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ACADEMIC POSITIONS

- **Associate Professor**, Signal and Image Processing Institute, Ming Hsieh Department of Electrical and Computer Engineering, University of Southern California. April 2018–Present.
- **Associate Professor (Courtesy Appointment)**, Department of Biomedical Engineering, University of Southern California. April 2018–Present.
- **Assistant Professor**, Signal and Image Processing Institute, Ming Hsieh Department of Electrical Engineering, University of Southern California. August 2012–April 2018.
- **Assistant Professor (Courtesy Appointment)**, Department of Biomedical Engineering, University of Southern California. January 2014–April 2018.
- **Research Assistant Professor**, Signal and Image Processing Institute, Dana & David Dornsife Cognitive Neuroscience Imaging Center, Brain and Creativity Institute, Ming Hsieh Department of Electrical Engineering, University of Southern California. January 2012–August 2012.
- **Postdoctoral Research Associate**, Signal and Image Processing Institute, Dana & David Dornsife Cognitive Neuroscience Imaging Center, Brain and Creativity Institute, Ming Hsieh Department of Electrical Engineering, University of Southern California. July 2011–December 2011.
- **Graduate Research Assistant/Fellow**, Beckman Institute for Advanced Science and Technology, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign. Advisor: Professor Zhi-Pei Liang. January 2004–May 2011.

EDUCATION

- **Doctor of Philosophy in Electrical and Computer Engineering**, May 2011, University of Illinois at Urbana-Champaign. Dissertation: “Constrained Imaging: Denoising and Sparse Sampling.”
- **Master of Science in Electrical Engineering**, August 2005, University of Illinois at Urbana-Champaign. Thesis: “Sparse Matrix Formulations for Fast Image Reconstruction in Multichannel MRI.”
- **Bachelor of Science in Electrical Engineering (Highest Honors)**, May 2004, University of Illinois at Urbana-Champaign. Minors in Computer Science and Mathematics.

RESEARCH AWARDS AND HONORS – 2005-PRESENT

(Abbreviations: IEEE ISBI – IEEE International Symposium on Biomedical Imaging; IEEE EMBC – IEEE Engineering in Medicine and Biology Conference; ISMRM – International Society for Magnetic Resonance in Medicine; IEEE MIC – IEEE Medical Imaging Conference)

Faculty Career Development:

- **National Science Foundation CAREER Award**, 2014.

Journal and Conference Paper Awards:

- **Magnetic Resonance in Medicine Editor’s Pick (co-author)**, August 2018. For the paper: “Improving parallel imaging by jointly reconstructing multicontrast data.”
<https://blog.ismr.org/2018/08/31/qa-with-berkin-bilgic-and-kawin-setsompop/>
<https://www.youtube.com/watch?v=UiIUZgp0FCk>
- **First-Place Student Paper Award (co-author)**, IEEE MIC 2012. For the paper: “Kinetic Parameter Estimation in Dynamic PET with a Sparsity-Regularized Mixture Model.”

- **Best Student Paper Award (first author)**, IEEE ISBI 2010. For the paper: “Spatiotemporal Imaging With Partially Separable Functions: A Matrix Recovery Approach.”
- **Student Paper Competition First-Place Award (first author)**, IEEE EMBC 2010. For the paper: “Label-Free High-Resolution Imaging of Live Cells with Deconvolved Spatial Light Interference Microscopy.”
- **I. I. Rabi Young Investigator Award (co-author)**, ISMRM 2009. For the paper: “Robust Water/Fat Separation in the Presence of Large Field Inhomogeneities Using a Graph Cut Algorithm.”
- **Student Paper Competition Geographic Finalist: North America (co-author)**, IEEE EMBC 2008. For the paper: “A Network Flow Method for Improved MR Field Map Estimation in the Presence of Water and Fat.”
- **Student Paper Competition Geographic Finalist: North America (first author)**, IEEE EMBC 2007. For the paper: “High-Resolution Diffusion MRI.”

Conference Abstract Awards and Distinctions:

- **Science & Education Highlight (senior author)**, ISMRM 2018 (32 highlights were selected from 5,651 abstracts). For the abstract “Multidimensional T1 Relaxation-T2 Relaxation Correlation Spectroscopic Imaging (RR-CSI) for In Vivo Imaging of Microstructure.”
<https://blog.isnmr.org/daily/#1529400674763-6777e1c8-3aba>
- **Featured Power Pitch Presentation (co-author)**, ISMRM 2018 (hand-selected as one of the most interesting 330 abstracts out of 5,651 accepted). For the abstract: “Influence of whole-brain DCE-MRI (k,t) sampling strategies on variance of pharmaco-kinetic parameter estimates.”
- **Summa Cum Laude Merit Award (senior author)**, ISMRM 2018. For the abstract: “Multidimensional T1 Relaxation-T2 Relaxation Correlation Spectroscopic Imaging (RR-CSI) for In Vivo Imaging of Microstructure.”
- **Magna Cum Laude Merit Award (co-author)**, ISMRM 2018. For the abstract: “Optimal experiment design for magnetic resonance fingerprinting: New insights and further improvements.”
- **Featured Power Pitch Presentation (senior author)**, ISMRM 2017 (hand-selected as one of the most interesting 220 abstracts out of 6,780 submissions to the conference). For the abstract: “Navigator-free EPI ghost correction using low-rank matrix modeling: Theoretical insights and practical improvements.”
- **1st Place Award for Best Abstract Presentation from the ISMRM Quantitative MR Study Group (senior author)**, ISMRM 2017. For the abstract: “Phantom Validation of Diffusion-Relaxation Correlation Spectroscopic Imaging (DR-CSI).”
- **Summa Cum Laude Merit Award (senior author)**, ISMRM 2017. For the abstract: “Navigator-free EPI ghost correction using low-rank matrix modeling: Theoretical insights and practical improvements.”
- **Magna Cum Laude Merit Award (senior author)**, ISMRM 2017. For the abstract: “Faster Diffusion-Relaxation Correlation Spectroscopic Imaging (DR-CSI) using Optimized Experiment Design.”
- **Magna Cum Laude Merit Award (senior author)**, ISMRM 2017. For the abstract: “Wave-LORAKS for faster Wave-CAIPI MRI.”
- **Featured Power Pitch Presentation (first author)**, ISMRM 2016 (hand-selected as one of the most interesting 165 abstracts out of 5,915 submissions to the conference). For the abstract: “Whole-brain quantitative diffusion MRI at 660 μm resolution in 25 minutes using gSlider-SMS and SNR-enhancing joint reconstruction.”
- **Top Ten Most Popular Abstract (senior author)**, ISMRM 2016 (one of the most accessed abstracts out of 5,915 submissions). For the abstract: “Diffusion-Relaxation Correlation Spectroscopic Imaging (DR-CSI): An Enhanced Approach to Imaging Microstructure.” <http://www.isnmr.org/2016-annual-meeting-exhibition/most-popular-sessions-abstracts-of-the-2016-meeting/>
- **Magna Cum Laude Merit Award (senior author)**, ISMRM 2016. For the abstract: “SENSE-LORAKS: Phase-Constrained Parallel MRI without Phase Calibration.”
- **Magna Cum Laude Merit Award (senior author)**, ISMRM 2015. For the abstract: “Simultaneous Multi-slice MRI Reconstruction using LORAKS.”
- **Featured PowerPoster Presentation (first author)**, ISMRM 2014 (hand-selected as one of the most interesting 150 abstracts out of 6,481 submissions to the conference). For the abstract: “LORAKS: Low-Rank Modeling of Local k-Space Neighborhoods.”
- **Featured PowerPoster Presentation (senior author)**, ISMRM 2014 (hand-selected as one of the most interesting 150 abstracts out of 6,481 submissions to the conference). For the abstract: “A Novel Approach for Statistical Estimation of HARDI Diffusion Parameters from Rician and Non-Central Chi Magnitude Images.”

- **Magna Cum Laude Merit Award (senior author)**, ISMRM 2014. For the abstract: “P-LORAKS: Low-rank modeling of local k-space neighborhoods with parallel imaging data.”
- **Magna Cum Laude Merit Award (senior author)**, ISMRM 2014. For the abstract: “A Novel Approach for Statistical Estimation of HARDI Diffusion Parameters from Rician and Non-Central Chi Magnitude Images.”
- **Magna Cum Laude Merit Award (senior author)**, ISMRM 2013. For the abstract: “Accelerating Data Acquisition for Reversed-Gradient Distortion Correction in Diffusion MRI: A Constrained Reconstruction Approach.”

Graduate School Awards, Fellowships, and Travel Grants:

- **M. E. Van Valkenburg Graduate Research Award**, Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 2011.
- **Beckman Institute Graduate Fellowship**, University of Illinois at Urbana-Champaign, Fall 2008-Spring 2009.
- **University of Illinois Fellowship**, University of Illinois at Urbana-Champaign, Fall 2008-Spring 2009.
- **National Science Foundation Graduate Research Fellowship**, Summer 2005-Spring 2008.
- **Electrical and Computer Engineering Distinguished Fellowship**, University of Illinois at Urbana-Champaign, Spring 2004-Fall 2005, Fall 2009.
- **Student Travel Grant**, IEEE ISBI, 2007 and 2008.
- **Educational Stipend**, ISMRM, 2005, 2006, and 2007.
- **Graduate College conference travel grant**, University of Illinois at Urbana-Champaign, 2007, 2010.

