

KRISHNA S. NAYAK

Ming Hsieh Department of Electrical and Computer Engineering
Viterbi School of Engineering
University of Southern California
EEB 406, Los Angeles, CA 90089-2564
Phone: (213) 740-3494 Fax: (213) 740-4651 E-mail: knayak@usc.edu
<http://sipi.usc.edu/~knayak>

EDUCATION

Ph.D. Electrical Engineering	Stanford University	2001
M.S. Electrical Engineering	Stanford University	1996
B.S. Elec Eng, Comp Sci, Appl Math	Florida State University	1995

PRIMARY POSITIONS

Professor, Electrical and Computer Engineering, University of Southern California (joint appointments in Biomedical Engineering and Radiology)	2014-
Associate Professor, Electrical Engineering, University of Southern California	2009-14
Assistant Professor, Electrical Engineering, University of Southern California	2003-09
Lecturer & Research Associate, Electrical Engineering, Stanford University	2001-03

INDUSTRY POSITIONS

President, Lively Sensors, LLC	2016-
Consultant, Physical Optics Corporation	2016
Consultant, Lithera, Inc.	2013
Consultant, California Heart Centers Group	2009-11
Consultant, Phantoms by Design, Inc.	2002-09
Consultant, NetVMG, Inc.	2001-03

VISITING POSITIONS

Sabbatical, Lively Sensors, LLC	2017-18
Visiting Professor (1 month), Indian Institute of Sciences	2017
Sabbatical, Laboratory of Cardiac Energetics, NIH/NHLBI Intramural Division	2010-11
Research Professor, Department of Medicine, Loma Linda University	2008-13

RESEARCH AND TEACHING FIELDS

Magnetic Resonance Imaging	Signals & Systems
Medical Physics	Digital Signal Processing

HONORS and AWARDS

USC Viterbi School of Engineering Use-Inspired Research Award	2020
Elected "Board of Trustees" of ISMRM	2018-21
Elected "Fellow" of SCMR	2018
Elected "Fellow" of AIMBE	2017
USC Community Engagement Award	2014
USC Center for Excellence in Teaching, Faculty Fellow	2013-16
NAE Frontiers of Engineering Education, Participant	2011
GE Healthcare Magnetic Resonance Thought Leader Award	2009
USC Mellon Mentoring Award, Faculty Mentoring of Graduate Students	2008
Elected "Senior Member" of IEEE	2008
USC Viterbi School of Engineering Outstanding Junior Faculty Research Award	2007
Fannie and John Hertz Foundation Doctoral Thesis Prize	2001
ISMRM Student Stipend Recipient	1997-99
Fannie and John Hertz Foundation Graduate Fellowship	1995-00
NSF Graduate Fellowship (declined, b/c accepted Hertz)	1995
Tau Beta Pi Centennial Fellowship #11	1995
Phi Kappa Phi Graduate Fellowship	1995

MEMBERSHIP

American Institute for Medical and Biological Engineering	2017-
American Society for Engineering Education	2011-
American Association for the Advancement of Science	2008-
American Heart Association	2003-
Institute of Electrical and Electronics Engineers (Senior Member 2008-present)	2001-
Society for Cardiovascular Magnetic Resonance (Fellow 2018-present)	2000-
International Society for Magnetic Resonance in Medicine	1996-

RESEARCH

FUNDING

- ▶ **Co-Investigator**, AHA/TPA, “Novel Identification of Myocardial Scar Tissue using Arterial Spin Labeling,” 19TPA34880024. PI: Parveen Garg. July 2019 – June 2022. Total: \$300k. KN’s portion: \$137k.
- ▶ **Principal Investigator**, NSF/CNS, “MRI: Development of a High-Performance Low-Field MRI for Dynamic Imaging,” #1828736. Oct 2018 – Sep 2023. Total: \$2.5M. KN’s portion: \$2.5M.
- ▶ **Principal Investigator**, NIH/NCI, “Precise DCE-MRI Assessment of Brain Tumors,” R33-CA225400. Sep 2017 – Aug 2020. Total: \$1.6M. KN’s portion: \$1.3M.
- ▶ **Principal Investigator**, NIH/NHLBI, “Novel Myocardial Perfusion Stress Test using Arterial Spin Labeling,” R01-HL130494. Jul 2016 – Jun 2020. Total: \$1.7M. KN’s portion: \$1.2M.
- ▶ **Co-Investigator**, NIH/NIDCD, “Dynamics of Vocal Tract Shaping,” R01-DC007142, PI: Shrikanth Narayanan. May 2005 – Apr 2010. Total: \$2.1M. KN’s portion: \$400k. May 2010 – April 2015. Total: \$2.0M. KN’s portion: \$380k. Dec 2015 – Nov 2020. Total: 2.0M. KN’s portion: \$380k.
- ▶ **Co-Principal Investigator**, NSF/CISE, “RI: Medium: Collaborative Research: Understanding individual-level speech variability: from novel articulatory data to robust speaker recognition,” #1514544. PI(s): Shrikanth Narayanan, Krishna Nayak. Sep 2015 – Aug 2020. Total: \$1.2M.
- ▶ **Co-Investigator**, NIH/NIDDK, “Optimizing Tissue Iron Quantification at 3 Tesla,” R01-DK097115. PI: John Wood. Sep 2013 – Aug 2018. Total: \$1.6M. KN’s portion: \$140k.
- ▶ **Co-Investigator**, NIH/NIEHS 5P01ES022845-04 and EPA RD-83544101-0, “Southern California Children’s Environmental Health Center (SC-CEHC),” PI: Rob McConnell. June 2013 – May 2018.
- ▶ **Co-Investigator**, NIH/NHLBI, “Model-based Phenotyping of OSAS in Pediatric Obesity using Dynamic MR Imaging,” R01-HL105210. PI: Michael Khoo. Sep 2010 – Aug 2016. (no cost extension) Total: \$3.4M. KN’s portion: \$1.2M.
- ▶ **Co-Investigator**, NIH/NIDDK, “ β -cell Preservation through Fat Mitigation,” U01-DK094430. PI(s): Tom Buchanan, Anny Xiang. Sep 2011 – Jun 2016. Total: \$3.8M. KN’s portion: \$20k.
- ▶ **Principal Investigator**, American Heart Association, Grant-in-Aid, “Myocardial ASL Perfusion Imaging with Improved Coverage and Sensitivity,” 13GRNT13850012, Jan 2013 – Dec 2015. Total: \$140k.
- ▶ **Principal Investigator**, Wallace H. Coulter Foundation, Coulter Translational Research Award, “Myocardial Perfusion Imaging without Contrast Agents,” Phase-I: September 2010 – August 2012. Total: \$180k. Phase-II: Sep 2012 – Aug 2015. Total: \$320k.
- ▶ **Co-Investigator**, NIH/NIDDK, “Risk Factors for Type-II Diabetes in Hispanic Adolescents,” R01-DK059211. PI: Michael Goran. Oct 2009 – Sep 2015. Total: \$3.2M. KN’s portion: \$60k.
- ▶ **Co-Investigator**, NIH/NIBIB, “Novel ICA Based Multi-fiber Streamline Tractography Approach,” R21-EB013456. PI: Meng Law. Jan 2012 – Dec 2013. Total: \$440k. KN’s portion: \$16k.
- ▶ **Principal Investigator**, NIH/NIDDK, “Rapid MRI Measures of Absolute Fat Mass in Adipose Tissue and Organs,” R21-DK081173. Feb 2009 – Dec 2012. (no cost extension). Total: \$450k.

- ▶ **Co-Principal Investigator**, GE Healthcare, “Cardiovascular Magnetic Resonance at 3 Tesla,” PI(s): Gerald Pohost, Krishna Nayak. Jul 2008 – Dec 2011. Total: \$320k. KN’s portion: \$240k.
- ▶ **Principal Investigator**, NIH/NHLBI, “Superior Cardiac MRI using Wideband SSFP at 3 Tesla,” R21-HL079987. Feb 2006 – Nov 2008. Total: \$430k.
- ▶ **Principal Investigator**, American Heart Association, Scientist Development Grant, “Coronary Magnetic Resonance Angiography at 3 Tesla,” #0435249N, \$260,000. Jul 2004 – Jun 2008. Total: \$320k.
- ▶ **Subcontract PI**, NIH/NHLBI, “Comprehensive Assessment of Valvular Function with MRI,” R01-HL074332. PI: John Pauly (Stanford). Jan 2004 – Jan 2008. Total: \$350k.

Total amounts include F&A and indirect costs, and are rounded to two significant digits. If funding is shared by multiple investigators, my portion is listed separately.

Small / Pilot Grants

- ▶ **Co-Principal Investigator**, Ming Hsieh Institute for Research on Engineering Medicine for Cancer, “Novel Dynamic PET Kinetics and MRI Radiomics Analyses in Brain Tumors,” PIs: Hossein Jadvar, Krishna Nayak, J Andrew MacKay, July 2020 – August 2021. \$125,000.
- ▶ **Co-Investigator**, BRACCO Global Investigator, “Evaluation of Regional Gadolinium Retention in the Brain,” PI: Alex Lerner, August 2016 – July 2018.
- ▶ **Principal Investigator**, RSNA-QIBA Groundwork Project Round 6, “Evaluation of RF Transmit Calibration Options for Quantitative DCE-MRI,” July 2016 – June 2017. \$50,000.
- ▶ **Co-Investigator**, Wright Foundation, Pilot Grant, “Noninvasive Coronary Endothelial Function using Arterial Spin Labeling,” PI: Parveen Garg, July 2015 – June 2017. \$48,000.
- ▶ **Co-Investigator**, Whittier Foundation, Pilot Grant, “Myocardial ASL Stress Testing in Heart Transplant Recipients,” PI: Andrew Yoon, September 2014 – December 2016. \$100,000.
- ▶ **Co-Investigator**, Southern California Clinical and Translational Science Institute, Pilot Grant, “Drug-Induced Sleep Endoscopy and Magnetic Resonance Imaging in Obstructive Sleep Apnea,” PI: Eric Kezirian, July 2014 – June 2015. \$49,000.
- ▶ **Principal Investigator**, Southern California Clinical and Translational Science Institute, Pilot Grant, “Improved DCE Neuro-MRI using Constrained Reconstruction,” July 2013 – June 2014. \$38,282.
- ▶ **Principal Investigator**, Clinical and Translational Science Institute, Pilot Grant, “MRI Assessment of 3D Blood Flow Dynamics in Patients with Carotid Atherosclerosis,” July 2008 – June 2009. \$41,556.
- ▶ **Subcontract PI**, Respiroics Foundation, “Development of Non-invasive Airway Compliance Assessment using Real-Time MRI,” PI: Ian Colrain (SRI International), January 2008 – July 2008. \$73,150.
- ▶ **Principal Investigator**, Center for Transdisciplinary Research on Energetics and Cancer, Pilot Grant, “Rapid and Non-invasive Quantitation of Abdominal Fat Distribution using Magnetic Resonance Imaging,” September 2007 – August 2008. \$35,000.
- ▶ **Co-Principal Investigator**, James H. Zumberge Research and Innovation Fund, Interdisciplinary Research Grant, “Assessment of Myocardial Perfusion by Cardiac MRI,” with Co-PI: Gerald Pohost, July 2005 – June 2006. \$50,000.
- ▶ **Subcontract PI**, Respiroics Foundation, “Non-invasive Airway Compliance Assessment using Real-Time MRI,” PI: Ian Colrain (SRI International), October 2004 – March 2006. \$86,673.

- ▶ **Principal Investigator**, James H. Zumberge Research and Innovation Fund, Individual Research Grant, “Cardiac Magnetic Resonance Imaging at 3 Tesla,” July 2004 – June 2005. \$25,000.

