawala, S. S.
2018; 289 (2): 366–73
- **Quantitative susceptibility mapping using deep neural network: QSMnet** *NEUROIMAGE*
Yoon, J., Gong, E., Chatnuntawech, I., Bilgic, B., Lee, J., Jung, W., Ko, J., Jung, H., Setsompop, K., Zaharchuk, G., Kim, E., Pauly, J., Lee, et al
2018; 179: 199–206
- **ISLES 2016 and 2017-Benchmarking Ischemic Stroke Lesion Outcome Prediction Based on Multispectral MRI** *FRONTIERS IN NEUROLOGY*
Winzeck, S., Hakim, A., McKinley, R., Pinto, J. R., Alves, V., Silva, C., Pisov, M., Krivov, E., Belyaev, M., Monteiro, M., Oliveira, A., Choi, Y., Palk, et al
2018; 9
- **ISLES 2016 and 2017-Benchmarking Ischemic Stroke Lesion Outcome Prediction Based on Multispectral MRI.** *Frontiers in neurology*
Winzeck, S., Hakim, A., McKinley, R., Pinto, J. A., Alves, V., Silva, C., Pisov, M., Krivov, E., Belyaev, M., Monteiro, M., Oliveira, A., Choi, Y., Paik, et al
2018; 9: 679
- **Variable-Density Single-Shot Fast Spin-Echo MRI with Deep Learning Reconstruction by Using Variational Networks.** *Radiology*
Chen, F., Taviani, V., Malkiel, I., Cheng, J. Y., Tamir, J. I., Shaikh, J., Chang, S. T., Hardy, C. J., Pauly, J. M., Vasawala, S. S.
2018: 180445

- **Body diffusion-weighted imaging using magnetization prepared single-shot fast spin echo and extended parallel imaging signal averaging** *MAGNETIC RESONANCE IN MEDICINE*
Gibbons, E. K., Vasawala, S. S., Pauly, J. M., Kerr, A. B.
2018; 79 (6): 3032–44
- **Rapid compressed sensing reconstruction of 3D non-Cartesian MRI** *MAGNETIC RESONANCE IN MEDICINE*
Baron, C. A., Dwork, N., Pauly, J. M., Nishimura, D. G.
2018; 79 (5): 2685–92
- **Deep learning enables reduced gadolinium dose for contrast-enhanced brain MRI.** *Journal of magnetic resonance imaging : JMRI*
Gong, E., Pauly, J. M., Wintermark, M., Zaharchuk, G.
2018
- **Thermo-Acoustic Ultrasound for Detection of RF-Induced Device Lead Heating in MRI** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Dixit, N., Stang, P. P., Pauly, J. M., Scott, G. C.
2018; 37 (2): 536–46
- **Self-Calibrating Wave-Encoded Variable-Density Single-Shot Fast Spin Echo Imaging.** *Journal of magnetic resonance imaging : JMRI*
Chen, F. n., Taviani, V. n., Tamir, J. I., Cheng, J. Y., Zhang, T. n., Song, Q. n., Hargreaves, B. A., Pauly, J. M., Vasawala, S. S.
2018; 47 (4): 954–66
- **A Wireless Power Transfer System for MRI Scanners**
Byron, K., Robb, F., Vasawala, S., Pauly, J., Scott, G., IEEE
IEEE.2018
- **Neural Proximal Gradient Descent for Compressive Imaging**
Mardani, M., Sun, Q., Vasawala, S., Pappas, V., Monajemi, H., Pauly, J., Donoho, D., Bengio, S., Wallach, H., Larochelle, H., Grauman, K., CesaBianchi, N., Garnett, et al
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2018
- **Advancements in Low-cost, Long Endurance, Altitude Controlled Latex Balloons (ValBal)**
Sushko, A., Tedjarati, A., Creus-Costa, J., Marshland, K., Brown, P., Regland, D., Dean, J., Maldonado, S., Pauly, J. M., IEEE
IEEE.2018
- **Robust Self-Calibrating nCPMG Acquisition: Application to Body Diffusion-Weighted Imaging** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Gibbons, E. K., Le Roux, P., Vasawala, S. S., Pauly, J. M., Kerr, A. B.
2018; 37 (1): 200–209
- **An RF-gated wireless power transfer system for wireless MRI receive arrays** *CONCEPTS IN MAGNETIC RESONANCE PART B-MAGNETIC RESONANCE ENGINEERING*
Byron, K., Robb, F., Stang, P., Vasawala, S., Pauly, J., Scott, G.