REFEREED JOURNAL PUBLICATIONS

(Senior author is underlined; authors who were graduate students at the time the work was performed are marked with a * if I was their principal research advisor, with a ★ if I was a coadvisor of their work, and are otherwise marked with a †. Undergraduate authors who worked under my supervision are marked with a ♣)

- J38. J. Li[†], J. P. Haldar, J. C. Mosher, D. R. Nair, J. A. Gonzalez-Martinez, R. M. Leahy. “Scalable and Robust Tensor Decomposition of Spontaneous Stereotactic EEG Data.” *IEEE Transactions on Biomedical Engineering* 2018. In Press. <https://doi.org/10.1109/TBME.2018.2875467>
- J37. B. Zhao, J. P. Haldar, C. Liao[†], D. Ma, M. A. Griswold, K. Setsompop, L. L. Wald. “Optimal Experiment Design for Magnetic Resonance Fingerprinting: Cramer-Rao Bound Meets Spin Dynamics.” *IEEE Transactions on Medical Imaging* 2018. In Press. <https://doi.org/10.1109/TMI.2018.2873704>
- J36. T. H. Kim*, B. Bilgic, D. Polak, K. Setsompop, J. P. Haldar. “Wave-LORAKS: Combining Wave Encoding with Structured Low-Rank Matrix Modeling for More Highly Accelerated 3D Imaging.” *Magnetic Resonance in Medicine* 2018. In Press. <https://doi.org/10.1002/mrm.27511>
- J35. B. Kim[†], B. E. Fisher, N. Schweighofer, R. M. Leahy, J. P. Haldar, S. Choi[†], D. B. Kay[†], J. Gordon, C. J. Winstein. “A Comparison of Seven Different DTI-derived Estimates of Corticospinal Tract Structural Characteristics in Chronic Stroke Survivors.” *Journal of Neuroscience Methods* 304:66–75, 2018. <https://doi.org/10.1016/j.jneumeth.2018.04.010>
- J34. R. A. Lobos*, T. H. Kim*, W. S. Hoge, J. P. Haldar. “Navigator-free EPI ghost correction with structured low-rank matrix models: New Theory and Methods.” *IEEE Transactions on Medical Imaging* 37:2390–2402, 2018. <https://doi.org/10.1109/TMI.2018.2822053>
- J33. B. Bilgic, T. H. Kim*, C. Liao[†], M. K. Manhard, L. L. Wald, J. P. Haldar, K. Setsompop. “Improving Parallel Imaging by Jointly Reconstructing Multi-Contrast Data.” *Magnetic Resonance in Medicine* 80:619–632, 2018. <https://doi.org/10.1002/mrm.27076>
[Editor’s Pick, August 2018.](#)
- J32. A. Habibi, A. Damasio, B. Ilari, R. Veiga, A. A. Joshi, R. M. Leahy, J. P. Haldar, D. Varadarajan*, C. Bhushan*, H. Damasio. “Childhood Music Training Induces Change in Micro and Macroscopic Brain Structure: Results from a Longitudinal Study.” *Cerebral Cortex* 28:4336–4347, 2018. <https://doi.org/10.1093/cercor/bhx286>
- J31. D. Varadarajan*, J. P. Haldar. “A Theoretical Signal Processing Framework for Linear Diffusion MRI: Implications for Parameter Estimation and Experiment Design.” *NeuroImage* 161:206–218, 2017. <https://doi.org/10.1016/j.neuroimage.2017.08.048>

- J30. M. Chong*, C. Bhushan*, A. A. Joshi, S. Y. Choi†, **J. P. Haldar**, D. W. Shattuck, R. N. Spreng, R. M. Leahy. “Individual Parcellation of Resting fMRI with a Group Functional Connectivity Prior.” *NeuroImage* 156:87–100, 2017.
<https://doi.org/10.1016/j.neuroimage.2017.04.054>
- J29. D. Kim*, E. K. Doyle†, J. L. Wisnowski, J. H. Kim, **J. P. Haldar**. “Diffusion-Relaxation Correlation Spectroscopic Imaging (DR-CSI): A Multidimensional Approach for Probing Microstructure.” *Magnetic Resonance in Medicine* 78: 2236–2249, 2017.
<http://dx.doi.org/10.1002/mrm.26629>
- J28. T. H. Kim*, K. Setsompop, **J. P. Haldar**. “LORAKS Makes Better SENSE: Phase-Constrained Partial Fourier SENSE Reconstruction without Phase Calibration.” *Magnetic Resonance in Medicine* 77:1021–1035, 2017.
<http://dx.doi.org/10.1002/mrm.26182>
- J27. C. Bhushan*, M. Chong*, S. Choi†, A. A. Joshi, **J. P. Haldar**, H. Damasio, R. M. Leahy. “Temporal Non-Local Means Filtering Reveals Real-Time Whole-Brain Cortical Interactions in Resting fMRI.” *PLOS ONE* 11:e0158504, 2016.
<http://dx.doi.org/10.1371/journal.pone.0158504>
- J26. D. Kim*, **J. P. Haldar**. “Greedy Algorithms for Nonnegativity-Constrained Simultaneous Sparse Recovery.” *Signal Processing* 125:274–289, 2016.
<http://dx.doi.org/10.1016/j.sigpro.2016.01.021>
- J25. **J. P. Haldar**, J. Zhuo*. “P-LORAKS: Low-Rank Modeling of Local k-Space Neighborhoods with Parallel Imaging Data.” *Magnetic Resonance in Medicine* 75:1499–1514, 2016.
<http://dx.doi.org/10.1002/mrm.25717>
- J24. J. H. Kim, S.-K. Song, **J. P. Haldar**. “SNR-Enhancing Joint Reconstruction for Improved Diffusion Imaging of Mouse Spinal Cord White Matter Injury.” *Magnetic Resonance in Medicine* 75:852–858, 2016.
<http://dx.doi.org/10.1002/mrm.25691>
- J23. D. Varadarajan*, **J. P. Haldar**. “A Majorize-Minimize Framework for Rician and Non-Central Chi MR Images.” *IEEE Transactions on Medical Imaging* 34:2191–2202, 2015.
<http://dx.doi.org/10.1109/TMI.2015.2427157>
- J22. C. Bhushan*, **J. P. Haldar**, S. Choi, A. A. Joshi, D. W. Shattuck, R. M. Leahy. “Co-registration and distortion correction of diffusion and anatomical images based on inverse contrast normalization.” *NeuroImage* 115:269–280, 2015.
<http://dx.doi.org/10.1016/j.neuroimage.2015.03.050>
- J21. A. Habibi, B. Ilari, K. Crimi†, M. Metke, J. T. Kaplan, A. A. Joshi, R. M. Leahy, D. W. Shattuck, S. Y. Choi, **J. Haldar**, B. Fickel†, A. Damasio, H. Damasio. “An equal start: Absence of cognitive and neural markers for musical aptitude prior to training in children.” *Frontiers in Human Neuroscience* 8:690, 2014.
<http://dx.doi.org/10.3389/fnhum.2014.00690>
- J20. **J. P. Haldar**. “Low-Rank Modeling of Local k-Space Neighborhoods (LORAKS) for Constrained MRI.” *IEEE Transactions on Medical Imaging* 33:668–681, 2014.
<http://dx.doi.org/10.1109/TMI.2013.2293974>
- J19. C. Bhushan*, A. A. Joshi, R. M. Leahy, **J. P. Haldar**. “Improved B₀-distortion correction in diffusion MRI using interleaved q-space sampling and constrained reconstruction.” *Magnetic Resonance in Medicine* 72:1218–1232, 2014.
<http://dx.doi.org/10.1002/mrm.25026>
- J18. Y. Lin*, **J. P. Haldar**, Q. Li, P. Conti, R. M. Leahy. “Constrained Mixture Modeling for the Estimation of Kinetic Parameters in Dynamic PET.” *IEEE Transactions on Medical Imaging* 33:173–185, 2014.
<http://dx.doi.org/10.1109/TMI.2013.2283229>
- J17. F. Lam†, S. D. Babacan, **J. P. Haldar**, M. W. Weiner, N. Schuff, Z.-P. Liang. “Denoising Diffusion-Weighted Magnitude MR Images using Rank and Edge Constraints.” *Magnetic Resonance in Medicine* 71:1272–1284, 2014.
<http://dx.doi.org/10.1002/mrm.24728>
- J16. S. Ashrafulla*, **J. P. Haldar**, A. A. Joshi, R. M. Leahy. “Canonical Granger Causality Between Regions of Interest.” *NeuroImage* 83:189–199, 2013.
<http://dx.doi.org/10.1016/j.neuroimage.2013.06.056>
- J15. **J. P. Haldar**, R. M. Leahy. “Linear Transforms for Fourier Data on the Sphere: Application to High Angular Resolution Diffusion MRI of the Brain.” *NeuroImage* 71:233–247, 2013.
<http://dx.doi.org/10.1016/j.neuroimage.2013.01.022>
- J14. J. Gai, N. Obeid†, J. L. Holtrop†, X.-L. Wu†, F. Lam†, M. Fu†, **J. P. Haldar**, W.-m. W. Hwu, Z.-P. Liang, B. P. Sutton. “More IMPATIENT: A Gridding-Accelerated Toeplitz-Based Strategy for Non-Cartesian High-Resolution 3D MRI on GPUs.” *Journal of Parallel and Distributed Computing* 73:686–697, 2013.
<http://dx.doi.org/10.1016/j.jpdc.2013.01.001>