Funding from a previous institution (Stanford):

- ▶ **Investigator**, NIH/NHLBI, “Noninvasive Coronary Artery Imaging using MR,” PI: Dwight Nishimura (Stanford), R01-HL39297. July 1992 – August 2007.
- ▶ **Investigator**, NIH/NHLBI, “Integrated Myocardial Ischemia Assessment with MRI,” PI: John Pauly (Stanford), R01-HL67161. January 2003 – December 2007.
- ▶ **Investigator**, NIH/NIBIB, “MR Guided Vascular Interventions,” PI: John Pauly (Stanford), R01-EB002992. September 2003 – July 2007.
- ▶ **Investigator**, NIH/NCI, “High-Speed MRI for Tumor Interventions,” PI: Al Macovski (Stanford), R01-CA50948. July 2000 – June 2003.
- ▶ **Investigator**, California TRDRP, “Comprehensive Evaluation of the Ischemic Leg,” PI: Dwight Nishimura (Stanford), 9RT-0024. July 2000 – June 2003.
- ▶ **Investigator**, NIH/NCRR, “Center for Advanced Magnetic Resonance Technology at Stanford,” PI: Gary Glover (Stanford), R01-HL39297. January 2001 – December 2006.
- ▶ **Investigator**, NIH/NIBIB, “Development of a Prepolarized MRI Extremity Scanner,” PI: Al Macovski (Stanford), R01-EB000346. September 2001 – August 2005.
- ▶ **Investigator**, NIH, “Development of Improved MRI Techniques for Cartilage Injury and Repair,” PI: Al Macovski (Stanford), R01-AR46904. September 1999 – August 2003.

PUBLICATIONS

JOURNAL PAPERS (refereed)

1. Y Lim, Y Bliesener, SS Narayanan, **KS Nayak**. Deblurring for Spiral Real-Time MRI using Convolutional Neural Networks. *Magnetic Resonance in Medicine*. early view online.
2. NG Lee, A Javed, TR Jao, **KS Nayak**. Numerical Approximation to the General Kinetic Model for ASL Quantification. *Magnetic Resonance in Medicine*. 84(5):2846-2857, November 2020.
3. V Landes, A Javed, TR Jao, Q Qin, **KS Nayak**. Improved Velocity-Selective Labeling Pulses for Myocardial ASL. *Magnetic Resonance in Medicine*. 84(4):1909-1918, October 2020.
4. A Javed, **KS Nayak**. Single-shot EPI for ASL-CMR. *Magnetic Resonance in Medicine*. 84(2):738-750, August 2020.
5. W Chen, NG Lee, D Byrd, S Narayanan, **KS Nayak**. Improved real-time tagged MRI using REALTAG. *Magnetic Resonance in Medicine*. 84(2):838-846, August 2020.
6. HP Do, Y Guo, A Yoon, **KS Nayak**. Accuracy, Uncertainty, and Adaptability of Automatic Myocardial ASL Segmentation using Deep CNN. *Magnetic Resonance in Medicine*. 83(5):1863-1874, May 2020.
7. Y Bliesener, J Acharya, **KS Nayak**. Efficient DCE-MRI parameter and uncertainty estimation using a Neural Network. *IEEE Transactions on Medical Imaging*. 39(5):1712-1723, May 2020.
8. Y Bliesener, SG Lingala, JP Haldar, **KS Nayak**. Impact of (k,t) sampling on DCE MRI tracer kinetic parameter estimation in digital reference objects. *Magnetic Resonance in Medicine*. 83(5):1625-1639, May 2020.
9. T Shin, **KS Nayak**. Perceived dark rim artifact in first-pass myocardial perfusion MRI due to visual illusion. *Korean Journal of Radiology*. 21(4):462-469. April 2020.
10. A Javed, A Yoon, S Cen, **KS Nayak**, P Garg. Feasibility of Coronary Endothelial Function Assessment using Arterial Spin Labeled CMR. *NMR in Biomedicine*. 33(2):e4183, February 2020.
11. SG Lingala, Y Guo, Y Bliesener, Y Zhu, RM Lebel, M Law, **KS Nayak**. Tracer kinetic models as temporal constraints during brain tumor DCE-MRI reconstruction. *Medical Physics*. 47(1):37-51, January 2020.
12. VL Landes, **KS Nayak**. Iterative correction of RF envelope distortion with GRATER-measured waveforms. *Magnetic Resonance in Medicine*. 83(1):188-194, January 2020.
13. X Miao, **KS Nayak**, JC Wood. In-vivo validation of T2- and susceptibility-based SvO₂ measurements with jugular vein catheterization under hypoxia and hypercapnia. *Magnetic Resonance in Medicine*. 82(6):2188-2198, December 2019.
14. K Jiang, CM Ferguson, JR Woollard, VL Landes, JD Krier, X Zhu, **KS Nayak**, LO Lerman. Magnetization Transfer Imaging is Unaffected by Decreases in Renal Perfusion in Swine. *Investigative Radiology*. 54(11):681-688, November 2019.
15. CB Shaw, BH Foster, M Borgese, RD Boutin, C Bateni, P Boonsri, CO Bayne, RM Szabo, **KS Nayak**, AJ Chaudhari. Real-time three-dimensional MRI for the assessment of dynamic carpal instability. *PLOS-ONE*. 14(9): e0222704, September 2019.
16. TR Jao, **KS Nayak**. Analysis of physiological noise in quantitative cardiac magnetic resonance. *PLOS ONE*. 14(8): e0214566, August 2019.
17. W Chen, D Byrd, S Narayanan, **KS Nayak**. Intermittently Tagged Real-Time MRI Reveals Internal Tongue Motion during Speech Production. *Magnetic Resonance in Medicine*. 82(2):600–613, August 2019.

18. **KS Nayak**. Response to Letter to the Editor: Nomenclature for real-time magnetic resonance imaging. *Magnetic Resonance in Medicine*. 82(2):525–526, August 2019.
19. Y Bliesener, X Zhong, Y Guo, M Boss, R Bosca, H Laue, C Chung, K Sung, **KS Nayak**. RF Transmit Calibration: A multi-center evaluation of vendor-provided RF transmit mapping methods. *Medical Physics*. 46(6):2629-2637. June 2019.
20. EAH Warnert, **KS Nayak**, R Menon, C Rice, J Port, EA Morris, D Sodickson, P Sundgren, K Miller, UC Anazodo. Resonate: Reflections and recommendations on implicit biases within the ISMRM. *Journal of Magnetic Resonance Imaging*. 49(6):1509-1511, June 2019.
21. Y Lim, Y Zhu, SG Lingala, D Byrd, S Narayanan, **KS Nayak**. 3D dynamic MRI of the vocal tract during natural speech. *Magnetic Resonance in Medicine*. 81(3):1511-1520. March 2019.
22. W Foltz, B Driscoll, SL Lee, **KS Nayak**, N Nallapareddy, A Fatemi, C Ménard, C Coolens, C Chung. Phantom Validation of DCE-MRI Magnitude and Phase-Based Vascular Input Function Measurements. *Tomography* (special issue: Quantitative Imaging Network). 5(1):77-89, March 2019.
23. Y Lim, SG Lingala, SS Narayanan, **KS Nayak**. Dynamic off-resonance correction for spiral real-time MRI of speech. *Magnetic Resonance in Medicine*. 81(1):234-246. January 2019.
24. AH Xiang, E Trigo, MP Martinez, N Katkhouda, E Beale, X Wang, J Wu, T Chow, C Montgomery, **KS Nayak**, F Hendee, TA Buchanan (for the RISE Consortium). Impact of gastric banding versus metformin on beta-cell function in adults with impaired glucose tolerance or mild type 2 diabetes. *Diabetes Care*. 41(12):2544-2551, December 2018
25. RM Kato, YC Kim, B Joshi, S Loloyan, CP Wee, Z Wu, W Tran, TG Keens, MCK Khoo, **KS Nayak**, SLD Ward. Upper airway narrowing during central apnea in obese adolescents. *Annals of the American Thoracic Society*. 15(12):1465-1471. December 2018.
26. X Zhong, T Martin, HH Wu, **KS Nayak**, KH Sung. Prostate DCE-MRI with B1+ Correction using an Approximated Analytical Approach. *Magnetic Resonance in Medicine*. 80(6):2525-2537, December 2018.
27. V Ramanarayanan, S Tilsen, M Proctor, J Töger, L Goldstein, **KS Nayak**, S Narayanan. Analysis of Speech Production Real-Time MRI. *Computer Speech and Language*. 52:1-22, November 2018.
28. HP Do, V Ramanan, X Qi, J Barry, GA Wright, NR Ghugre, **KS Nayak**. Non-contrast Assessment of Microvascular Integrity using Arterial Spin Labeled CMR in a Porcine Model of Acute Myocardial Infarction. *Journal of Cardiovascular Magnetic Resonance*. 20:45. July 2018.
29. TR Jao, **KS Nayak**. Demonstration of Velocity Selective Myocardial Arterial Spin Labeling Perfusion Imaging in Humans. *Magnetic Resonance in Medicine*. 80(1):272-278. July 2018.
30. Y Guo, SG Lingala, Y Bliesener, RM Lebel, Y Zhu, **KS Nayak**. Joint arterial input function and tracker kinetic parameter estimation from under-sampled DCE-MRI using a model consistency constraint. *Magnetic Resonance in Medicine*. 79(5):2804-2815. May 2018.
31. V Landes, **KS Nayak**. Simple Method for RF Pulse Measurement using Gradient Reversal. *Magnetic Resonance in Medicine*. 79(5):2642-2651. May 2018.
32. SG Lingala, Y Zhu, Y Lim, A Toutios, Y Ji, W-C Lo, N Seiberlich, S Narayanan, **KS Nayak**. Feasibility of spiral through-time GRAPPA for low latency accelerated real-time MRI of speech. *Magnetic Resonance in Medicine*. 78(6):2275-2282. December 2017.
33. W Chen, E Gillett, MCK Khoo, SL Davidson Ward, **KS Nayak**. Real-time Multi-slice MRI during Continuous Positive Airway Pressure Reveals Upper Airway Response to Pressure Change. *Journal of Magnetic Resonance Imaging*. 46(5):1400-1408. November 2017.

34. Y Guo, SG Lingala, Y Zhu, RM Lebel, **KS Nayak**. Direct Estimation of Tracer-Kinetic Parameter Maps from Highly Undersampled Brain Dynamic Contrast Enhanced MRI. *Magnetic Resonance in Medicine*. 78(4):1566-1578. October 2017.
35. HP Do, AJ Yoon, MW Fong, F Saremi, ML Barr, **KS Nayak**. Double-gated Myocardial ASL Perfusion Imaging is Robust to Heart Rate Variation. *Magnetic Resonance in Medicine*. 77(5):1975-1980. May 2017.
36. J Töger, T Sorensen, K Somandepalli, A Toutios, SG Lingala, S Narayanan, **KS Nayak**. Test-retest repeatability of human speech biomarkers from static and real-time dynamic magnetic resonance imaging. *Journal of the Acoustical Society of America*. 141(5): 3323. May 2017.
37. SG Lingala, Y Zhu, YC Kim, A Toutios, S Narayanan, **KS Nayak**. A Fast and Flexible MRI System for the Study of Dynamic Vocal Tract Shaping. *Magnetic Resonance in Medicine*. 77:112-125. January 2017.
38. Y Zhu, Y Guo, SG Lingala, RM Lebel, M Law, **KS Nayak**. GOCART: GOlden-angle CARTesian Randomized Time-resolved 3D MRI. *Magnetic Resonance Imaging*. 34(7):940-950. September 2016.
39. Z Wu, W Chen, MCK Khoo, SL Davidson Ward, **KS Nayak**. Evaluation of upper airway collapsibility using real-time MRI. *Journal of Magnetic Resonance Imaging*. 44(1):158-167. July 2016. Recipient of the W.S. Moore Young Investigator Award at ISMRM 2016.
40. Z Wu, F Han, P Hu, **KS Nayak**. Anisotropic Field-of-View Support for Golden Angle Radial Imaging. *Magnetic Resonance in Medicine*. 76(1):229-236. July 2016
41. L Nava-Guerra, WH Tran, P Chalacheva, S Loloyan, B Joshi, TG Keens, **KS Nayak**, SL Davidson Ward, MCK Khoo. Model-based stability assessment of ventilatory control in overweight adolescents with obstructive sleep apnea during NREM sleep. *Journal of Applied Physiology*. 121(1):185-97. July 1 2016.
42. X Miao, SG Lingala, Y Guo, T Jao, M Usman, C Prieto, **KS Nayak**. Accelerated Cardiac Cine MRI Using Locally Low Rank and Finite Difference Constraints. *Magnetic Resonance Imaging*. 34(6):707-714. July 2016.
43. Z Wu, W Chen, **KS Nayak**. Minimum Field Strength Simulator for Proton Density Weighted MRI. *PLoS ONE* 11(5): e0154711. May 2016.
44. Y Guo, RM Lebel, Y Zhu, SG Lingala, MS Shiroishi, M Law, **KS Nayak**. High-resolution whole-brain DCE-MRI using Constrained Reconstruction: Prospective Clinical Evaluation in Brain Tumor Patients. *Medical Physics*. 43(5):2013-2023. May 2016.
45. F Kober, T Jao, T Troalen, **KS Nayak**, Myocardial Arterial Spin Labeling. *Journal of Cardiovascular Magnetic Resonance*. 18:22. April 2016.
46. A Javed, YC Kim, MCK Khoo, SLD Ward, **KS Nayak**. Dynamic 3D MR Visualization and Detection of Upper Airway Obstruction during Sleep using Region Growing Segmentation. *IEEE Transactions on Biomedical Engineering*. 63(2):431-437. February 2016.
47. SG Lingala, BP Sutton, ME Miquel, **KS Nayak**. Recommendations for Real-Time Speech MRI. *Journal of Magnetic Resonance Imaging*. 43(1):28-44. January 2016.
48. VC Rispoli, JF Nielsen, **KS Nayak**, JLA Carvalho. Computational fluid dynamics simulations of blood flow regularized by 3D phase contrast MRI. *Biomedical Engineering Online*. 14:110. November 2015.
49. **KS Nayak**, JF Nielsen, MA Berstein, M Markl, P Gatehouse, R Botnar, D Saloner, C Lorenz, H Wen, BS Hu, F Epstein, J Oshinski, SV Raman. CMR Phase Contrast Imaging. *Journal of Cardiovascular Magnetic Resonance*. 2015 Aug 9;17(1):71
50. **KS Nayak** and RJ Fleck Jr. "Seeing Sleep: Dynamic Imaging of Upper Airway Collapse and Collapsibility in Children." *IEEE Pulse*. 5(5):40-44. September 2014.