2017; 47B (4)
- **Frequency shifting reduces but does not eliminate acoustic interference between echolocating bats: A theoretical analysis.** *The Journal of the Acoustical Society of America*
Perkins, M. L., Frank, H. K., Pauly, J. M., Hadly, E. A.
2017; 142 (4): 2133
- **An RF-gated wireless power transfer system for wireless MRI receive arrays.** *Concepts in magnetic resonance. Part B, Magnetic resonance engineering*
Byron, K., Robb, F., Stang, P., Vasawala, S., Pauly, J., Scott, G.
2017; 47B (4)
- **Comprehensive Multi-Dimensional MRI for the Simultaneous Assessment of Cardiopulmonary Anatomy and Physiology.** *Scientific reports*
Cheng, J. Y., Zhang, T., Alley, M. T., Uecker, M., Lustig, M., Pauly, J. M., Vasawala, S. S.
2017; 7 (1): 5330
- **Resolving phase ambiguity in dual-echo dixon imaging using a projected power method** *MAGNETIC RESONANCE IN MEDICINE*
Zhang, T., Chen, Y., Bao, S., Alley, M. T., Pauly, J. M., Hargreaves, B. A., Vasawala, S. S.
2017; 77 (5): 2066-2076

- **Slice profile effects on nCPMG SS-FSE.** *Magnetic resonance in medicine*
Gibbons, E. K., Le Roux, P., Pauly, J. M., Kerr, A. B.
2017
- **Improved cortical bone specificity in UTE MR Imaging** *MAGNETIC RESONANCE IN MEDICINE*
Johnson, E. M., Vyas, U., Ghanouni, P., Pauly, K. B., Pauly, J. M.
2017; 77 (2): 684-695
- **A Millimeter-Wave Digital Link for Wireless MRI** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Aggarwal, K., Joshi, K. R., Rajavi, Y., Taghivand, M., Pauly, J. M., Poon, A. S., Scott, G.
2017; 36 (2): 574-583
- **Body Diffusion Weighted Imaging Using Non-CPMG Fast Spin Echo** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Gibbons, E. K., Le Roux, P., Vasanaawala, S. S., Pauly, J. M., Kerr, A. B.
2017; 36 (2): 549-559
- **Formulation of image fusion as a constrained least squares optimization problem.** *Journal of medical imaging (Bellingham, Wash.)*
Dwork, N., Lasry, E. M., Pauly, J. M., Balbás, J.
2017; 4 (1): 014003-?
- **Frequency shifting reduces but does not eliminate acoustic interference between echolocating bats: A theoretical analysis** *The Journal of the Acoustical Society of America*
Perkins, M. L., Frank, H. K., Pauly, J. M., Hadly, E. A.
2017; 142: 2133
- **Recurrent Generative Adversarial Neural Networks for Compressive Imaging**
Mardani, M., Gong, E., Cheng, J. Y., Pauly, J., Xing, L., IEEE
IEEE.2017
- **Autocalibrating motion-corrected wave-encoding for highly accelerated free-breathing abdominal MRI.** *Magnetic resonance in medicine*
Chen, F., Zhang, T., Cheng, J. Y., Shi, X., Pauly, J. M., Vasanaawala, S. S.
2016
- **Depletion-Mode GaN HEMT Q-Spoil Switches for MRI Coils** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Lu, J. Y., Grafendorfer, T., Zhang, T., Vasanaawala, S., Robb, F., Pauly, J. M., Scott, G. C.
2016; 35 (12): 2558-2567
- **Body diffusion weighted imaging using non-CPMG fast spin echo.** *IEEE transactions on medical imaging*
Gibbons, E., Le Roux, P., Vasanaawala, S., Pauly, J., Kerr, A.
2016: -?
- **Spectrally selective three-dimensional dynamic balanced steady-state free precession for hyperpolarized C-13 metabolic imaging with spectrally selective radiofrequency pulses.** *Magnetic resonance in medicine*
Shang, H., Sukumar, S., Von Morze, C., Bok, R. A., Marco-Rius, I., Kerr, A., Reed, G. D., Milshteyn, E., Ohliger, M. A., Kurhanewicz, J., Larson, P. E., Pauly, J. M., Vigneron, et al
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