- J13. **J. P. Haldar**[†], V. J. Wedeen, M. Nezamzadeh, G. Dai, M. W. Weiner, N. Schuff, Z.-P. Liang. “Improved Diffusion Imaging through SNR-Enhancing Joint Reconstruction.” *Magnetic Resonance in Medicine* 69:277–289, 2013.
<http://dx.doi.org/10.1002/mrm.24229>
- J12. B. Zhao[†], **J. P. Haldar**[†], A. G. Christodoulou[†], Z.-P. Liang. “Image Reconstruction from Highly Undersampled (k, t) -Space Data with Joint Partial Separability and Sparsity Constraints.” *IEEE Transactions on Medical Imaging* 31:1809–1820, 2012.
<http://dx.doi.org/10.1109/TMI.2012.2203921>
- J11. Y. Wang, Q. Wang[†], **J. P. Haldar**[†], F.-C. Yeh[†], M. Xie, P. Sun, K. Trinkaas, R. S. Klein, A. H. Cross, S.-K. Song. “Quantification of increased cellularity during inflammatory demyelination.” *Brain* 134:3587–3598, 2011.
<http://dx.doi.org/10.1093/brain/awr307>
- J10. **J. P. Haldar**[†], Z. Wang[†], G. Popescu, Z.-P. Liang. “Deconvolved Spatial Light Interference Microscopy for Live Cell Imaging.” *IEEE Transactions on Biomedical Engineering* 58:2489–2497, 2011.
<http://dx.doi.org/10.1109/TBME.2011.2158003>
- J9. D. Hernando[†], D. C. Karampinos[†], K. F. King, **J. P. Haldar**[†], S. Majumdar, J. G. Georgiadis, Z.-P. Liang. “Removal of Olefinic Fat Chemical Shift Artifact in Diffusion MRI.” *Magnetic Resonance in Medicine* 65:692–701, 2011.
<http://dx.doi.org/10.1002/mrm.22670>
- J8. **J. P. Haldar**[†], D. Hernando[†], Z.-P. Liang. “Compressed-Sensing MRI with Random Encoding.” *IEEE Transactions on Medical Imaging* 30:893–903, 2011.
<http://dx.doi.org/10.1109/TMI.2010.2085084>
- J7. R. John, R. Rezaeipoor, S. G. Adie, E. J. Chaney, A. L. Oldenburg, M. Marjanovic, **J. P. Haldar**[†], B. Sutton, S. A. Boppart. “In vivo magnetomotive optical molecular imaging using targeted magnetic nanoprobos.” *Proceedings of the National Academy of Sciences of the United States of America* 107:8085–8090, 2010.
<http://dx.doi.org/10.1073/pnas.0913679107>
- J6. D. Hernando[†], P. Kellman, **J. P. Haldar**[†], Z.-P. Liang. “Robust water/fat separation in the presence of large field inhomogeneities using a graph cut algorithm.” *Magnetic Resonance in Medicine* 63:79–90, 2010.
<http://dx.doi.org/10.1002/mrm.22177>
 Recipient of the 2009 ISMRM I. I. Rabi Young Investigator Award.
- J5. **J. P. Haldar**[†], D. Hernando[†]. “Rank-Constrained Solutions to Linear Matrix Equations using PowerFactorization.” *IEEE Signal Processing Letters* 16:584–587, 2009.
<http://dx.doi.org/10.1109/LSP.2009.2018223>
- J4. J. H. Kim, **J. Haldar**[†], Z.-P. Liang, S.-K. Song. “Diffusion Tensor Imaging of Mouse Brain Stem and Cervical Spinal Cord.” *Journal of Neuroscience Methods* 176:186–191, 2009.
<http://dx.doi.org/10.1016/j.jneumeth.2008.09.005>
- J3. S. S. Stone[†], **J. P. Haldar**[†], S. C. Tsao[†], W.-m. W. Hwu, B. P. Sutton, Z.-P. Liang. “Accelerating Advanced MRI Reconstructions on GPUs.” *Journal of Parallel and Distributed Computing* 68:1307–1318, 2008.
<http://dx.doi.org/10.1016/j.jpdc.2008.05.013>
- J2. **J. P. Haldar**[†], D. Hernando[†], S.-K. Song, Z.-P. Liang. “Anatomically Constrained Reconstruction from Noisy Data.” *Magnetic Resonance in Medicine* 59:810–818, 2008.
<http://dx.doi.org/10.1002/mrm.21536>
- J1. D. Hernando[†], **J. P. Haldar**[†], B. P. Sutton, J. Ma, P. Kellman, Z.-P. Liang. “Joint estimation of water/fat images and field inhomogeneity map.” *Magnetic Resonance in Medicine* 59:571–580, 2008.
<http://dx.doi.org/10.1002/mrm.21522>

SUBMITTED JOURNAL MANUSCRIPTS

(Senior author is underlined; authors who were graduate students at the time the work was performed are marked with a * if I was their principal research advisor, with a ⋆ if I was a coadvisor of their work, and are otherwise marked with a †. Undergraduate authors who worked under my supervision are marked with a ♣)

- M4. **J. P. Haldar**, K. Setsompop. “Linear Predictability in MRI Reconstruction: Leveraging Shift-Invariant Fourier Structure for Faster and Better Imaging.” White paper accepted for a Special Issue of *IEEE Signal Processing Magazine* on “Computational MRI: Compressed Sensing and Beyond.”
- M3. **J. P. Haldar**, D. Kim^{*}. “OEDIPUS: An Experiment Design Framework for Sparsity-Constrained MRI.”
<https://arxiv.org/abs/1805.00524>

- M2. D. Kim*, J. L. Wisnowski, C. T. Nguyen, **J. P. Haldar**. “Relaxation-Relaxation Correlation Spectroscopic Imaging (RR-CSI): Leveraging the Blessings of Dimensionality to Map In Vivo Microstructure.”
<https://arxiv.org/abs/1806.05752>
- M1. R. Xu, M. Soltanolkotabi, **J. P. Haldar**, W. Unglaub, J. Zusman, A. F. J. Levi, R. M. Leahy. “Accelerated Wirtinger Flow: A new fast algorithm for phase retrieval.”
<https://arxiv.org/abs/1806.05546>

TECHNICAL REPORTS (UNREFEREED)

(Senior author is underlined; authors who were graduate students at the time the work was performed are marked with a * if I was their principal research advisor, with a * if I was a coadvisor of their work, and are otherwise marked with a †. Undergraduate authors who worked under my supervision are marked with a ♣)

- T. H. Kim*, **J. P. Haldar**. “LORAKS Software Version 2.0: Faster Implementation and Enhanced Capabilities.” University of Southern California, Los Angeles, CA, Technical Report USC-SIPI-443, May 2018.
<http://sipi.usc.edu/reports/abstracts.php?rid=sipi-443>
- **J. P. Haldar**. “Low-Rank Modeling of Local k-Space Neighborhoods (LORAKS): Implementation and Examples for Reproducible Research.” University of Southern California, Los Angeles, CA, Technical Report USC-SIPI-414, April 2014.
<http://sipi.usc.edu/reports/abstracts.php?rid=sipi-414>

REFEREED BOOK CHAPTER

(Senior author is underlined; authors who were graduate students at the time the work was performed are marked with a * if I was their principal research advisor, with a * if I was a coadvisor of their work, and are otherwise marked with a †. Undergraduate authors who worked under my supervision are marked with a ♣)

- Y. Zhuo†, X.-L. Wu†, **J. P. Haldar**†, T. Marin†, W.-m. Hwu, Z.-P. Liang, B. P. Sutton. “Using GPUs to Accelerate Advanced MRI Reconstruction with Field Inhomogeneity Compensation.” In *GPU Computing Gems Emerald Edition*, W.-m. W. Hwu Ed., Elsevier Inc., 2011, pp. 709–722.
<http://dx.doi.org/10.1016/B978-0-12-384988-5.00044-9>

REFEREED CONFERENCE PROCEEDINGS

(Senior author is underlined; authors who were graduate students at the time the work was performed are marked with a * if I was their principal research advisor, with a * if I was a coadvisor of their work, and are otherwise marked with a †. Undergraduate authors who worked under my supervision are marked with a ♣)

- C138. D. Kim*, J. L. Wisnowski, C. T. Nguyen, **J. P. Haldar**. “Multidimensional T1 Relaxation-T2 Relaxation Correlation Spectroscopic Imaging (RR-CSI) for In Vivo Imaging of Microstructure.” *Joint Annual Meeting ISMRM-ESMRMB*, Paris, 2018, p. 783. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/0783.html>
 Recipient of a Summa Cum Laude ISMRM Merit Award.
 Featured as one of the ‘Science & Education Highlights’ of the meeting (32 highlights were selected from 5,651 abstracts).
- C137. T. H. Kim*, **J. P. Haldar**. “Assessing MR image reconstruction quality using the Fourier Radial Error Spectrum plot.” *Joint Annual Meeting ISMRM-ESMRMB*, Paris, 2018, p. 249. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/0249.html>
- C136. R. A. Lobos*, A. Javed†, K. S. Nayak, W. S. Hoge, **J. P. Haldar**. “Robust Autocalibrated LORAKS for Improved EPI Ghost Correction with Structured Low-Rank Matrix Models.” *Joint Annual Meeting ISMRM-ESMRMB*, Paris, 2018, p. 3553. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/3553.html>
- C135. D. Varadarajan*, **J. P. Haldar**. “ERFO: Improved ODF estimation by combining machine learning with linear estimation theory.” *Joint Annual Meeting ISMRM-ESMRMB*, Paris, 2018, p. 1557. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/1557.html>
- C134. B. Zhao, **J. P. Haldar**, C. Liao†, D. Ma, M. A. Griswold, K. Setsompop, L. L. Wald. “Optimal experiment design for magnetic resonance fingerprinting: New insights and further improvements.” *Joint Annual Meeting ISMRM-ESMRMB*,