51. SS Narayanan, A Toutios, V Ramanarayanan, A Lammert, J Kim, S Lee, **KS Nayak**, YC Kim, Y Zhu, L Goldstein, D Byrd, E Bresch, P Ghosh, A Katsamanis, and M Proctor. "Real-time magnetic resonance imaging and electromagnetic articulography database for speech production research." *Journal of the Acoustical Society of America*. 136(3):1307-1311. September 2014.
52. YC Kim, RM Lebel, Z Wu, SL Davidson Ward, MCK Khoo, **KS Nayak**. "Real-time 3D MRI of the Pharyngeal Airway in Sleep Apnea." *Magnetic Resonance in Medicine*. 71(4):1501-1510. April 2014.
53. Z Wu, YC Kim, MCK Khoo, **KS Nayak**. "Evaluation of an Independent Linear Model for Acoustic Noise on a Conventional MRI Scanner and Implications for Acoustic Noise Reduction." *Magnetic Resonance in Medicine*. 71(4):1613-1620. April 2014.
54. RM Lebel, J Jones, JC Ferre, M Law, **KS Nayak**. "Highly accelerated dynamic contrast enhanced imaging." *Magnetic Resonance in Medicine*. 71(2):635-644. February 2014.
55. HP Do, TR Jao, **KS Nayak**. "Myocardial Arterial Spin Labeling Perfusion Imaging with Improved Sensitivity." *Journal of Cardiovascular Magnetic Resonance*. 16:15. January 2014.
56. AZ Lau, AP Chen, Y Gu, M Ladouceur-Wodzak, **KS Nayak**, CH Cunningham. "Noninvasive identification and assessment of functional brown adipose tissue in rodents using hyperpolarized ^{13}C imaging." *International Journal of Obesity*. 38(1):126-131. January 2014.
57. Y Zu, SS Narayanan, YC Kim, **KS Nayak**, C Bronson-Lowe, B Villegas, M Ouyoung, UK Sinha. "Evaluation of swallow function post tongue cancer treatment using real-time MRI: A pilot study." *Otolaryngology – Head and Neck Surgery*. 139(12):1312-1319. December 2013.
58. SD Sharma, HH Hu, **KS Nayak**. "Accelerated T_2^* -Compensated Fat Fraction Quantification Using a Joint Parallel Imaging and Compressed Sensing Framework." *Journal of Magnetic Resonance Imaging*. 38(5):1267-1275. November 2013.
59. SD Sharma, CL Fong, BS Tzung, M Law, **KS Nayak**. "Clinical Image Quality Assessment of Accelerated Magnetic Resonance Neuroimaging using Compressed Sensing." *Investigative Radiology*. 48(9):638-645, September 2013.
60. Y Zhu, MI Proctor, YC Kim, SS Narayanan, **KS Nayak**. "Dynamic 3D Visualization of Vocal Tract Shaping during Speech," *IEEE Transactions on Medical Imaging*. 32(5):838-848. May 2013.
61. CM Toledo-Corral, TL Alderete, HH Hu, **KS Nayak**, S Esplana, T Liu, MI Goran, MJ Weigensberg. "Ectopic Fat Deposition in Pre-diabetic Overweight and Obese Minority Adolescents." *Journal of Clinical Endocrinology & Metabolism*, 98(3):1115-1121, March 2013.
62. T Shin, **KS Nayak**, JM Santos, DG Nishimura, BS Hu, MV McConnell. "Three-dimensional first-pass myocardial perfusion MRI using a stack-of-spirals acquisition." *Magnetic Resonance in Medicine*. 69(3):839-844. March 2013.
63. MI Proctor, E Bresch, D Byrd, **KS Nayak**, SS Narayanan. "Paralinguistic Mechanisms of Production in Human Beatboxing: A Real-Time Magnetic Resonance Imaging Study." *Journal of the Acoustical Society of America*. 133(2):1043-1054, February 2013.
64. SD Sharma, HH Hu, **KS Nayak**, "Chemical Shift Encoded Water-Fat Separation Using Parallel Imaging and Compressed Sensing." *Magnetic Resonance in Medicine* 69(2):456-466, February 2013.
65. AA Joshi, HH Hu, MI Goran, RM Leahy, **KS Nayak**. "Automatic Intra-subject Registration-based Segmentation of Abdominal Fat from 3D Water-Fat MRI." *Journal of Magnetic Resonance Imaging* 37:423-430, February 2013.

66. TB Smith, **KS Nayak**. "Automatic off-resonance correction in spiral imaging with piecewise linear autofocus." *Magnetic Resonance in Medicine*. 69(1):82-90. January 2013.
67. GS Danagoulian, L Qin, **KS Nayak**, RR Colen, S Mukundan Jr., MB Harris, FA Jolesz, A Shankaranarayanan, WA Copen, EJ Schmidt. "Comparison of wideband steady-state free precession and T2-weighted fast spin echo in spine disorder assessment at 1.5 and 3T." *Magnetic Resonance in Medicine*. 68(5):1527-1535, November 2012.
68. MK Makhijani, N Balu, K Yamada, C Yuan, **KS Nayak**. "Accelerated 3D MERGE Carotid Imaging using Compressed Sensing with a Hidden Markov Tree Model." *Journal of Magnetic Resonance Imaging*. 36(5):1194-1202, November 2012.
69. TB Smith, **KS Nayak**. "Reduced Field of View MRI with Rapid, B₁-Robust Outer Volume Suppression," *Magnetic Resonance in Medicine*. 67(5):1316-1323, May 2012.
70. YC Kim, MI Proctor, SS Narayanan, **KS Nayak**. "Improved imaging of lingual articulation using real-time multislice MRI." *Journal of Magnetic Resonance Imaging*. 35(4):943-948. April 2012.
71. SD Sharma, HH Hu, **KS Nayak**. "Accelerated Water-Fat Imaging Using Restricted Subspace Field Map Estimation and Compressed Sensing," *Magnetic Resonance in Medicine*. 67(3):650-659, March 2012.
72. Z Zun, P Varadarajan, RG Pai, EC Wong, **KS Nayak**. "Arterial Spin Labeled MRI Detects Clinically Relevant Increases in Myocardial Blood Flow with Vasodilation," *JACC Cardiovascular Imaging*. 4(12):1253-1261, December 2011.
73. HH Hu, TR Nagy, MI Goran, **KS Nayak**. Quantification of absolute fat mass by magnetic resonance imaging: a validation study against chemical analysis. *International Journal of Body Composition Research*. 9(3):111-122, November 2011.
74. G Hamilton, DL Smith, M Bydder, **KS Nayak**, HH Hu. "Magnetic resonance properties of brown and white adipose tissues," *Journal of Magnetic Resonance Imaging*. 34(2):468-473, August 2011.
75. YC Kim, CE Hayes, S Narayanan, **KS Nayak**. "A novel 16-channel receive coil array for accelerated upper airway MRI at 3 Tesla," *Magnetic Resonance in Medicine*. 65(6):1711–1717, June 2011.
76. HH Hu, **KS Nayak**, MI Goran. "Assessment of abdominal adipose tissue and organ fat content by magnetic resonance imaging," *Obesity Reviews*. 12:e504–e515, May 2011.
77. YC Kim, SS Narayanan, **KS Nayak**. "Flexible retrospective selection of temporal resolution in real-time speech MRI using a golden-ratio spiral view order," *Magnetic Resonance in Medicine*. 65:1365–1371, May 2011.
78. T Rhee, JP Lewis, U Neumann, **KS Nayak**. Scan-based volume animation driven by locally adaptive articulated registrations. *IEEE Transactions on Visualization and Graphics*. 17(3):368-379, March 2011.
79. K-A Le, EE Ventura, JQ Fisher, JA Davis, MJ Weigensberg, M Punyanita, HH Hu, **KS Nayak**, MI Goran. "Ethnic differences in pancreatic fat accumulation and its relationship with other fat depots and inflammatory markers," *Diabetes Care*. 34:485-490, February 2011.
80. HH Hu, SA Chung, **KS Nayak**, HA Jackson, V Gilsanz. "Differential CT attenuation of metabolically active and inactive adipose tissues: preliminary findings," *Journal of Computer Assisted Tomography*. 35(1):65-71, January-February 2011.
81. TB Smith, **KS Nayak**, "An overview of MRI artifacts and correction strategies," *Imaging in Medicine*. 2(4):445-457. August 2010.
82. HL Lee, A Shankaranarayanan, GM Pohost, **KS Nayak**, "Improved 3 Tesla cardiac cine imaging using wideband SSFP," *Magnetic Resonance in Medicine*. 63(6):1716-1722, June 2010.

83. JLA Carvalho, JF Nielsen, **KS Nayak**. "Feasibility of in vivo measurement of carotid wall shear rate using spiral Fourier velocity encoded MRI," *Magnetic Resonance in Medicine*. 63(6):1537-1547, June 2010.
84. HH Hu, DL Smith, **KS Nayak**, MI Goran, TR Nagy, "Identification of Brown Adipose Tissue in Mice with Fat-Water IDEAL-MRI," *Journal of Magnetic Resonance Imaging*. 31(5):1195:1202. April 2010.
85. HL Lee, A Shankaranarayanan, GM Pohost, **KS Nayak**, "Three-dimensional coronary MR angiography with sub-millimeter resolution using wideband SSFP at 3 Tesla," *Journal of Magnetic Resonance Imaging*. 31(5):1224-1229. April 2010.
86. KH Sung, HL Lee, HH Hu, **KS Nayak**, "Prediction of Myocardial Signal during CINE Balanced SSFP Imaging," *Magnetic Resonance Materials in Physics, Biology, and Medicine (MAGMA)*. 23(2):85-91. April 2010.
87. T Shin, GM Pohost, **KS Nayak**, "Systolic 3D first-pass myocardial perfusion MRI: comparison with diastolic imaging in healthy volunteers," *Magnetic Resonance in Medicine*. 63(4):858-864. April 2010.
88. HH Hu, HW Kim, **KS Nayak**, MI Goran, "Comparison of 3D Fat-Water MRI and Single-Voxel MRS in the Assessment of Hepatic and Pancreatic Fat Fraction," *Obesity*. 18(4):841-847. Apr 2010.
89. TB Smith, Z Zun, EC Wong, **KS Nayak**. "Design and use of Variable Flip Angle Schedules in Transient Balanced SSFP Subtractive Imaging," *Magnetic Resonance in Medicine*. 63(2):537-542. February 2010.
90. MK Makhijani, HH Hu, GM Pohost, **KS Nayak**, "Improved Blood Suppression in 3D FSE Vessel Wall Imaging using a combination of Double Inversion Recovery and Diffusion Sensitizing Gradient Preparations," *Journal of Magnetic Resonance Imaging*. 31(2):398-405. February 2010.
91. HH Hu and **KS Nayak**. "Change in the proton T1 of Fat and Water in Mixture," *Magnetic Resonance in Medicine*. 63(2):494-501. February 2010.
92. Z Zun, EC Wong, **KS Nayak**. "Assessment of myocardial blood flow in humans using arterial spin labeling: feasibility and SNR requirements," *Magnetic Resonance in Medicine*. 62(4):975-83. October 2009.
93. YC Kim, S Narayanan, **KS Nayak**. "Accelerated 3D upper airway MRI using compressed sensing," *Magnetic Resonance in Medicine*. 61(6):1434-40. June 2009.
94. JF Nielsen and **KS Nayak**. "Reference-less phase velocity mapping using balanced SSFP," *Magnetic Resonance in Medicine*. 61(5):1096-1102. May 2009.
95. JF Nielsen and **KS Nayak**. "Interleaved balanced SSFP imaging: artifact reduction using gradient waveform grouping," *Journal of Magnetic Resonance Imaging*. 29(3):745-750. March 2009.
96. H Jung, KH Sung, **KS Nayak**, EY Kim, JC Ye. "k-t FOCUSS: a general compressed sensing framework for high-resolution dynamic MRI," *Magnetic Resonance in Medicine*. 61(1):103-116. January 2009.
97. T Shin, HH Hu, GM Pohost, **KS Nayak**. "Three dimensional first-pass myocardial perfusion imaging at 3T: feasibility study," *Journal of Cardiovascular Magnetic Resonance*. 10:57. December 2008.
98. HH Hu and **KS Nayak**. "Quantification of Absolute Fat Mass Using an Adipose Tissue Reference Signal Model," *Journal of Magnetic Resonance Imaging*. 28(6):1483-1491. December 2008.
99. HL Lee and **KS Nayak**. "Stabilization of alternating TR steady state free precession sequences," *Journal of Magnetic Resonance*. 195:211-218. December 2008.

100. KH Sung and **KS Nayak**. "Design and use of tailored hard-pulse trains for uniform saturation of myocardium at 3 Tesla," *Magnetic Resonance in Medicine*. 60(4):997-1002. October 2008.
101. CY Liu, P Varadarajan, GM Pohost, **KS Nayak**. "Real-time color flow MRI at 3 Tesla using variable density spiral phase contrast." *Magnetic Resonance Imaging*, 26(5):661-666. May 2008.
102. E Bresch, YC Kim, **KS Nayak**, D Byrd, S Narayanan, "Seeing speech: capturing vocal tract shaping using real-time magnetic resonance imaging," *IEEE Signal Processing Magazine*. 25(3):123-132. May 2008.
103. BL Gerber, SV Raman, **KS Nayak**, FH Epstein, P Ferreira, L Axel, DL Kraitchman. "Cardiac first-pass perfusion imaging - history, theory, and current state-of-the-art." *Journal of Cardiovascular Magnetic Resonance*. 10:18. April 28th, 2008.
104. KH Sung and **KS Nayak**. "B1+ compensation in 3T cardiac imaging using short 2DRF pulses," *Magnetic Resonance in Medicine*. 59(3):441-446. March 2008.
105. KH Sung and **KS Nayak**. "Measurement and characterization of RF non-uniformity over the heart at 3T using body coil transmission," *Journal of Magnetic Resonance Imaging*. 27(3):643-648. March 2008.
106. YC Kim, JF Nielsen, **KS Nayak**. "Automatic correction of EPI ghosting artifacts in real-time interactive cardiac MRI using sensitivity encoding," *Journal of Magnetic Resonance Imaging*. 27(1):239-245. January 2008.
107. JF Nielsen and **KS Nayak**. "SSFP and GRE phase contrast imaging using a three-echo readout," *Magnetic Resonance in Medicine*. 58(6):1288-1293. December 2007.
108. **KS Nayak**, HL Lee, BA Hargreaves, BS Hu. "Wideband SSFP: alternating repetition time balanced steady state free precession imaging with increased band spacing," *Magnetic Resonance in Medicine*, 58(5):931-938. November 2007.
109. T Shin, JF Nielsen, **KS Nayak**. "Accelerating dynamic spiral MRI by algebraic reconstruction from under-sampled k-t space," *IEEE Transactions on Medical Imaging*. 26(7):917-924. July 2007. USC-EE Dept. Best Student Paper "Honorable Mention" 2008.
110. JLA Carvalho and **KS Nayak**. "Rapid quantitation of cardiovascular flow using slice-selective Fourier velocity encoding with spiral readouts," *Magnetic Resonance in Medicine*, 57(4):639-646. April 2007. USC-EE Dept. Best Student Paper Award 2007.
111. E de la Pena, PK Nguyen, **KS Nayak**, PC Yang, DN Rosenthal, BS Hu, JM Pauly, MV McConnell. "Real-time color-flow CMR in adults with congenital heart disease," *Journal of Cardiovascular Magnetic Resonance*, 8(6):809-815. December 2006.
112. E Bresch, J Nielsen, **KS Nayak**, S Narayanan. "Synchronized and noise-robust audio recordings during real-time magnetic resonance imaging scans," *Journal of the Acoustical Society of America*, 120(4):1791-1794, October 2006.
113. JB Park, BS Hu, S Conolly, **KS Nayak**, DG Nishimura. "Rapid cardiac-output measurement with ungated spiral phase contrast," *Magnetic Resonance in Medicine*, 56(2):432-438, August 2006.
114. PEZ Larson, PT Gurney, **KS Nayak**, GE Gold, JM Pauly, DG Nishimura. "Designing long-T2 suppression pulses for ultra-short echo time (UTE) imaging," *Magnetic Resonance in Medicine*, 56(1):94-103, July 2006.
115. CH Cunningham, JM Pauly, **KS Nayak**. "Saturated double-angle method for rapid B1+ mapping," *Magnetic Resonance in Medicine*, 55(6):1326-1333, June 2006.
116. M Terashima, MS Hyon, E de la Pena, PC Yang, BS Hu, **KS Nayak**, JM Pauly, and MV McConnell. "High-resolution real-time spiral MRI for guiding vascular interventions in a rabbit model at 1.5T," *Journal of Magnetic Resonance Imaging*. 22(5):687-690, November 2005.

117. JC DiCarlo, BA Hargreaves, **KS Nayak**, BS Hu, JM Pauly, DG Nishimura. "Variable-density one-shot Fourier velocity encoding," *Magnetic Resonance in Medicine*, 54(3):645-655, September 2005.
118. G Narayan, **KS Nayak**, JM Pauly, BS Hu. "Single-breath hold, four-dimensional, quantitative assessment of LV and RV function using triggered, real-time, steady-state free precession MRI in heart failure patients," *Journal of Magnetic Resonance Imaging*. 22(1):59-66, July 2005.
119. **KS Nayak**, BA Hargreaves, BS Hu, DG Nishimura, JM Pauly, and CH Meyer. "Spiral balanced SSFP cardiac imaging," *Magnetic Resonance in Medicine*, 53(6):1468-1473, June 2005.
120. JB Park, JM Santos, BA Hargreaves, **KS Nayak**, G Sommer, BS Hu, DG Nishimura. "Rapid measurement of renal artery blood flow with ungated spiral phase contrast MRI," *Journal of Magnetic Resonance Imaging*. 21(5):590-595, May 2005.
121. **KS Nayak** and BS Hu, "The future of real-time cardiac magnetic resonance imaging," *Current Cardiology Reports*, 7:45-51, January 2005.
122. **KS Nayak**, CH Cunningham, JM Santos, and JM Pauly. "Real-time cardiac imaging at 3 Tesla," *Magnetic Resonance in Medicine*, 51(4):655-660, April 2004.
123. S Narayanan, **KS Nayak**, S Lee, A Sethy, and D Byrd, "An approach to real-time magnetic resonance imaging for speech production," *Journal of the Acoustical Society of America*, 115(5):1771-1776, April 2004.
124. DJ Asakawa, **KS Nayak**, SS Blemker, SL Delp, JM Pauly, DG Nishimura, and GE Gold, "Real-time imaging of skeletal muscle velocity," *Journal of Magnetic Resonance Imaging*. 18:734-739, December 2003.
125. **KS Nayak**, D McKernan, and J Johnson, "Measurements of forward path diversity between Internet service providers," *J. Internet Tech.*, 4:285-289, October 2003.
126. **KS Nayak**, BS Hu, and DG Nishimura, "Rapid quantitation of high-speed flow jets," *Magnetic Resonance in Medicine*, 50:366-372, August 2003.
127. BA Hargreaves, SS Vasanawala, **KS Nayak**, BS Hu, and DG Nishimura, "Fat suppressed steady-state free precession imaging using phase detection," *Magnetic Resonance in Medicine*. 50:210-213, July 2003.
128. **KS Nayak** and BS Hu, "Triggered real-time MRI and cardiac applications," *Magnetic Resonance in Medicine*, 49:188-192, January 2003.
129. JR Forder, **KS Nayak**, and GM Pohost, "Faster speed, better spatial resolution lead 3T benefits," *Diagnostic Imaging*, 24(13):65-73, December 2002.
130. PA Rivas, **KS Nayak**, GC Scott, MV McConnell, AB Kerr, DG Nishimura, JM Pauly, and BS Hu, "In-vivo real-time intravascular MRI," *Journal of Cardiovascular Magnetic Resonance*, 4(2):223-232, June 2002.
131. **KS Nayak**, JM Pauly, PC Yang, BS Hu, CH Meyer, DG Nishimura, "Real-time interactive coronary MRA", *Magnetic Resonance in Medicine*, 46:430-435, Sept. 2001.
132. **KS Nayak**, PA Rivas, JM Pauly, GC Scott, AB Kerr, BS Hu, and DG Nishimura, "Real-time black-blood MRI using spatial presaturation," *Journal of Magnetic Resonance Imaging*. 13:807-812, May 2001.
133. **KS Nayak**, C-M Tsai, CH Meyer, DG Nishimura, "Efficient off-resonance correction for spiral imaging," *Magnetic Resonance in Medicine*, 45:521-524, March 2001.
134. **KS Nayak**, JM Pauly, DG Nishimura, and BS Hu, "Rapid ventricular assessment using real-time interactive multi-slice MRI," *Magnetic Resonance in Medicine*, 45:371-375, March 2001.
135. **KS Nayak**, JM Pauly, AB Kerr, BS Hu, and DG Nishimura, "Real-time color flow MRI," *Magnetic Resonance in Medicine*, 43:251-258, Feb. 2000.

136. **KS Nayak** and DG Nishimura, "Automatic field map generation and off-resonance correction for projection reconstruction imaging," *Magnetic Resonance in Medicine*, 43:151–154, Jan. 2000.

JOURNAL PAPERS (invited)

137. Y Guo, Y Zhu, SG Lingala, RM Lebel, M Shiroishi, M Law, **KS Nayak**. High-resolution whole-brain dynamic contrast-enhanced MRI using compressed sensing. *SPIE Newsroom*. August 2015.
138. SG Lingala, Y Zhu, YC Kim, A Toutios, S Narayanan, **KS Nayak**. High-frame-rate real-time imaging of speech production. *SPIE Newsroom*. June 2015.