- Paris, 2018, p. 674. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/0674.html>
[Recipient of a Magna Cum Laude ISMRM Merit Award.](#)
- C133. B. Zhao, B. Gagoski, **J. P. Haldar**, E. Adalsteinsson, E. Grant, L. L. Wald. “A subspace approach to accelerated HASTE acquisition for fetal brain MRI.” *Joint Annual Meeting ISMRM-ESMRMB*, Paris, 2018, p. 2450. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/2450.html>
- C132. B. Bilgic, T. H. Kim*, C. Liao[†], M. K. Manhard, L. L. Wald, **J. P. Haldar**, K. Setsompop. “Improving parallel imaging by jointly reconstructing multi-contrast data.” *Joint Annual Meeting ISMRM-ESMRMB*, Paris, 2018, p. 3505. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/3505.html>
- C131. Y. Bliesener[†], S. G. Lingala, **J. P. Haldar**, K. S. Nayak. “Influence of whole-brain DCE-MRI (k,t) sampling strategies on variance of pharmacokinetic parameter estimates.” *Joint Annual Meeting ISMRM-ESMRMB*, Paris, 2018, p. 555. (abstract)
<http://indexsmart.mirasmart.com/ISMRM2018/PDFfiles/0555.html>
[Featured with a Power Pitch presentation \(Hand-selected as one of the 330 most interesting abstracts out of 5,651 accepted\).](#)
- C130. D. Kim*, J. L. Wisnowski, C. T. Nguyen, **J. P. Haldar**. “Probing in vivo microstructure with T1-T2 Relaxation Correlation Spectroscopic Imaging.” *IEEE International Symposium on Biomedical Imaging*, Washington, D.C., 2018, pp. 675–678.
<https://doi.org/10.1109/ISBI.2018.8363664>
- C129. D. Varadarajan*, **J. P. Haldar**. “Towards optimal linear estimation of orientation distribution functions with arbitrarily sampled diffusion MRI data.” *IEEE International Symposium on Biomedical Imaging*, Washington, D.C., 2018, pp. 743–746.
<https://doi.org/10.1109/ISBI.2018.8363680>
- C128. R. A. Lobos*, A. Javed[†], K. S. Nayak, W. S. Hoge, **J. P. Haldar**. “Robust autocalibrated LORAKS for EPI ghost correction.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, Washington, D.C., 2018, pp. 663–666.
<https://doi.org/10.1109/ISBI.2018.8363661>
- C127. T. H. Kim*, **J. P. Haldar**. “The Fourier radial error spectrum plot: A more nuanced quantitative evaluation of image reconstruction quality.” *IEEE International Symposium on Biomedical Imaging*, Washington, D.C., 2018, pp. 61–64.
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- C126. B. Kim,[†] D. B. Kay,[†] N. Schweighofer, **J. P. Haldar**, R. M. Leahy, S. Choi,[†] B. Fisher, C. J. Winstein. “Quantification of corticospinal tract using DTI in chronic stroke survivors.” *Society for Neuroscience 47th Annual Meeting*, Washington, DC, 2017, p. 306.13. (Abstract)
- C125. D. Kim,* J. L. Wisnowski, **J. P. Haldar**. “Improved Efficiency for Microstructure Imaging using High-Dimensional MR Correlation Spectroscopic Imaging.” *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, 2017, pp. 1264–1268.
<https://doi.org/10.1109/ACSSC.2017.8335555>
[Invited Presentation.](#)
- C124. **J. P. Haldar**, T. H. Kim.* “Computational imaging with LORAKS: Reconstructing linearly predictable signals using low-rank matrix regularization.” *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, 2017, pp. 1870–1874.
<https://doi.org/10.1109/ACSSC.2017.8335687>
[Invited Presentation.](#)
- C123. D. Kim,* J. L. Wisnowski, **J. P. Haldar**. “MR Correlation Spectroscopic Imaging of Multidimensional Exponential Decays: Probing Microstructure with Diffusion and Relaxation.” *Wavelets and Sparsity XVII, Proceedings of SPIE 10394*, San Diego, 2017, p. 103940D.
<http://dx.doi.org/10.1117/12.2272833>
[Invited Presentation.](#)
- C122. D. Varadarajan,* **J. Haldar**. “Theoretical characterization of angular resolution for linear ODF estimation.” *23rd Annual Meeting of the Organization for Human Brain Mapping*, Vancouver, 2017, p. 1747. (Abstract)
<https://ww5.aievolution.com/hbml1701/index.cfm?do=abs.viewAbs&abs=2715>
- C121. **J. P. Haldar**, D. Kim.* “OEDIPUS: Towards optimal deterministic k-space sampling for sparsity-constrained MRI.” *International Society for Magnetic Resonance in Medicine 25th Annual Meeting*, Honolulu, 2017, p. 3877. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2017/PDFfiles/3877.html>

- C120. **J. P. Haldar**, K. Setsompop. “Fast high-resolution diffusion MRI using gSlider-SMS, interlaced subsampling, and SNR-enhancing joint reconstruction.” *International Society for Magnetic Resonance in Medicine 25th Annual Meeting*, Honolulu, 2017, p. 175. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2017/PDFfiles/0175.html>
- C119. D. Kim,* **J. P. Haldar**. “Faster Diffusion-Relaxation Correlation Spectroscopic Imaging (DR-CSI) using Optimized Experiment Design.” *International Society for Magnetic Resonance in Medicine 25th Annual Meeting*, Honolulu, 2017, p. 176. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2017/PDFfiles/0176.html>
 Recipient of a Magna Cum Laude ISMRM Merit Award.
- C118. D. Kim,* E. K. Doyle,[†] J. L. Wisnowski, **J. P. Haldar**. “Phantom Validation of Diffusion-Relaxation Correlation Spectroscopic Imaging (DR-CSI) using Optimized Experiment Design.” *International Society for Magnetic Resonance in Medicine 25th Annual Meeting*, Honolulu, 2017, p. 609. (Abstract)
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 Recipient of the 1st Place Award for Best Abstract Presentation from the ISMRM Quantitative MR Study Group.
- C117. T. H. Kim,* B. Bilgic, D. Polak, K. Setsompop, **J. P. Haldar**. “Wave-LORAKS for Faster Wave-CAIPI MRI.” *International Society for Magnetic Resonance in Medicine 25th Annual Meeting*, Honolulu, 2017, p. 1037. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2017/PDFfiles/1037.html>
 Recipient of a Magna Cum Laude ISMRM Merit Award.
- C116. R. A. Lobos,* T. H. Kim,* W. S. Hoge, **J. P. Haldar**. “Navigator-free EPI ghost correction using low-rank matrix modeling: Theoretical insights and practical improvements.” *International Society for Magnetic Resonance in Medicine 25th Annual Meeting*, Honolulu, 2017, p. 449. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2017/PDFfiles/0449.html>
 Featured with a Power Pitch presentation (Hand-selected as one of the 220 most interesting abstracts out of 6,780 submissions to the conference).
 Recipient of a Summa Cum Laude ISMRM Merit Award.
- C115. Y. Bliesener,[†] S. G. Lingala, **J. P. Haldar**, K. S. Nayak. “Comparison of (k,t) sampling schemes for DCE MRI pharmacokinetic parameter estimation.” *International Society for Magnetic Resonance in Medicine 25th Annual Meeting*, Honolulu, 2017, p. 1909. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2017/PDFfiles/1909.html>
- C114. B. Kim,[†] D. B. Kay,[†] N. Schweighofer, **J. P. Haldar**, R. M. Leahy, B. Fisher, C. J. Winstein. “Changes in corticospinal tract microstructure are associated with motor performance improvement in chronic stroke.” *Society for Neuroscience 46th Annual Meeting*, San Diego, 2016, p. 520.26. (Abstract)
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- C113. B. Zhao, **J. P. Haldar**, K. Setsompop, L. L. Wald. “Optimal Experiment Design for Magnetic Resonance Fingerprinting.” *38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Orlando, 2016, pp. 453-456.
<https://doi.org/10.1109/EMBC.2016.7590737>
- C112. M. Chong*, C. Bhushan*, A. Joshi, **J. Haldar**, R. N. Spreng, R. Leahy. “Individual Performance of Resting fMRI Parcellation with Group Connectivity Priors.” *22nd Annual Meeting of the Organization for Human Brain Mapping*, Geneva, 2016, p. 2214. (Abstract)
- C111. C. Bhushan*, M. Chong*, S. Choi[†], A. Joshi, **J. Haldar**, H. Damasio, R. Leahy. “Non-local means filtering for cortical parcellation of resting fMRI.” *22nd Annual Meeting of the Organization for Human Brain Mapping*, Geneva, 2016, p. 2194. (Abstract)
- C110. **J. P. Haldar**, Q. Fan, K. Setsompop. “Whole-brain quantitative diffusion MRI at 660 μm resolution in 25 minutes using gSlider-SMS and SNR-enhancing joint reconstruction.” *International Society for Magnetic Resonance in Medicine 24th Annual Meeting*, Singapore, 2016, p. 102. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2016/PDFfiles/0102.html>
 Featured with a Power Pitch presentation (Hand-selected as one of the 165 most interesting abstracts out of 5,915 submissions to the conference).
- C109. D. Kim*, J. H. Kim, **J. P. Haldar**. “Diffusion-Relaxation Correlation Spectroscopic Imaging (DR-CSI): An Enhanced Approach to Imaging Microstructure.” *International Society for Magnetic Resonance in Medicine 24th Annual Meeting*, Singapore, 2016, p. 660. (Abstract)
<http://indexsmart.mirasmart.com/ISMRM2016/PDFfiles/0660.html>
 One of the top ten most popular abstracts of the meeting (out of 5,915 submissions). <http://www.ismr.org/2016-annual-meeting-exhibition/most-popular-sessions-abstracts-of-the-2016-meeting/>