FULL-LENGTH CONFERENCE PAPERS (refereed)

1. A Reyes, **KS Nayak**, G Loeb, F Valero-Cuevas. "Structural MRI Identifies Precise Location of Intramuscular Electrode Recording Site Based on Presence of Micro-Hematoma." Proc. IEEE EMBS Conference on Neural Engineering, San Diego, November 2013.
2. YC Kim, J Kim, MI Proctor, A Toutios, **KS Nayak**, S Lee, SS Narayanan, "Toward automatic vocal tract area function estimation from accelerated three-dimensional magnetic resonance imaging", ISCA Workshop on Speech Production in Automatic Speech Recognition (SPASR), Lyon, France, August 2013.
3. Y Zhu, A Toutios, SS Narayanan, **KS Nayak**, "Faster 3D Vocal Tract Real-time MRI Using Constrained Reconstruction", Interspeech, Lyon, France, August 2013.
4. YC Kim, MI Proctor, SS Narayanan, **KS Nayak**, "Visualization of vocal tract shape using interleaved real-time MRI of multiple scan planes.", Interspeech, Florence, Italy, August 2011.
5. YC Kim, SS Narayanan, **KS Nayak**. "Accelerated 3D MRI of vocal tract shaping using compressed sensing and parallel imaging," Proc. International Conference on Acoustics, Speech, and Signal Processing, Taipei, April 2009, p. 389.
6. T Rhee, JP Lewis, **KS Nayak**, U Neumann. "Adaptive non-rigid registration of 3D knee MRI in different pose spaces," Proc. International Symposium on Biomedical Imaging, Paris, May 2008.
7. T Rhee, JP Lewis, **KS Nayak**, U Neumann, "Creating an Animatable 3D Volume Hand Model from In Vivo MRI", Proc. Medicine Meets Virtual Reality #16, Studies of Health Technology and Informatics series, Long Beach, CA, p402-407, Feb 2008.
8. T Rhee, JP Lewis, U Neumann, **KS Nayak**, "Soft-tissue Deformation for In-Vivo Volume Animation", Proc. Pacific Graphics 2007, p435--438, Maui, October 2007.
9. T Shin, JF Nielsen, **KS Nayak**. "Reconstruction of Undersampled Dynamic Spiral MR Images," Proc. International Symposium on Biomedical Imaging, Arlington, April 2006, p. 9.
10. M Makhijani, **KS Nayak**. "Exact correction of sharply varying off-resonance effects in spiral MRI," Proc. International Symposium on Biomedical Imaging, Arlington, April 2006, p. 730.
11. JM Pauly, AB Kerr, CH Meyer, **KS Nayak**, BS Hu, and PC Yang, "Real-time Interactive MRI for Cardiac Applications," *Ultrafast MRI in Medicine*, Eds: S Naruse and H Watari, Proc. ISUM, p119-123, Kyoto, 1999.

CONFERENCE ABSTRACTS (refereed)

ISMRM Scientific Sessions 2020

1. Y Lim, SS Narayanan, **KS Nayak**. "Attention-Gated Convolutional Neural Networks for Off-Resonance Correction of Spiral Real-Time Magnetic Resonance Imaging". Proc. ISMRM 28th Scientific Session, Online, August 2020.
2. Z Zhao, Y Lim, D Byrd, SS Narayanan, **KS Nayak**. "Improved 3D real-time MRI with Stack-of-Spiral (SOSP) trajectory and variable density randomized encoding of speech production". Proc. ISMRM 28th Scientific Session, Online, August 2020.
3. Y Bliesener, RM Lebel, J Acharya, R Frayne, **KS Nayak**. "Pseudo Test-Retest Evaluation of Sparse DCE-MRI of Brain Tumor". Proc. ISMRM 28th Scientific Session, Online, August 2020.
4. Z Zhu, Y Bliesener, RM Lebel, **KS Nayak**. "Direct Estimation of pre-contrast T1 for DCE-MRI". Proc. ISMRM 28th Scientific Session, Online, August 2020.
5. NG Lee, A Javed, TR Jao, **KS Nayak**. "Numerical Approximation to the General Kinetic Model for ASL Quantification". Proc. ISMRM 28th Scientific Session, Online, August 2020.
6. NG Lee, **KS Nayak**. "Parameter estimation with matrix-based signal models using VARPRO for transient- and steady-state imaging". Proc. ISMRM 28th Scientific Session, Online, August 2020.
7. NG Lee, Z Zhu, **KS Nayak**. "Variable flip angle T1 mapping with MT-balanced RF pulses". Proc. ISMRM 28th Scientific Session, Online, August 2020.
8. X Wang, NG Lee, AE Campbell-Washburn, **KS Nayak**. "Realistic Simulation of High-Performance Low Field Cardiac Cine Imaging". Proc. ISMRM 28th Scientific Session, Online, August 2020.
9. E Mushtaq, A Javed, **KS Nayak**. "Optimal data sampling and image reconstruction for Cartesian bSSFP ASL-CMR". Proc. ISMRM 28th Scientific Session, Online, August 2020.

ISMRM Workshop on Data Sampling and Image Reconstruction 2020

10. Z Zhao, Y Lim, D Byrd, S Narayanan, **KS Nayak**. "Improved 3D Real-Time MRI With Stack-of-Spiral Trajectory & Variable Density Randomized Encoding of Speech Production." ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, Arizona, January 2020.
11. Y Bliesener, RM Lebel, J Acharya, R Frayne, **KS Nayak**. "Pseudo Test-Retest Evaluation of Sparse DCE-MRI of Brain Tumor." ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, Arizona, January 2020.

ISMRM Scientific Sessions 2019

12. X Miao, **KS Nayak**, JC Wood. "In-vivo validation of T2- and susceptibility-based SvO₂ measurements with jugular vein catheterization under hypoxia and hypercapnia". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p296.
13. S Lingala, Y Lim, S Kruger, **KS Nayak**. "Improved spiral dynamic MRI of vocal tract shaping at 3 Tesla using dynamic off-resonance artifact correction". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p441.
14. Y Lim, Y Bliesener, S Narayanan, **KS Nayak**. "Calibrationless Deblurring of Spiral RT-MRI of Speech Production Using Convolutional Neural Networks". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p673.
15. V Landes, **KS Nayak**. "GRATER-based RF pulse predistortion improves multiband bSSFP imaging". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p921.
16. W Chen, D Byrd, S Narayanan, **KS Nayak**. "Intermittently Tagged Real-Time MRI Reveals Internal Tongue Motion during Speech Production". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p940.
17. N Lee, A Javed, TR Jao, **KS Nayak**. "Quantification for Steady-Pulsed ASL Perfusion Imaging". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p2191.

18. A Javed, NG Lee, HP Do, N Ghugre, G Wright, EC Wong, **KS Nayak**. "Optimization of Steady-Pulsed Arterial Spin Labeling for Myocardial Perfusion Imaging". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p2210.
19. S Sudhakara, Y Lim, W Chen, S Narayanan, **KS Nayak**. "Low-Latency Reconstruction for Real-Time Speech MRI". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p2403.
20. Z Zhu, Y Bliesener, RM Lebel, **KS Nayak**. "Sparse Pre-Contrast T1 Mapping for DCE-MRI Calibration". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p4544.
21. S Gutta, Y Bliesener, J Acharya, M Law, **KS Nayak**. "Sparse DCE-MRI using a Temporal Constraint Learned from Clinical Data". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p4749.
22. V Landes, TR Jao, A Javed, **KS Nayak**. "Improved Velocity-Selective Labeling Pulses for Myocardial ASL". Proc. ISMRM 27th Scientific Session, Montreal, May 2019, p4967.

SCMR 2019

23. HP Do, A Yoon, **KS Nayak**. "dnoiseNET: Deep Convolutional Neural Network for Image Denoising." Proc. SCMR/ISMRM Workshop on Machine Learning in CMR, Seattle, February 2019. #6.
24. A Javed, T Jao, N Ghugre, GA Wright, EC Wong, **KS Nayak**. "Saturation-based Steady-Pulsed Myocardial ASL Perfusion Imaging." Proc. SCMR 22nd Scientific Sessions, Seattle, February 2019. P012

Orthopaedic Research Society Annual Meeting, 2019

25. BH Foster, CB Shaw, RD Boutin, CO Bayne, RM Szabo, **KS Nayak**, AJ Chaudhari. "Quantification of Wrist Instability Using Real-Time 3D MRI". Orthopaedic Research Society Annual Meeting, Austin, TX, February 2019. #304 (oral presentation).

ISMRM Workshop on Machine Learning, Part II 2018

26. Y Bliesener, **KS Nayak**. "Posterior Approximation for simultaneous DCE-MRI pharmacokinetic parameter and uncertainty estimation". ISMRM Workshop on Machine Learning Part II, Washington DC, October 2018.
27. S Gutta, M Law, **KS Nayak**. "Deep Convolutional Residual Network for Denoising Brain Tumor DCE-MRI Tracer-Kinetic Maps". ISMRM Workshop on Machine Learning Part II, Washington DC, October 2018.
28. HP Do, Y Guo, AJ Yoon, **KS Nayak**. "Deep Convolutional Neural Networks for Segmentation of Myocardial ASL Short-Axis Data: Accuracy, Uncertainty, and Adaptability" ISMRM Workshop on Machine Learning Part II, Washington DC, October 2018.

ISMRM Scientific Sessions 2018

29. VL Landes, **KS Nayak**. "Improved multi-band RF performance using GRATER-based predistortion". Proc. ISMRM 26th Scientific Session, Paris, June 2018, p171.
30. Y Bliesener, SG Lingala, JP Haldar, and **KS Nayak**, "Influence of whole-brain DCE-MRI (k,t) sampling strategies on variance of pharmacokinetic parameter estimates," Proc. ISMRM 26th Scientific Session, Paris, June 2018. p555.
31. X Zhong, T Martin, S Raman, H Wu, **KS Nayak**, K Sung. "Assessment of Approximated Analytical B1+ Correction Method for Prostate DCE-MRI with Multiple Noise Levels and in 3.0T Systems," Proc. ISMRM 26th Scientific Session, Paris, June 2018. p1519.
32. Y Bliesener, Y Guo, X Zhong, R Bosca, KH Sung, **KS Nayak**. "RF Transmit Calibration for DCE-MRI". Proc. ISMRM 26th Scientific Session, Paris, June 2018. p2183.
33. X Miao X, **KS Nayak**, JC Wood. "Fast Brain Iron Quantification Using QSM with Low Spatial Resolution." Proc. ISMRM 26th Scientific Sessions, Paris, June 2018, p2216.

34. X Miao, S Choi, **KS Nayak**, JC Wood. " QSM-MRI Reveals Increased Brain Iron Deposition in Anemia Patients with Blood Transfusion." Proc. ISMRM 26th Scientific Sessions, Paris, June 2018, p2217.
35. W Chen, Y Lim, Y Bliesener, SS Narayanan, **KS Nayak**. "Comparison of leading reconstruction techniques for real-time speech MRI." Proc. ISMRM 26th Scientific Session, Paris, June 2018. p3516.
36. R Lobos, A Javed, **KS Nayak**, WS Hoge, JP Haldar. "Robust Autocalibrated LORAKS for Improved EPI Ghost Correction with Structured Low-Rank Matrix Models," Proc. ISMRM 26th Scientific Session, Paris, June 2018. p3533.
37. Y Lim, Y Zhu, SG Lingala, D Byrd, SS Narayanan, **KS Nayak**. "3D Real-Time MRI of Vocal Tract Shaping". Proc. ISMRM 26th Scientific Session, Paris, June 2018. p3541.
38. A Javed, TR Jao, **KS Nayak**. "Velocity Sensitivity of Inner-Volume Cardiac Echo Planar Imaging". Proc. ISMRM 26th Scientific Session, Paris, June 2018. p4240.
39. VL Landes, TR Jao, **KS Nayak**. "Practical implementation of SMS bSSFP in the Heart." Proc. ISMRM 26th Scientific Session, Paris, June 2018. p4760.

IEEE International Symposium on Biomedical Imaging 2018

40. RA Lobos, A Javed, **KS Nayak**, WS Hoge, JP Haldar. "Robust Auto-calibrated LORAKS for EPI Ghost Correction." IEEE International Symposium on Biomedical Imaging, Washington DC, April 2018.