- C108. T. H. Kim*, K. Setsompop, **J. P. Haldar**. "SENSE-LORAKS: Phase-Constrained Parallel MRI without Phase Calibration." *International Society for Magnetic Resonance in Medicine 24th Annual Meeting*, Singapore, 2016, p. 1089. (Abstract)
<http://indexsmart.miramart.com/ISMRM2016/PDFfiles/1089.html>
[Recipient of a Magna Cum Laude ISMRM Merit Award.](#)
- C107. D. Varadarajan*, **J. P. Haldar**. "A Theoretical Framework for Sampling and Reconstructing Ensemble Average Propagators in Diffusion MRI." *International Society for Magnetic Resonance in Medicine 24th Annual Meeting*, Singapore, 2016, p. 2049. (Abstract)
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- C106. B. Zhao, **J. P. Haldar**, K. Setsompop, L. L. Wald. "Towards Optimized Experiment Design for Magnetic Resonance Fingerprinting." *International Society for Magnetic Resonance in Medicine 24th Annual Meeting*, Singapore, 2016, p. 2835. (Abstract)
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- C105. T. H. Kim*, K. Setsompop, **J. P. Haldar**. "Partial Fourier SENSE Reconstruction without Phase Calibration." *ISMRM Workshop on Data Sampling & Image Reconstruction*, Sedona, 2016. (Abstract)
<http://cds.ismrm.org/protected/Data16/Program/Abstracts/Kim.pdf>
- C104. B. Kim†, Y. Oh, R. M. Leahy, **J. P. Haldar**, N. Schweighofer, C. J. Winstein. "Is structural connectivity of basal ganglia associated with learned non-use in chronic stroke?" *American Society of Neurorehabilitation Annual Meeting*, Chicago, 2015. (Abstract)
- C103. B. Kim†, Y. Oh, R. M. Leahy, **J. P. Haldar**, N. Schweighofer, C. J. Winstein. "Brain sensorimotor structural network difference between two hemispheres in chronic stroke." *Society for Neuroscience 45th Annual Meeting*, Chicago, 2015. (Abstract)
<http://www.abstractsonline.com/Plan/ViewAbstract.aspx?sKey=0e67b6fe-fac5-47db-88f1-6d0fe45fbce1&cKey=a3118759-3aa8-4a6b-8112-d0b581b40188&mKey=d0ff4555-8574-4fbb-b9d4-04eec8ba0c84>
- C102. V. L. Landes†, T. H. Kim*, **J. P. Haldar**, K. S. Nayak. "Experimental Validation of SMS-LORAKS." *ISMRM Workshop on Simultaneous Multi-Slice Imaging: Neuroscience & Clinical Applications*, Pacific Grove, 2015. (Abstract)
<http://cds.ismrm.org/protected/MultiSlice15/Program/Abstracts/LandesSMS-LORAKS.pdf>
- C101. M. Chong*, A. Joshi, **J. Haldar**, E. DuPre†, W.-M. Luh, D. Shattuck, R. N. Spreng, R. Leahy. "A Group Approach to Functional Cortical Parcellation from Resting-State fMRI." *21st Annual Meeting of the Organization for Human Brain Mapping*, Honolulu, 2015, p. 3778. (Abstract)
- C100. **J. P. Haldar**. "Low-Rank Modeling of Local k-Space Neighborhoods: From Phase and Support Constraints to Structured Sparsity." *Wavelets and Sparsity XVI, Proceedings of SPIE 9597*, San Diego, 2015, p. 959710.
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- C99. **J. P. Haldar**. "AC-LORAKS: Autocalibrated Low-Rank Modeling of Local k-Space Neighborhoods." *International Society for Magnetic Resonance in Medicine 23rd Annual Meeting*, Toronto, 2015, p. 2430. (Abstract)
<http://dev.ismrm.org/2015/2430.html>
- C98. D. Kim*, J. H. Kim, **J. P. Haldar**. "Automatic Tissue Decomposition using Nonnegative Matrix Factorization for Noisy MR Magnitude Images." *International Society for Magnetic Resonance in Medicine 23rd Annual Meeting*, Toronto, 2015, p. 3701. (Abstract)
<http://dev.ismrm.org/2015/3701.html>
- C97. T. H. Kim*, **J. P. Haldar**. "Simultaneous Multi-slice MRI Reconstruction using LORAKS." *International Society for Magnetic Resonance in Medicine 23rd Annual Meeting*, Toronto, 2015, p. 78. (Abstract)
<http://dev.ismrm.org/2015/0078.html>
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- C96. D. Varadarajan*, **J. P. Haldar**. "A New Linear Transform Approach for Estimating ODFs from Multi-Shell Diffusion Data." *International Society for Magnetic Resonance in Medicine 23rd Annual Meeting*, Toronto, 2015, p. 2816. (Abstract)
<http://dev.ismrm.org/2015/2816.html>
- C95. M. C. Chambers†, C. Bhushan*, **J. P. Haldar**, R. M. Leahy, D. W. Shattuck. "Correcting Inhomogeneity-Induced Distortion in fMRI using Non-Rigid Registration." *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, New York City, 2015, pp. 1364-1367.
<http://dx.doi.org/10.1109/ISBI.2015.7164129>

- C94. **J. P. Haldar**. “Autocalibrated LORAKS for Fast Constrained MRI Reconstruction.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, New York City, 2015, pp. 910–913.
<http://dx.doi.org/10.1109/ISBI.2015.7164018>
- C93. D. Kim*, **J. P. Haldar**. “Nonnegative Matrix Factorization for Tissue Mixture Modeling with Noisy MR Magnitude Image Sequences.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, New York City, 2015, pp. 1028–1031.
<http://dx.doi.org/10.1109/ISBI.2015.7164046>
- C92. T. H. Kim*, **J. P. Haldar**. “SMS-LORAKS: Calibrationless Simultaneous Multislice MRI using Low-Rank Matrix Modeling.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, New York City, 2015, pp. 323–326.
<http://dx.doi.org/10.1109/ISBI.2015.7163878>
- C91. D. Varadarajan*, **J. P. Haldar**. “MS-FRACT: Optimized Linear Transform Methods for ODF Estimation in Multi-Shell Diffusion MRI.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, New York City, 2015, pp. 1172–1175.
<http://dx.doi.org/10.1109/ISBI.2015.7164081>
- C90. B. Kim[†], D. B. Kay[†], Y. Yi[†], D. Lee[†], Y. Chaudhry[†], **J. P. Haldar**, R. M. Leahy, C. J. Winstein. “DTI analysis of corticospinal tract using BrainSuite: A potential biomarker of upper extremity therapeutic response to neurorehabilitation in chronic stroke.” *Society for Neuroscience 44th Annual Meeting*, Washington, DC, 2014. (Abstract)
- C89. M. Chambers[†], C. Bhushan*, T. Pirnia, K. Narr, **J. Haldar**, R. Leahy, D. Shattuck. “Registration-Based Distortion and Intensity Correction in fMRI.” 20th Annual Meeting of the Organization for Human Brain Mapping, Hamburg, 2014, p. 3497. (Abstract)
- C88. **J. P. Haldar**. “LORAKS: Low-Rank Modeling of Local k -Space Neighborhoods.” *Joint Annual Meeting ISMRM-ESMRMB*, Milan, 2014, p. 85. (Abstract)
<http://cds.ismrm.org/protected/14MProceedings/files/0085.pdf>
 Featured with a PowerPoster presentation (Hand-selected as one of the 150 most interesting abstracts out of 6,481 submissions to the conference).
- C87. D. Varadarajan*, **J. P. Haldar**. “A Novel Approach for Statistical Estimation of HARDI Diffusion Parameters from Rician and Non-Central Chi Magnitude Images.” *Joint Annual Meeting ISMRM-ESMRMB*, Milan, 2014, p. 801. (Abstract)
<http://cds.ismrm.org/protected/14MProceedings/files/0801.pdf>
 Featured with a PowerPoster presentation (Hand-selected as one of the 150 most interesting abstracts out of 6,481 submissions to the conference).
 Recipient of a Magna Cum Laude ISMRM Merit Award.
- C86. J. Zhuo*, **J. P. Haldar**. “P-LORAKS: Low rank modeling of local k -space neighborhoods with parallel imaging data.” *Joint Annual Meeting ISMRM-ESMRMB*, Milan, 2014, p. 745. (Abstract)
<http://cds.ismrm.org/protected/14MProceedings/files/0745.pdf>
 Recipient of a Magna Cum Laude ISMRM Merit Award.
- C85. C. Bhushan*, **J. P. Haldar**, A. A. Joshi, D. Shattuck, R. M. Leahy. “INVERSION: A robust method for co-registration of MPRAGE and Diffusion MRI images.” *Joint Annual Meeting ISMRM-ESMRMB*, Milan, 2014, p. 2583. (Abstract)
<http://cds.ismrm.org/protected/14MProceedings/files/2583.pdf>
- C84. S. Ashrafulla*, **J. P. Haldar**, J. C. Mosher, R. M. Leahy. “Causality in variance in electrophysiological data using the ARCH model.” *Asilomar Conference on Signals, Systems & Computers*, Pacific Grove, 2013, pp. 798–802.
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- C83. D. Beroukhim[†], M. Konersman[†], M. Chong[†], A. A. Joshi, C. Bhushan*, D. W. Shattuck, **J. P. Haldar**, R. M. Leahy, C. J. Winstein. “Effects of rehabilitation post-stroke: DTI analysis of corticospinal tract characteristics using BrainSuite13.” *Society for Neuroscience 43rd Annual Meeting*, San Diego, 2013. (Abstract)
- C82. D. Shattuck, A. Joshi, **J. Haldar**, C. Bhushan*, S. Choi, A. Krause, J. Wisnowski, H. Damasio, A. Toga, R. M. Leahy. “New BrainSuite13 Tools for Image Segmentation, Registration, Connectivity Analysis and Visualization.” *19th Annual Meeting of the Organization for Human Brain Mapping*, Seattle, 2013, p. 1688. (Abstract)
- C81. S. Choi, C. Bhushan*, A. Joshi, K. Raphel, D. Tranel, D. Shattuck, **J. Haldar**, R. M. Leahy, H. Damasio, J. Wisnowski. “Altered orbitofrontal tissue microstructure in patients with chronic anterior temporal lobe lesions.” *19th Annual Meeting of the Organization for Human Brain Mapping*, Seattle, 2013, p. 3781. (Abstract)
- C80. **J. P. Haldar**, D. W. Shattuck, R. M. Leahy. “Estimation of White Matter Fiber Orientations with the Funk-Radon and Cosine Transform.” *International Society for Magnetic Resonance in Medicine 21st Scientific Meeting*, Salt Lake City, 2013, p. 771. (Abstract)
<http://cds.ismrm.org/protected/13MProceedings/files/0771.PDF>