Orthopaedic Research Society 2018

41. CB Shaw, BH Foster, RD Boutin, CP Bateni, CO Bayne, RM Szabo, **KS Nayak**, and AJ Chaudhari. "Four-dimensional Real-time MRI For Assessment Of Dynamic Wrist Instability." Orthopaedic Research Society 2018 Annual Meeting, New Orleans, March 2018.

SCMR/EuroCMR 2018

42. A Javed, HP Do, AJ Yoon, **KS Nayak**, P Garg. "Coronary Endothelial Function Testing using Continuous Cardiac ASL-CMR." Proc. SCMR/ISMRM Workshop on CMR in Ischemic Heart Disease, Barcelona, February 2018. WP02
43. HP Do, TR Jao, V Ramanan, GA Wright, NR Ghugre, **KS Nayak**. "Optimal flip-angle for steady-pulsed arterial spin labeled CMR." Proc. SCMR/ISMRM Workshop on CMR in Ischemic Heart Disease, Barcelona, February 2018. WP05
44. V Landes, TR Jao, **KS Nayak**. "Simultaneous Multi-slice bSSFP CMR: Is it feasible?." Proc. SCMR 21st Scientific Sessions, Barcelona, February 2018. P333
45. A Javed, **KS Nayak**. "Velocity sensitivity of inner-volume echo-planar imaging." Proc. SCMR 21st Scientific Sessions, Barcelona, February 2018. P334

CHEST 2017

46. P Parikh, W Chou, E Valladares, W Chen, T Hammond, **KS Nayak**. "Dynamic MRI Evaluation of Moderate to Severe Obstructive Sleep Apnea across the Obesity Spectrum." American lege of Chest Physicians 2017, Toronto, October 2017.

ISMRM Scientific Sessions 2017

47. VL Landes, **KS Nayak**. "Measurement of Small-Tip RF Pulses Using Gradient Reversal." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p78. ISMRM Merit Awards: Magna Cum Laude.
48. Y Guo, SG Lingala, RM Lebel, **KS Nayak**. "Joint estimation of arterial input function and tracer kinetic parameters from under-sampled DCE-MRI." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p137. ISMRM Merit Awards: Magna Cum Laude.

49. RM Lebel, Y Guo, SG Lingala, R Frayne, **KS Nayak**. "Highly Accelerated DCE imaging with integrated T1 mapping." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p138.
50. NR Ghugre, HP Do, K Chu, V Ramanan, **KS Nayak**, and GA Wright. "Non-contrast assessment of vasodilator response using native myocardial T1 and T2 mapping and Arterial Spin Labeled CMR." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p544.
51. Y Guo, SG Lingala, **KS Nayak**. . "Reconstruction of DCE tracer kinetic parameters from under-sampled data with a flexible model consistency constraint." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p1206.
52. J Chen, SG Lingala, Y Lim, A Toutios, S Narayanan, **KS Nayak** "Task-based Optimization of Regularization in Highly Accelerated Speech RT-MRI." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p1409.
53. HP Do, **KS Nayak** "Physiologically synchronized multi-module pulsed arterial spin labeled (SymPASL) MRI." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p1878.
54. TR Jao, **KS Nayak** "Simultaneous Multi-slice Cardiac ASL." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p1888.
55. Y Bliesener, SG Lingala, JP Haldar, **KS Nayak** "Comparison of (k,t) sampling schemes for DCE MRI pharmacokinetic parameter estimation." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p1909.
56. A Javed, **KS Nayak** "Cardiac ASL using Single-Shot EPI at 3T." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p3237.
57. X Miao, Y Guo, **KS Nayak**, JC Wood. "Accelerated B0 mapping Using X-sampling in k-TE space." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p3667.
58. W Chen, E Gillett, S Davidson Ward, MCL Khoo, **KS Nayak**. "Evaluation of upper airway neuromuscular reflex and passive collapsibility using real-time multi-slice MRI during CPAP." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p3846.
59. Y Lim, SG Lingala, S Narayanan, **KS Nayak**. "Correction of dynamic off-resonance in spiral 2D real-time MRI of speech." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p4017.
60. VL Landes, CM Ferguson, HP Do, JR Woollard, LO Lerman, **KS Nayak**. "Comparison of Renal Blood Flow Measurements Obtained using ASL-MRI and CT Perfusion." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p4856.
61. J Töger, T Sorensen, K Somandepalli, A Toutios, SG Lingala, S Narayanan, **KS Nayak**. "Test-retest repeatability of human speech biomarkers from static and real-time dynamic magnetic resonance imaging." Proc. ISMRM 25th Scientific Sessions, Honolulu, April 2017, p5084.

American Society for Neuroradiology 2017

62. S Bergamaschi, R Correia, N Calixto, K Bezerra, P Kim, M Kim-Tenser, N Sanossian, A Amar, **KS Nayak**, M Law. "Automated CT perfusion software is challenging in evaluating posterior circulation strokes", ASNR 55th Annual meeting, Long Beach, April 2017.
63. S Bergamaschi, R Correia, N Calixto, **KS Nayak**, P Kim, A Amar, M Kim, N Sanossian, S Cen, M Law. "Measurement of Infarct Core Volume Using Automated CT Perfusion Processing Software and Comparison with DWI in Stroke Patients in a Daily Practice Population", ASNR 55th Annual meeting, Long Beach, April 2017.

Society for Cardiovascular Magnetic Resonance 2017

64. HP Do, AJ Yoon, MW Fong, L Grazette, F Saremi, ML Barr, **KS Nayak**. "Vasodilator Response in Heart Transplant Recipients using T1-based Myocardial Blood Volume

Mapping.” SCMR/ISMRM Co-provided Workshop on CMR for Probing Mechanisms of Heart Disease: Micro to Macro to Model, Washington DC, February 2017.

65. NR Ghugre, HP Do, V Ramanan, **KS Nayak**, GA Wright. “Contrast Free Assessment of Vasodilator Response using Myocardial T2 BOLD and Arterial Spin Labeled CMR.” Proc. SCMR 20th Scientific Sessions, Washington DC, February 2017.

MR Angio Club 2016

66. RM Lebel, N Nallapareddy, SG Lingala, LB Andersen, R Frayne, **KS Nayak**. “Automatic Bolus Detection for Dynamic Contrast Enhanced Imaging with Sparse Sampling,” Proc. MR Angio Club 28th Meeting, Chicago, September 2016.

InterSpeech 2016

67. J Töger, Y Lim, SG Lingala, S Narayanan, **KS Nayak**. “Sensitivity of quantitative RT-MRI metrics of vocal tract dynamics to image reconstruction settings.” InterSpeech, San Francisco, Sep 2016.
68. SG Lingala, A Toutios, J Töger, Y Lim, Y Zhu, YC Kim, C Vaz, S Narayanan, **KS Nayak**. “State-of-the-art MRI Protocol for Comprehensive Assessment of Vocal Tract Structure and Function.” InterSpeech, San Francisco, Sep 2016.
69. A Toutios, SG Lingala, C Vaz, J Kim, J Esling, P Keating M Gordon, D Byrd, L Goldstein, **KS Nayak**, S Narayanan. “Illustrating the Production of the International Phonetic Alphabet Sounds using Fast Real-Time Magnetic Resonance Imaging.” InterSpeech, San Francisco, Sep 2016.
70. Y Lim, SG Lingala, A Toutios, S Narayanan, **KS Nayak**. “Improved Depiction of Tissue Boundaries in Vocal Tract Real-time MRI using Automatic Off-resonance Correction.” InterSpeech, San Francisco, Sep 2016.

ISMRM Scientific Sessions 2016

71. Z Wu, W Chen, MCK Khoo, SLD Ward, **KS Nayak**, “Evaluation of Upper Airway Collapsibility using Simultaneous Multi-slice Real-Time MRI,” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p39. **W.S. Moore Young Investigator Award**.
72. T Jao, **KS Nayak**. “The Physiological Noise Contribution to Temporal Signal-to-Noise Increases with Decreasing Resolution and Acceleration in Quantitative CMR.” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p414. **ISMRM Merit Awards: Magna Cum Laude**.
73. SG Lingala, Y Guo, Y Zhu, N Nallapareddy, RM Lebel, M Law, **KS Nayak**. “Accelerated brain DCE-MRI using Contrast Agent Kinetic Models as Temporal Constraints.” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p651.
74. W Chen, Z Wu, SLD Ward, MCK Khoo, **KS Nayak**. “Real-time Multi-slice MRI during CPAP reveals dynamic changes in upper airway in response to pressure change.” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p698.
75. Y Guo, SG Lingala, Y Zhu, RM Lebel, **KS Nayak**. “Direct Reconstruction of Kinetic Parameter Maps in Accelerated Brain DCE-MRI using the Extended-Tofts Model.” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p868.
76. HP Do, V Ramanan, GA Wright, NR Ghugre, **KS Nayak**. “Non-contrast vasodilator response assessment in a porcine model of acute myocardial infarction using arterial spin labeled CMR.” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p999.
77. VL Landes, EK Doyle, PJ Prado, JC Wood, **KS Nayak**. “Feasibility of Non-invasive Proton-Density Fat Fraction Evaluation using a Single-sided MR device.” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p2206
78. EK Doyle, JM Chia, **KS Nayak**, JC Wood. “R2* estimation with CSI: a pilot and feasibility study.” Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p2790.

79. HP Do, **KS Nayak**. "Myocardial ASL Perfusion Imaging using MOLLI." Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p3142.
80. HP Do, AJ Yoon, MW Fong, F Saremi, ML Barr, **KS Nayak**. "Double-gated Myocardial ASL Perfusion Imaging provides insensitivity to heart rate variation." Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p3145.
81. T Jao, **KS Nayak**. "Demonstration of Velocity Selective Myocardial Arterial Spin Labeling." Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p3146.
82. SG Lingala, Y Zhu, Y Ji, A Toutios, W-C Lo, N Sieberlich, S Narayanan, **KS Nayak**. "Accelerating Real-time MRI of speech using spiral through-time GRAPPA." Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p3228.
83. SG Lingala, S Bhave, Y Zhu, **KS Nayak**, M Jacob. "Temporal point spread function interpretation of low-rank, dictionary learning models in dynamic MRI." Proc. ISMRM 24rd Scientific Sessions, Singapore, May 2016. p4233.

American Society for Neuroradiology 2016

84. A Kammen, B Morkin, S Cen, SG Lingala, J Arevalo-Perez, A Thomas, K Peck, T Kaley, M Law, R Young, **KS Nayak**. "Multi-Center Study demonstrates Dynamic Contrast Enhanced Permeability MRI differentiates pseudo progression from true disease progression in primary high-grade gliomas and metastatic melanoma", ASNR 54th Annual meeting, Washington, May 2016.
85. A Kammen, B Morkin, S Cen, SG Lingala, M Law, **KS Nayak**. "High Resolution DCE MRI permeability differentiates pseudo progression from true disease progression in primary high-grade gliomas and metastatic melanoma", ASNR 54th Annual meeting, Washington, May 2016.

Society for Cardiovascular Magnetic Resonance 2016

86. HP Do, V Ramanan, TR Jao, GA Wright, **KS Nayak**, NR Ghugre. "Non-contrast Myocardial Perfusion Assessment in Porcine Acute Myocardial Infarction using Arterial Spin Labeled CMR." SCMR 19th Scientific Sessions, Los Angeles, January 2016 O007.
87. Z Wu, F Han, P Hu, **KS Nayak**. "Improved Scan Efficiency for Golden-Angle Radial CMR with Anisotropic Field-of-View." SCMR 19th Scientific Sessions, Los Angeles, January 2016 O108.
88. TR Jao, **KS Nayak**. "Demonstration of Velocity Selective Myocardial Arterial Spin Labeling Perfusion CMR." SCMR 19th Scientific Sessions, Los Angeles, January 2016 P098.
89. TR Jao, HP Do, **KS Nayak**. "Myocardial ASL-CMR Perfusion Imaging with Improved Sensitivity using GRAPPA." SCMR 19th Scientific Sessions, Los Angeles, January 2016 P100.