- C79. C. Bhushan*, A. A. Joshi, R. M. Leahy, **J. P. Haldar**. “Accelerating Data Acquisition for Reversed-Gradient Distortion Correction in Diffusion MRI: A Constrained Reconstruction Approach.” *International Society for Magnetic Resonance in Medicine 21st Scientific Meeting*, Salt Lake City, 2013, p. 55. (Abstract)
<http://cds.ismrm.org/protected/13MProceedings/files/0055.PDF>
 Recipient of a Magna Cum Laude ISMRM Merit Award.
- C78. D. W. Shattuck, A. A. Joshi, **J. P. Haldar**, C. Bhushan*, S. Choi, A. C. Krause, J. L. Wisnowski, A. W. Toga, R. M. Leahy. “Software Tools for Anatomical ROI-based Connectivity Analysis.” *International Society for Magnetic Resonance in Medicine 21st Scientific Meeting*, Salt Lake City, 2013, p. 2691. (Abstract)
<http://cds.ismrm.org/protected/13MProceedings/files/2691.PDF>
- C77. **J. P. Haldar**, R. M. Leahy. “The Equivalence of Linear Spherical Deconvolution and Model-Free Linear Transform Methods for Diffusion MRI.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, San Francisco, 2013, pp. 504–507.
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- C76. D. Varadarajan*, **J. P. Haldar**. “A Quadratic Majorize-Minimize Framework for Statistical Estimation with Noisy Rician and Noncentral Chi-Distributed MR Images.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, San Francisco, 2013, pp. 708–711.
<http://dx.doi.org/10.1109/ISBI.2013.6556574>
- C75. **J. P. Haldar**. “Calibrationless Partial Fourier Reconstruction of MR Images with Slowly-Varying Phase: A Rank-Deficient Matrix Recovery Approach.” *ISMRM Workshop on Data Sampling & Image Reconstruction*, Sedona, 2013. (Abstract)
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- C74. C. Bhushan*, **J. P. Haldar**, A. A. Joshi, R. M. Leahy. “Correcting Susceptibility-Induced Distortion in Diffusion-Weighted MRI using Constrained Nonrigid Registration.” *Asia Pacific Signal and Information Processing Association (APSIPA) Annual Summit and Conference*, Hollywood, 2012.
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- C73. **J. P. Haldar**, Y. Lin*, B. Bai, R. M. Leahy. “Edge Artifact Reduction Methods for Iterative PET Reconstruction.” *IEEE Medical Imaging Conference*, Anaheim, 2012. (Abstract)
- C72. Y. Lin*, **J. P. Haldar**, Q. Li, R. M. Leahy. “Kinetic Parameter Estimation in Dynamic PET with a Sparsity-Regularized Mixture Model.” *IEEE Medical Imaging Conference*, Anaheim, 2012. (Abstract)
 Recipient of the 1st place MIC student paper award.
- C71. S. Ashrafulla*, **J. P. Haldar**, A. A. Joshi, R. M. Leahy. “Canonical Granger Causality.” *18th International Conference on Biomagnetism*, Paris, 2012. (Abstract)
- C70. **J. P. Haldar**, D. W. Shattuck, H. Damasio, R. M. Leahy. “Improved Diffusion Tractography with the Funk-Radon and Cosine Transform.” *18th Annual Meeting of the Organization for Human Brain Mapping*, Beijing, 2012, p. 408. (Abstract)
- C69. J. Gai, J. L. Holtrop†, X.-L. Wu†, F. Lam†, M. Fu†, **J. P. Haldar**, W.-m. W. Hwu, Z.-P. Liang, B. P. Sutton. “More IMPATIENT: A Gridding-Accelerated Toeplitz-based Strategy for Non-Cartesian High-Resolution 3D MRI on GPU.” *International Society for Magnetic Resonance in Medicine 20th Scientific Meeting*, Melbourne, 2012, p. 2550. (Abstract)
<http://cds.ismrm.org/protected/12MProceedings/files/2550.pdf>
- C68. **J. P. Haldar**, R. M. Leahy. “New Linear Transforms for Data on a Fourier 2-Sphere with Application to Diffusion MRI.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, Barcelona, 2012, pp. 402-405.
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- C67. S. Ashrafulla*, **J. P. Haldar**, A. A. Joshi, R. M. Leahy. “Canonical Granger Causality Applied to Functional Brain Data.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, Barcelona, 2012, pp. 1751-1754.
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- C66. F. Lam†, S. D. Babacan, **J. P. Haldar**, N. Schuff, Z.-P. Liang. “Denoising Diffusion-Weighted MR Image Sequences using Low Rank and Edge Constraints.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, Barcelona, 2012, pp. 1401-1404.
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- C65. Y. Lin*, Q. Li, **J. P. Haldar**, R. M. Leahy. “Constrained Mixture Modeling for the Estimation of Kinetic Parameters in Dynamic PET.” *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, Barcelona, 2012, pp. 1004-1007.
<http://dx.doi.org/10.1109/ISBI.2012.6235727>

- C64. D. Clewett[†], **J. Haldar**, H. Damasio, M. Mather. “Subregions of the thalamus connected with temporal and parietal cortex show greater age-related variation than other subregions.” *Cognitive Neuroscience Society*, Chicago, 2012. (Abstract)
- C63. S.-L. Liew[†], K. A. Garrison[†], **J. Haldar**, C. J. Winstein, H. Damasio, L. Aziz-Zadeh. “Structural neuroanatomy of lesioned brains in individuals with chronic stroke and functional correlations with action observation networks.” *Society for Neuroscience 41st Annual Meeting*, Washington, D.C., 2011. (Abstract)
- C62. **J. P. Haldar**[†], J. H. Kim, S.-K. Song, Z.-P. Liang. “Accelerated Mouse Spinal Cord Diffusion Measurements with SNR-Enhancing Joint Reconstruction.” *International Society for Magnetic Resonance in Medicine 19th Scientific Meeting*, Montreal, 2011, p. 2073. (Abstract)
<http://cds.ismrm.org/protected/11MPProceedings/files/2073.pdf>
- C61. A. G. Christodoulou[†], C. Brinegar[†], B. Zhao[†], **J. P. Haldar**[†], H. Zhang, Y.-J. L. Wu, T. K. Hitchens, C. Ho, Z.-P. Liang. “First-Pass Myocardial Perfusion Imaging with Sparse (k,t)-Space Sampling.” *International Society for Magnetic Resonance in Medicine 19th Scientific Meeting*, Montreal, 2011, p. 2045. (Abstract)
<http://cds.ismrm.org/protected/11MPProceedings/files/2045.pdf>
- C60. B. Zhao[†], **J. Haldar**[†], A. Christodoulou[†], Z.-P. Liang. “Image Reconstruction from Highly Undersampled (k, t)-space Data with Joint Partial Separability and Sparsity Constraints.” *International Society for Magnetic Resonance in Medicine 19th Scientific Meeting*, Montreal, 2011, p. 4375. (Abstract)
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- C59. X.-L. Wu[†], J. Gai, F. Lam[†], M. Fu[†], **J. P. Haldar**[†], Y. Zhuo[†], Z.-P. Liang, W.-M. Hwu, B. P. Sutton. “IMPATIENT MRI: Illinois Massively Parallel Acceleration Toolkit for Image reconstruction with ENhanced Throughput in MRI.” *International Society for Magnetic Resonance in Medicine 19th Scientific Meeting*, Montreal, 2011, p. 4396. (Abstract)
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PATENTS

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- B. Zhao, **J. P. Haldar**, L. L. Wald. “Systems and Methods for Designing Magnetic Resonance Fingerprinting Imaging Parameters.” Provisional US patent 62/308,172, US patent application number 15/450,127.
- **J. P. Haldar**, D. Kim. “Diffusion-relaxation correlation spectroscopic imaging.” Provisional US patent 62/503,836, US patent application number 15/976,548.

ACTIVE RESEARCH SUPPORT

- **NSF CCF-1350563: “CAREER: Low-Rank Matrix Modeling for Constrained Reconstruction from Noisy and Sparsely-Sampled Data.”**
 Communications and Information Foundations Program, National Science Foundation
 Role: Principal Investigator. 04/2014–03/2019
- **NIH R21 EB022951 (Impact Score 18; top 3%): “Faster MRI with Sparse Sampling and Low-Rank Modeling.”**
 National Institute of Biomedical Imaging and Bioengineering, National Institutes of Health
 Role: Principal Investigator. 07/2016–04/2019
- **NSF CNS-1828736: “MRI: Development of a High-Performance Low-Field MRI for Dynamic Imaging.”**
 Division of Computer and Network Systems, National Science Foundation. Role: Co-Principal Investigator (Co-PIs: K. Nayak, D. Byrd, K. Iskarous, J. Haldar, S. Narayanan). 10/2018–09/2023
- **NIH R01 MH116173 (Impact Score 17; top 3%): “Next Generation In-vivo Diffusion Imaging at Sub Millimeter Resolution.”**
 National Institute of Mental Health, National Institutes of Health
 Role: Co-Investigator, PI of Subcontract to USC (PIs: K. Setsompop/Y. Rathi). 03/2018–08/2022
- **NIH R01 NS074980 (Impact Score 20; top 5%): “Interactive Software for Semiautomated Analysis of Structural Brain Images.”**
 National Institute of Neurological Disorders and Stroke, National Institutes of Health
 Role: Co-Investigator (PIs: D. Shattuck/R. Leahy). 04/2017–03/2022

- **NIH R01 NS089212 (Impact Score 14; top 2%): “A Brain Atlas for Mapping Connectivity in Focal Epilepsy.”**
National Institute of Neurological Disorders and Stroke, National Institutes of Health
Role: Co-Investigator (PIs: J. Mosher/R. Leahy). 04/2015–06/2020
- **NIH R33 CA225400 (Impact Score 28): “Area B: Precise DCE-MRI Assessment of Brain Tumors.”**
National Cancer Institute, National Institutes of Health
Role: Co-Investigator (PI: K. Nayak). 09/2017–08/2020

COMPLETED RESEARCH SUPPORT

- **NIH UL1 RR031986: “Improved DCE Neuro-MRI using Constrained Reconstruction.”**
Southern California Clinical and Translational Science Institute Multidisciplinary Research Project Award
Role: Co-Investigator (PI: K. Nayak). 07/2013–06/2014
- **AFRL FA8650-17-C-9112: “PRISMA: Ptychography-based Rapid Imaging of Nano-Structures with Multi-layer Assemblies.”**
Air Force Research Laboratory
Role: Co-Investigator (PI: J. Damoulakis). 11/2016–02/2022

INVITED TALKS (EXTERNAL)

- “Joint Reconstruction for Diffusion MRI,” Biomedical Magnetic Resonance Laboratory, Washington University in St. Louis School of Medicine, St. Louis, MO, August 10, 2007.
- “High-Resolution Diffusion MRI,” *Annual Conference of the IEEE Engineering in Medicine and Biology Society*, Lyon, France, August 23, 2007. Special session for student paper award finalists.
- “High-Resolution MR Metabolic Imaging,” *Annual Conference of the IEEE Engineering in Medicine and Biology Society*, Lyon, France, August 25, 2007. Special session titled “MRI: Recent Advances in Physiological and Metabolic Imaging.”
- “Data Acquisition Schemes for Compressed Sensing in Magnetic Resonance Imaging,” *Illinois/Missouri Applied Harmonic Analysis Seminar*, Bloomington, IL, April 19, 2008.
- “An Introduction to Magnetic Resonance Imaging,” *Harmonic Analysis and Mathematical Physics Seminar*, Urbana, IL, October 28, 2008.
- “MR Image Reconstruction using GPU-level Parallelism,” *Universal Parallel Computing Research Center Multicore Applications Workshop*, Redmond, WA, May 28, 2009.
- “Accelerating Advanced MR Image Reconstruction using GPUs,” *Virtual School of Computational Science and Engineering Summer School 2009: Many-Core Processors for Science and Engineering Applications*, Urbana, IL, August 10, 2009.
- “Joint Reconstruction of Noisy High-Resolution MR Image Sequences,” Center for Imaging of Neurodegenerative Diseases, San Francisco VA Medical Center, San Francisco, CA, July 6, 2010.
- “Label-Free High-Resolution Imaging of Live Cells With Deconvolved Spatial Light Interference Microscopy,” *Annual Conference of the IEEE Engineering in Medicine and Biology Society*, Buenos Aires, Argentina, September 1, 2010. Special session for student paper award finalists.
- “Magnetic Resonance Imaging and Spectroscopy: Beyond the Fourier Transform,” Electrical and Computer Engineering Graduate Seminar, University of Iowa, Iowa City, IA, March 3, 2011.
- “Toward High-Resolution MR Neuroimaging: Beyond the Fourier Transform,” Ming Hsieh Department of Electrical Engineering, University of Southern California, Los Angeles, CA, March 18, 2011.
- “Low-Rank Approximations for Dynamic Imaging,” *IEEE International Symposium on Biomedical Imaging*, Chicago, IL, March 31, 2011. Special session titled “Compressive Sampling for Biomedical Imaging.”
- “Reconstructing High-Dimensional Signals from Sparsely-Sampled Data using Rank Constraints: Application to Accelerated Magnetic Resonance Imaging,” *Janelia Conference on BioImage Informatics II*, Howard Hughes Medical Institute Janelia Farm Research Campus, Ashburn, VA, September 20, 2011.
- “Some Signal Processing Methods for Faster and Better Diffusion MRI,” *Symposium for Brain Imaging Techniques and Analysis*, National Yang-Ming University, Taipei, Taiwan, June 7, 2012.

- “Constrained Magnetic Resonance Imaging: Denoising and Sparse Sampling,” Research Center for Information Technology Innovation, Academia Sinica, Taipei, Taiwan, June 8, 2012.
- “Magnetic Resonance Image Sequences: Acquisition, Reconstruction, and Analysis.” *NSF IGERT on Video Bioinformatics Fall Retreat*, Lake Arrowhead, CA, October 11, 2014.
[Keynote Lecture](#)
- “Constrained Magnetic Resonance Imaging: Beyond the Fourier Transform.” Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, June 22, 2015.
- “Low-Rank Modeling of Local k-Space Neighborhoods: From Phase and Support Constraints to Structured Sparsity.” *SPIE Wavelets and Sparsity XVI*, San Diego, CA, August 2015. Special session entitled “Sparse Representations in MRI.”
- “Constrained Magnetic Resonance Imaging: Moving Beyond the Fourier Transform using the Blessings of Dimensionality.” *BrainMap Seminar Series*, Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard-MIT Division of Health Sciences and Technology, Boston, MA, October 21, 2016.
- “Computational imaging with LORAKS: Reconstructing linearly predictable signals using low-rank matrix regularization.” *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, October 2017. Special session titled “Computational Imaging.”

TEACHING

- **Instructor**, EE 483: Introduction to Digital Signal Processing, University of Southern California, Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018. (Course I substantially revised).
- **Instructor**, EE 591: Magnetic Resonance Imaging and Reconstruction, University of Southern California, Fall 2013, Fall 2016. (Course I substantially revised).
- **Instructor**, EE 592: Computational Methods for Inverse Problems, University of Southern California, Fall 2014, Fall 2015, Fall 2017. (Course I created/developed).
- **Instructor** (with K. Nayak), EE 598: Electrical Engineering Research Seminar, University of Southern California, Fall 2013. (Course I created with K. Nayak).
- **Instructor**, EE 599: Vector Space Methods for Signal Processing, University of Southern California, Spring 2013. (Course I created/developed).
- **Guest Lecturer**, EE 301L: Linear Systems, University of Southern California, Fall 2012, Fall 2013.
- **Guest Lecturer**, EE 598: Electrical Engineering Research Seminar, University of Southern California, Fall 2012.
- **Guest Lecturer**, EE 599: Computational Imaging and Brain Connectivity, University of Southern California, Spring 2012.
- **Guest Lecturer**, BME 525: Advanced Biomedical Imaging, University of Southern California, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018.
- **Guest Lecturer**, BME 533: Biomedical Engineering Seminars, University of Southern California, Fall 2012.
- **Guest Lecturer**, NIIN 598: Neuroimaging and Informatics External Speaker Seminar Series, University of Southern California, Fall 2016.
- **Guest Lecturer**, ECE 480: Magnetic Resonance Imaging, University of Illinois at Urbana-Champaign, Fall 2005 and Fall 2007.
- **Guest Lecturer**, BIOE 120: Introduction to Bioengineering, University of Illinois at Urbana-Champaign, Fall 2007.

MENTORING

- Supervised Research
 - Ph.D. Students (serving as primary advisor)
 - Divya Varadarajan, USC Electrical Engineering. Fall 2013-Summer 2018.
Dissertation: “Novel Theoretical Characterization and Optimization of Experimental Efficiency for Diffusion MRI.”
Now a postdoc at the Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard Medical School.

- Daeun Kim, USC Electrical Engineering. Fall 2013-Present. Qualifying exam passed: Fall 2017. Final exam passed: Summer 2018.
- Tae Hyung Kim, USC Electrical Engineering. Fall 2014-Present.
- Rodrigo Lobos, USC Electrical Engineering. Fall 2015-Present.
- Yunsong Liu, USC Electrical Engineering. Fall 2017-Present.
- Jiayang Wang, USC Electrical Engineering. Fall 2018-Present.

Ph.D. Students (not as primary advisor)

- Chitresh Bhushan, USC Electrical Engineering (primary advisor: R. Leahy). Fall 2011-Spring 2016.
Dissertation: “Correction, coregistration and connectivity analysis of multi-contrast brain MRI.”
Now a research scientist at GE Global Research.
- Syed Ashrafulla, USC Electrical Engineering (primary advisor: R. Leahy). Fall 2011-Spring 2014.
Dissertation: “Causality and consistency in electrophysiological signals.”
Now a software engineer at Google.
- Yanguang Lin, USC Electrical Engineering (primary advisor: R. Leahy). Fall 2011-Spring 2012.
Dissertation: “Model based PET reconstruction and kinetic parameter estimation.”
Now a Staff Modeling Scientist at Quantcast.