ISMRM Workshop on Data Sampling and Image Reconstruction 2016

90. Z Wu, W Chen, **KS Nayak**. "Low-Field Simulation and Minimum Field Strength Requirements." ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, Arizona, Jan 2016.
91. SG Lingala, Y Guo, Y Zhu, N Nallapareddy, RM Lebel, M Law, **KS Nayak**. "Accelerated brain DCE-MRI using Contrast Agent Kinetic Models as Temporal Constraints." ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, Arizona, Jan 2016.
92. Y Guo, Y Zhu, SG Lingala, RM Lebel, **KS Nayak**. "Direct Reconstruction of Tracer-Kinetic Parameter Maps from Prospective Highly Under-sampled DCE-MRI." ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, Arizona, Jan 2016.
93. SG Lingala, Y Mohsin, S Bhave, X Miao, Y Guo, **KS Nayak**, E. DiBella, M. Jacob. "Data-driven adaptive reconstruction algorithms for accelerated dynamic MRI: an open source

MATLAB package." ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, Arizona, Jan 2016.

94. S Poddar, **KS Nayak**, M Jacob. "A navigator-based acquisition and reconstruction scheme for undated free-breathing dynamic imaging." ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, Arizona, Jan 2016.

Radiological Society of North America 2015

95. **KS Nayak**, Y Guo, Y Zhu, SG Lingala, RM Lebel, N Nallapareddy, MS Shiroishi, M Law. "Improved clinical DCE-MRI pipeline for high resolution, whole brain imaging: application to brain tumor patients." RSNA, Chicago, November 2015.

ISMRM Workshop on Simultaneous Multislice Imaging 2015

96. VL Landes, TR Jao, **KS Nayak**. "CAIPIRINHA-SSFP with improved banding artifact performance," ISMRM Workshop on Simultaneous Multi-slice Imaging 2015, July 2015.
97. VL Landes, TH Kim, JP Haldar, **KS Nayak**. "Experimental Validation of SMS-LORAKS," ISMRM Workshop on Simultaneous Multi-slice Imaging 2015, July 2015.

ISMRM Scientific Sessions 2015

98. SG Lingala, Y Guo, Y Zhu, S Barnes, RM Lebel, **KS Nayak**. "Accelerated DCE MRI Using Constrained Reconstruction Based On Pharmacokinetic Model Dictionaries." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p196. ISMRM Merit Awards: Magna Cum Laude
99. Z Wu, MCK Khoo, **KS Nayak**. "Simultaneous Multi-slice Airway Compliance Measurement using Sparse Golden-angle Radial CAIPIRINHA." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p242. ISMRM Merit Awards: Summa Cum Laude.
100. X Miao, SG Lingala, Y Guo, T Jao, **KS Nayak**. "Accelerated Cardiac Cine Using Locally Low Rank and Total Variation Constraints." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p571. ISMRM Merit Awards: Magna Cum Laude
101. Y Guo, Y Zhu, SG Lingala, RM Lebel, **KS Nayak**. "Highly Accelerated Brain DCE MRI with Direct Estimation of Pharmacokinetic Parameter Maps." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p573. ISMRM Merit Awards: Summa Cum Laude
102. SG Lingala, Y Zhu, YC Kim, A Toutios, S Narayanan, **KS Nayak**. "High spatio-temporal resolution multi-slice real time MRI of speech using golden angle spiral imaging with constrained reconstruction, parallel imaging, and a novel upper airway coil." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p689. ISMRM Merit Awards: Magna Cum Laude
103. E Doyle, J Chia, **KS Nayak**, JC Wood. "Quantification of Rapid Decay Species with Short TE Spin Echo Sequence." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p1674.
104. E Doyle, J Chia, **KS Nayak**, JC Wood. "Spin Echo B1+ Mapping in High Susceptibility Tissues." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p2383.
105. Z Wu, **KS Nayak**. "Anisotropic Field-of-View Support for Golden Angle Radial Imaging." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p2437.
106. Y Zhu, Y Guo, SG Lingala, RM Lebel, M Law, **KS Nayak**. "Evaluation of GLACIER Sampling for 3D DCE-MRI." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p2535.
107. V Rispoli, JF Nielsen, **KS Nayak**, JL Carvalho "Computational fluid dynamics simulations guided by Fourier velocity encoded MRI." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p2720.

108. Y Guo, RM Lebel, Y Zhu, MS Shiroishi, M Law, **KS Nayak**. "High-resolution Whole-brain DCE MRI of Brain Tumor using Constrained Reconstruction: Prospective Clinical Evaluation." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p3050.
109. Y Zhu, Y Guo, SG Lingala, S Barnes, RM Lebel, M Law, **KS Nayak**. "Evaluation of DCE-MRI Data Sampling, Reconstruction and Model Fitting Using Digital Brain Phantom." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p3052.
110. W Chen, Y Guo, Z Wu, **KS Nayak**. "MRI Constrained Reconstruction without Tuning Parameters Using ADMM and Morozov's Discrepancy Principle." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p3410.
111. W Chen, **KS Nayak**. "Thermal Noise Propagation in Water-fat Imaging and Fat Fraction Measurement." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p3663.
112. RM Lebel, Y Guo, Y Zhu, SG Lingala, R Frayne, LB Anderson, J Easaw, **KS Nayak**. "The Comprehensive Contrast-Enhanced Neuro Exam." Proc. ISMRM 23rd Scientific Sessions, Toronto, June 2015, p3705.

American Thoracic Society Annual Meeting 2015

113. Z Wu, MCK Khoo, SLD Ward, **KS Nayak**. "Noninvasive Airway Compliance Measurement Using High Spatiotemporal Resolution Real-Time Multi-Slice MRI." *Am J Respir Crit Care Med* 191, 2015, A4127.

Society for Cardiovascular Magnetic Resonance 2014

114. A Javed, TR Jao, **KS Nayak**. "Motion Correction Facilitates the Automation of Cardiac ASL Perfusion Imaging," *Journal of Cardiovascular Magnetic Resonance* 2015, 17(Suppl 1):P51. Nice, France, February 2015.
115. HP Do, A Javed, TR Jao, H-W Kim, PK Garg, AJ Yoon, **KS Nayak**. "Arterial Spin Labeling CMR Perfusion Imaging is Capable of Continuously Monitoring Myocardial Blood Flow during Stress," *Journal of Cardiovascular Magnetic Resonance* 2015, 17(Suppl 1):P145. Nice, France, February 2015.

ISMRM Scientific Sessions 2014

116. HP Do, TR Jao, **KS Nayak**. "Myocardial ASL with Improved Sensitivity to MBF using Parallel Imaging." Proc. ISMRM 22nd Scientific Sessions, Milano, Italy, May 2014, p2379.
117. VC Rispoli, J-F Nielsen, **KS Nayak**, JLA Carvalho. "Computational fluid dynamics simulations guided by 3D PC-MRI Data." Proc. ISMRM 22nd Scientific Sessions, Milano, Italy, May 2014, p2490.
118. Z Wu, YC Kim, MCK Khoo, **KS Nayak**. "Novel Upper Airway Compliance Measurement using Dynamic Golden-Angle Radial FLASH." Proc. ISMRM 22nd Scientific Sessions, Milano, Italy, May 2014, p4323.
119. YC Kim, **KS Nayak**. "Free-breathing cardiac 3D cine MRI at 3T using golden-ratio Cartesian radial sampling and variable flip angle." Proc. ISMRM 22nd Scientific Sessions, Milano, Italy, May 2014, p4364.
120. Y Zhu, Y Guo, RM Lebel, M Law, **KS Nayak**. "Randomized Golden Ratio Sampling for Highly Accelerated Dynamic Imaging." Proc. ISMRM 22nd Scientific Sessions, Milano, Italy, May 2014, p4365.
121. YC Kim, B Joshi, S Loloyan, R Kato, MCK Khoo, SLD Ward, **KS Nayak**. "Investigations of upper airway obstruction pattern in sleep apnea benefit from real-time 3D MRI." Proc. ISMRM 22nd Scientific Sessions, Milano, Italy, May 2014, p4387.

ISMRM Scientific Sessions 2013

122. YC Kim, S Loloyan, Z Wu, W Tran, R Kato, SL Davison Ward, MCK Khoo, **KS Nayak**. "Real-Time MRI Can Differentiate Sleep-Related Breathing Disorders in Children." Proc.

ISMRM 21st Scientific Sessions, Salt Lake City, April 2013, p251. ISMRM Merit Awards: Magna Cum Laude

123. YC Kim, MI Proctor, MCK Khoo, SS Narayanan, **KS Nayak**. "Caught Sleeping: Recording of Snoring During a Real-Time MRI Scan." Proc. ISMRM 21st Scientific Sessions, Salt Lake City, April 2013, p1235.
124. DM Lyra-Leite, **KS Nayak**, JLA Carvalho. "Acceleration of Spiral Fourier Velocity Encoded MRI Using 3D SPIRiT." Proc. ISMRM 21st Scientific Sessions, Salt Lake City, April 2013, p1352.
125. Z Wu, YC Kim, MCK Khoo, **KS Nayak**. "Evaluation of an Independent Linear Model for MRI Acoustic Noise and Implications for Acoustic Noise Reduction." Proc. ISMRM 21st Scientific Sessions, Salt Lake City, April 2013, p2714.
126. AZ Lau, AP Chen, M Ladouceur-Wodzak, **KS Nayak**, CH Cunningham. "Non-Invasive Identification of Functional Brown Adipose Tissue in Rodents Using Hyperpolarized ¹³C Imaging." Proc. ISMRM 21st Scientific Sessions, Salt Lake City, April 2013, p3908.
127. T Jao, HP Do, **KS Nayak**. "In Vivo Performance of Myocardial Background Suppression." Proc. ISMRM 21st Scientific Sessions, Salt Lake City, April 2013, p4525.
128. E Doyle, NR Ghugre, **KS Nayak**, J Wood. "B1+ Inhomogeneity Effects on Clinical Liver Iron Quantification at 1.5T and 3T." Proc. ISMRM 21st Scientific Sessions, Salt Lake City, April 2013, p4206.

ISMRM Workshop on Data Sampling and Image Reconstruction 2013

129. Y Zhu, E Bresch, SS Narayanan, **KS Nayak**. "Flexible Dynamic Phantoms for Evaluating MRI Data Sampling and Reconstruction Methods". ISMRM Data Sampling & Image Reconstruction Workshop, Sedona, February 2013.
130. YC Kim, RM Lebel, MCK Khoo, **KS Nayak**. "Imaging of the Pharyngeal Airway during Sleep using 3DFT Golden-Angle Radial Spokes Sampling", ISMRM Data Sampling & Image Reconstruction Workshop, Sedona, February 2013.

Engineering in Medicine and Biology Conference 2012

131. YC Kim, Z Wu, W Tran, S Loloan, SLD Ward, MCK Khoo, **KS Nayak**. "Novel MRI-based acquisition methods." EMBC 2012 Mini-Symposium: Imaging of the Pediatric Upper Airway, San Diego, September 2012.

MR Angio Club 2012

132. RM Lebel, J Jones, J-C Ferre, M Law, **KS Nayak**, R Frayne, A Shankaranarayanan. "Time-resolved CE-MRA with parallel imaging and compressed sensing," Proc. MR Angio Club 24th Meeting, Utrecht, September 2012, p. 12,6.

ISMRM Scientific Sessions 2012

133. RM Lebel, J Jones, J-C Ferre, M Law, **KS Nayak**. "Highly accelerated dynamic contrast enhanced imaging with prospective undersampling," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p10.
134. T Shin, **KS Nayak**, JM Santos, DG Nishimura, BS Hu, MV McConnell. "Three-dimensional first-pass cardiac perfusion MRI using a stack-of-spirals acquisition," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p156.
135. TB Smith, **KS Nayak**. "Automatic off-resonance correction with piecewise linear autofocus," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p218.
136. Y Zhu, YC Kim, M Proctor, S Narayanan, **KS Nayak**. "Towards Dynamic 3D MRI of Speech," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p294.
137. SD Sharma, HH Hu, **KS Nayak**. "Accelerated Liver Fat Quantitation Using Parallel Imaging and Compressed Sensing," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p400.