PROFESSIONAL SOCIETIES

- **National Academy of Inventors**, Member
- **International Society for Magnetic Resonance in Medicine**, Member
- **Institute of Electrical and Electronics Engineers**, Senior Member
- **IEEE Engineering in Medicine and Biology Society**, Senior Member
- **IEEE Signal Processing Society**, Senior Member

SERVICE

Technical Committees:

- Member (Elected Position), Computational Imaging Technical Committee (CI TC), IEEE Signal Processing Society, 2016-2018, 2019-2021. (This was a Special Interest Group when I first joined, and was elevated to a Technical Committee in 2018)
 - Chair, Nominations and Elections Subcommittee, 2017-Present.
 - Liaison between the CI TC and the BISP TC, 2017-Present.
- Member (Elected Position), Bioimaging and Signal Processing Technical Committee (BISP TC), IEEE Signal Processing Society, 2014-2016, 2017-2019.
- Associate Member (Elected Position), Bioimaging and Signal Processing Technical Committee (BISP TC), IEEE Signal Processing Society, 2011-2013.
- Member, USC Dana & David Dornsife Cognitive Neuroscience Imaging Center Technical Committee

Awards Committees:

- Member, APSIPA Annual Summit & Conference Awards Committee, 2012
- Member, IEEE ISBI Best Student Paper Selection Committee, 2013
- Member, USC EE Fellowship Committee (SIPG representative), 2014
- Member, USC Ming Hsieh Institute Ph.D. Scholar Evaluation Committee, 2012
- Member, USC Electrical Engineering Research Festival Judging Committee, 2012, 2013, 2014, 2015, 2016

Organizing Committees:

- Special Session on “Biomedical Image Acquisition, Reconstruction, and Quantitation,” APSIPA Annual Summit & Conference 2012 (with R. Leahy and K. Nayak)
- USC Medical Imaging Seminar Series, Fall 2012-Present (with R. Leahy, K. Nayak, and H. Hu)
- USC Ming Hsieh Distinguished Lecturer Series, 2013-2014 (with K. Chugg, B. Reichardt, P. Bogdan, and P. Georgiou)
- USC Speech MRI Summit, 2014 (with K. Nayak, S. Narayanan, S. Lee, and R. Leahy)
- USC Brain and EE minisymposium, 2015 (with R. Leahy)

Session Moderator at International Conferences:

- Allerton Conference on Communication, Control, and Computing 2009
- Annual Conference of the IEEE Engineering in Medicine and Biology Society 2010
- IEEE International Symposium on Biomedical Imaging 2012, 2013, 2018
- International Symposium on Magnetic Resonance in Medicine 2013, 2014, 2015, 2016 (two sessions), 2017
- APSIPA Annual Summit & Conference 2012

Editorial Service:

- Associate Editor for IEEE Transactions on Medical Imaging, 2014-Present
- Associate Editor for IEEE Transactions on Computational Imaging, 2018-Present
- International Advisory Board Member, Physics in Medicine and Biology, 2016-Present
- Area Chair for IEEE International Conference on Image Processing (ICIP) 2014, 2016, 2018
- Area Chair for IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2017, 2019

Awards for Service:

- Distinguished Reviewer for Magnetic Resonance in Medicine 2012, 2013, 2014, 2015, 2016, 2017
- Distinguished Reviewer for the Journal of Magnetic Resonance Imaging 2016
- Recognized Reviewer for IEEE International Symposium on Biomedical Imaging 2015

Journal Reviewing:

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| <ul style="list-style-type: none"> • ACM Computing Surveys • Biomedical Signal Processing and Control • Computerized Medical Imaging and Graphics • Computers in Biology and Medicine • Concepts in Magnetic Resonance Part A • Concepts in Magnetic Resonance Part B • Europhysics Letters • IEEE/ACM Transactions on Computational Biology and Bioinformatics • IEEE Journal of Selected Topics in Signal Processing • IEEE Signal Processing Letters • IEEE Transactions on Biomedical Engineering • IEEE Transactions on Computational Imaging • IEEE Transactions on Image Processing • IEEE Transactions on Information Technology in Biomedicine • IEEE Transactions on Medical Imaging • IEEE Transactions on Signal Processing • International Journal of Biomedical Imaging • Journal of Magnetic Resonance | <ul style="list-style-type: none"> • Journal of Magnetic Resonance Imaging • Journal of Neuroscience Methods • Journal of Parallel and Distributed Computing • Magnetic Resonance in Medicine • Medical Image Analysis • Medical Physics • Neurocomputing • NeuroImage • NMR in Biomedicine • Optics Express • Parallel Computing • Physics in Medicine and Biology • PLOS ONE • Recent Patents on Biomedical Engineering • Scientific Reports • SIAM Journal on Imaging Sciences • Signal, Image and Video Processing • Signal Processing |
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Grant Reviewing:

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| <ul style="list-style-type: none"> • Early Career Reviewer program at the Center for Scientific Review, National Institutes of Health (NIH) • NIH Biomedical Imaging Technology Study Section A (BMIT A), ad hoc reviewer (09/2016, 02/2017). • NSF Communications and Information Foundations (CIF), Signal Processing Systems Image and Multidimensional Signal Processing (IMDSP) Panel (ad hoc reviewer) • NSF Information and Intelligent Systems (IIS), Information Integration and Informatics (III) Panel (ad hoc reviewer) • NSF Experimental Program to Stimulate Competitive Research (EP- | <ul style="list-style-type: none"> SCoR), Research Infrastructure Improvement (RII) Panel (ad hoc reviewer) • NSF Communications, Circuits and Sensing Systems (CCSS), Excellence in Research Projects (EiR) Panel (ad hoc reviewer) • Saban Research Institute Inspire Innovation Program (ad hoc reviewer) • Southern California Clinical and Translational Science Institute (SC-CTSI) Technology Awards (ad hoc reviewer) • Israeli Ministry of Science, Technology and Space (ad hoc reviewer) • U.S.-Israel Binational Science Foundation (ad hoc reviewer) • Wright Foundation Grant Program (ad hoc reviewer) |
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Conference Reviewing:

- IEEE Engineering in Medicine and Biology Conference (EMBC)
- IEEE Global Conference on Signal and Information Processing (GlobalSIP)
- IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)
- IEEE International Conference on Image Processing (ICIP)
- IEEE International Symposium on Biomedical Imaging (ISBI)
- IEEE International Symposium on Information Theory (ISIT)
- IEEE International Symposium on Circuits and Systems (ISCAS)
- International Society for Magnetic Resonance in Medicine Annual Meeting and Exhibition (ISMRM)
- International Conference on Information Processing in Medical Imaging (IPMI)
- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)
- Organization for Human Brain Mapping Annual Meeting (OHBM)

Public Education:

- Scientific consultant and on-screen interviewee, “How to Build...Everything” television series, Season 1, Episode 11 (“Rocketship Revealed”). Premiered on the Discovery Science Channel on November 7th, 2016.
<https://www.sciencechannel.com/tv-shows/how-to-build-everything/full-episodes/rocketship-revealed>
- Contributor of scientific visualizations, Permanent Exhibition on “Your Brain,” Franklin Institute Science Museum in Philadelphia. On display from June 2014-Present.
- Instructor, “Magnetic Resonance Imaging: A Glimpse Inside,” Welcome Week Micro-Seminar, USC Undergraduate Programs, 2014.
- Faculty Governing Board Member, Body Engineering Los Angeles GK-12 Program, 2013-2015.

Other Research Education:

- Panelist, “Algorithm Breakdown” Secret Session at the 2017 Annual Meeting of the ISMRM. This session provides a forum where junior researchers have an interactive discussion with three panelists who are experienced in the development, validation, and application of novel MRI-based formulations and algorithms.
- Panelist, USC External Fellowship Proposal Review Clinics, October 2015.
- Speaker, UCLA Advanced Neuroimaging Summer Program (NITP), July 2014.
- Speaker, Virtual School of Computational Science and Engineering Summer School 2009: Many-Core Processors for Science and Engineering Applications
- Intel Graduate Research Mentor, Intel Undergraduate Research Scholars Program, 2006.

Open-Source Research Software Development:

- Co-developer of the Illinois Massively Parallel Acceleration Toolkit for Image reconstruction with ENhanced Throughput in MRI (IMPATIENT MRI) (http://impact.crhc.illinois.edu/mri/mri_toolset.aspx, GPU-based Magnetic Resonance Image Reconstruction Software)
- Co-developer of BrainSuite software (<http://brainsuite.org/>, Magnetic Resonance Image Analysis Tools)
- Developer and distributor of MRI reconstruction software (<http://mr.usc.edu/code.html>) and MRI data (<http://mr.usc.edu/data.html>).

Research Software Training:

- Speaker, BrainSuite Training @ USC, September 2013.
- Speaker, BrainSuite Training @ UCLA, November 2013.
- Speaker, BrainSuite Training @ CHLA, August 2014.
- Co-organizer, BrainSuite Training @ USC, October 2015.

SELECTED PRE-2005 ACADEMIC AWARDS AND HONORS

- **Bronze Tablet Award (University Honors)**, University of Illinois at Urbana-Champaign, Spring 2004.
- **Edmund J. James Scholar Engineering Honors Program**, University of Illinois at Urbana-Champaign, Fall 2000-Spring 2004.
- **James Newton Matthews Scholarship**, University of Illinois at Urbana-Champaign, Fall 2000-Spring 2004.
- **Henry O. Koehler Memorial Scholarship**, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Fall 2003-Spring 2004.

- **Dwight Glasscock Scholarship**, College of Engineering, University of Illinois at Urbana-Champaign, Fall 2003-Spring 2004.
- **McDonnell Memorial Scholarship**, College of Engineering, University of Illinois at Urbana-Champaign, Fall 2002-Spring 2003.
- **Harriet and Robert Perry Scholarship**, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Fall 2002-Spring 2003.
- **Calvin B. Niccols Memorial Scholarship**, College of Engineering, University of Illinois at Urbana-Champaign, Fall 2000-Spring 2002.
- **Award from Accenture and the College of Engineering in recognition of outstanding scholarship, leadership, extra-curricular involvement and professional presence**, University of Illinois at Urbana-Champaign, Spring 2002.