138. HH Hu, Y Li, TR Nagy, MI Goran, **KS Nayak**. "Quantification of Absolute Fat Mass: A Validation Study Between Chemical-Shift MRI and Chemical Analysis," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p1266.
139. YC Kim, X Wang, W Tran, MCK Khoo, **KS Nayak**. "Measurement of upper airway compliance using dynamic MRI," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p3688.
140. T Jao, Z Zun, P Varadarajan, RG Pai, **KS Nayak**. "Myocardial ASL Data Filtering for Improved Detection of CAD," Proc. ISMRM 19th Scientific Sessions, Melbourne, May 2012, p3892.
141. SD Sharma, HH Hu, **KS Nayak**. "Accelerated Water-fat Separation Using Parallel Imaging, Compressed Sensing, and Multiscale Cubic B-splines," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p4170.
142. YC Kim, N Katsamanis, M Proctor, S Narayanan, **KS Nayak**. "Pseudo golden-ratio spiral imaging with gradient acoustic noise cancellation: application to real-time MRI of fluent speech," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p4209.
143. YC Kim, RM Lebel, MCK Khoo, **KS Nayak**. "Dynamic 3D MRI of upper airway collapse during inspiratory loading," Proc. ISMRM 20th Scientific Sessions, Melbourne, May 2012, p4233.

ISMRM Workshop on Fat-Water MRI

144. SD Sharma, HH Hu, MT Alley, BA Hargreaves, **KS Nayak**. Prospectively accelerated water-fat separation using parallel imaging and compressed sensing. ISMRM Workshop on Fat-Water Separation: Insights, Applications, and Progress in MRI, February 2012, Long Beach.

ISMRM Scientific Sessions 2011

145. Z Zun, T Jao, P Varadarajan, RG Pai, EC Wong, **KS Nayak**. "Myocardial ASL Perfusion Reserve Test Detects Angiographic CAD in Initial Cohort of 29 Patients," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p221.
146. G Hamilton, DL Smith, M Bydder, **KS Nayak**, HH Hu. "Properties of Brown & White Adipose Tissues Measured by 1H MRS," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p865.
147. T Jao, Z Zun, PVaradarajan, RG Pai, **KS Nayak**. "Mapping of Myocardial ASL Perfusion & Perfusion Reserve Data," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p1339.
148. SD Sharma, BS Tjan, **KS Nayak**. "One-Step Thresholding for BOLD Signal Detection in Accelerated fMRI," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p1619.
149. YC Kim, MI Proctor, SS Narayanan, **KS Nayak**. "Time-Interleaved Imaging of Arbitrary Scan Planes Applied to Real-Time Speech MRI," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p2454.
150. T Shin, B Tjan, **KS Nayak**. "Perceived Dark Rim in First-Pass Myocardial Perfusion MRI Due to Visual Illusion," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p2590.
151. SD Sharma, HH Hu, **KS Nayak**. "Accelerated Water-Fat Imaging using Restricted Subspace Field Map Estimation," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p2704.
152. HP Do, RM Lebel, **KS Nayak**. "Magnetization Transfer Effects in Wideband SSFP," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p2787.
153. G Danagoulian, RR Colen, **KS Nayak**, S Mukundan, F Jolesz, EJ Schmidt "Detection of Nerve Injury with Diffusion Weighted Wide Band Steady State Free Precession (DW-WBSSFP) in the Lumbar Spine," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p4294.

154. Y Zhu, YC Kim, MI Proctor, SS Narayanan, **KS Nayak**. "Dynamic 3D Visualization of Vocal Tract Shaping During Speech," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p4355.
155. TB Smith, **KS Nayak**. "A Novel B1-Insensitive Outer Volume Suppression Pulse," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p4414.
156. TB Smith, **KS Nayak**. "Recovering Fine-Scale Features in Spiral Imaging with Piecewise Linear Off Resonance Correction (PLORC)," Proc. ISMRM 19th Scientific Sessions, Montreal, May 2011, p4579.

Society for Cardiovascular Magnetic Resonance 2011

157. Z Zun, P Varadarajan, RG Pai, EC Wong, **KS Nayak**. "Arterial Spin Labeled MRI Detects Clinically Relevant Increases in Myocardial Blood Flow with Vasodilation," Proc. SCMR 14th Scientific Sessions, Nice, February 2011, O94.
158. Z Zun, T Jao, N Smith, P Varadarajan, RF Pai, EC Wong, **KS Nayak**. "Myocardial ASL Perfusion Reserve Test Detects Ischemic Segments in Initial Cohort of 10 Patients with Angiographic CAD," Proc. SCMR 14th Scientific Sessions, Nice, February 2011, P110.
159. TB Smith, **KS Nayak**. "Retrospective Slice Prescription Compensation Improves Coronary Cross-Sectional Area Measurement by MRI," Proc. SCMR 14th Scientific Sessions, Nice, February 2011, P236.

ISMRM Scientific Sessions 2010

160. EJ Schmidt, A Shankaranarayanan, S Jaume, G Danagoulian, S Mukundan, **KS Nayak**. "Wide-Band Steady State Free Precession with Small Diffusion Gradients for Spine Imaging: Application to Superior Nerve Visualization," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p448.
161. HH Hu, DL Smith, MI Goran, TR Nagy, **KS Nayak**. "Characterization of Brown Adipose Tissue in Mice with IDEAL Fat-Water MRI," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p749.
162. KY Ho, HH Hu, **KS Nayak**, PM Colletti, CM Powers. "The Influence of Running on Patellar Water Content and Bone Marrow Edema in Females with and without Patellofemoral Pain," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p803.
163. TB Smith, **KS Nayak**. "Analysis of Small Dilation Detection in Coronary Angiography," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p1242.
164. Z Zun, P Varadarajan, RG Pai, EC Wong, **KS Nayak**. "Arterial Spin Labeled MRI Detects Increase in Myocardial Blood Flow with Adenosine," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p1309.
165. YC Kim, JL Go, S Banerjee, M Law, HH Hu, **KS Nayak**. "Dynamic MRI of the temporomandibular joint at 3 Tesla using a gradient echo sequence," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p2411.
166. AA Joshi, HH Hu, M Goran, RM Leahy, A Toga, **KS Nayak**, "A Software Tool for Volume Registration and Atlas-Based Segmentation of Human Fat-Water MRI Data in Longitudinal Studies," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p2583.
167. TB Smith, **KS Nayak**. "Dynamic Imaging Motion Artifact Reduction using Adaptive K-Space Polynomial Interpolation," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p3065.
168. SD Sharma, C Fong, B Tzung, **KS Nayak**, M Law. "Clinical Image Quality Assessment of CS-Reconstructed Brain Images," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p4874.
169. SD Sharma, HH Hu, **KS Nayak**. "Acceleration of IDEAL Water-Fat Imaging using Compressed Sensing," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p4884.

170. YC Kim, SS Narayanan, **KS Nayak**. "Flexible retrospective selection of temporal resolution in real-time speech MRI using a golden-ratio spiral view order," Proc. ISMRM 18th Scientific Sessions, Stockholm, May 2010, p4967.

Obesity Society 2009

171. HH Hu, DL Smith Jr., TR Nagy, MI Goran, **KS Nayak**. "Identification of Brown Adipose Tissue in Mice using rapid Fat-Water MRI," Proc. 27th Annual Meeting of the Obesity Society, Washington D.C., October 2009.
172. HH Hu, HW Kim, **KS Nayak**, MI Goran. "Validation of fat fraction with three-dimensional IDEAL fat-water MRI against single-voxel proton MR spectroscopy in liver and pancreas," Proc. 27th Annual Meeting of the Obesity Society, Washington D.C., October 2009.

ISMRM Scientific Sessions 2009

173. HH Hu, DL Smith Jr., TR Nagy, MI Goran, **KS Nayak**. "Identification of Brown Adipose Tissue in Mice using IDEAL Fat-Water MRI," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 210.
174. JLA Carvalho, JF Nielsen, **KS Nayak**. "In vivo assessment of carotid wall shear rate using Spiral Fourier velocity encoding," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 326.
175. YC Kim, SS Narayanan, **KS Nayak**. "Ultra-high resolution 3D upper airway MRI with compressed sensing and parallel imaging," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 382.
176. HL Lee, YC Kim, A Shankaranarayanan, **KS Nayak**. "Auto-calibrated parallel imaging using the unused echo in alternating-TR SSFP," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 768.
177. YC Kim, CE Hayes, SS Narayanan, **KS Nayak**. "Parallel Imaging of the Upper Airway with a Novel 16-Channel Tongue Coil," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 1317.
178. Z Zun, EC Wong, **KS Nayak**. "Background Suppression Does Not Reduce Physiological Noise in Myocardial ASL Perfusion Imaging," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 1735.
179. Z Zun, EC Wong, **KS Nayak**. "Assessment of Myocardial Blood Flow in Humans Using Arterial Spin Labeling: Feasibility and Noise Analysis," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 1736.
180. Z Zun, EC Wong, **KS Nayak**. "Myocardial ASL Perfusion Imaging Using Pulsed 2D Tagging of the Proximal Aorta," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 1737.
181. T Shin, P Varadarajan, RG Pai, GM Pohost, **KS Nayak**. "Systolic 3D First-Pass Myocardial Perfusion MRI," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 1771.
182. MK Makhijani and **KS Nayak**. "Accelerated 3D Carotid Vessel Wall Imaging Using Compressed Sensing," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 1824.
183. S Banerjee, A Shankaranarayanan, HL Lee, **KS Nayak**, S Majumdar, E Han. "High Resolution Imaging of Trabecular Bone Structure Using Wideband SSFP," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 1944.
184. HH Hu, K Sung, **KS Nayak**. "Tailored Saturation Pulses for Abdominal Imaging at 3 Tesla," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 2583.
185. K Sung, HH Hu, **KS Nayak**. "In Vivo Mapping of the Peak B1+ Field Strength on a Conventional Scanner," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 2614.

186. MK Makhijani and **KS Nayak**. "3D Cones Trajectory with Anisotropic Field-Of-View," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 2622.
187. TB Smith, Z Zun, EC Wong, **KS Nayak**. "Variable Flip Angle Schedules for Detecting Prepared Longitudinal Magnetization in Snapshot Balanced SSFP," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 2661.
188. SD Sharma and **KS Nayak**. "Region of Interest Compressed Sensing," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 2816.
189. JF Nielsen and **KS Nayak**. "MR-Driven Computational Fluid Dynamics," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 3859.
190. HH Hu and **KS Nayak**. "Apparent Change in the T1 of Lipids in Mixture," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 4448.
191. HL Lee, A Shankaranarayanan, **KS Nayak**. "Retrospective Self-Navigated Cine Imaging Using the Unused Echo in Alternating TR SSFP," Proc. ISMRM 17th Scientific Sessions, Honolulu, April 2009, p. 4643.

ICASSP 2009

192. YC Kim, SS Narayanan, **KS Nayak**. "Accelerated 3D MRI of vocal tract shaping using compressed sensing and parallel imaging," Proc. International Conference on Acoustics, Speech, and Signal Processing, Taipei, April 2009, p. 389.

ISMRM Workshop on Data Sampling and Image Reconstruction 2009

193. SD Sharma and **KS Nayak**. "Region of Interest Compressed Sensing," Proc. ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, January 2009.
194. Q Li, T Shin, A Joshi, **KS Nayak**. "Simultaneous estimation of dynamic cardiac MR images and deformation maps," Proc. ISMRM Workshop on Data Sampling and Image Reconstruction, Sedona, January 2009.

MR Angio Club 2008

195. HL Lee, A Shankaranarayanan, GM Pohost, **KS Nayak**. "Sub-millimeter resolution coronary MRA at 3T using Wideband SSFP," Proc. MR Angio Club 20th Meeting, Graz, October 2008, p. 89.
196. Z Zun, EC Wong, **KS Nayak**. "Feasibility of Myocardial Blood Flow Mapping in Humans using Arterial Spin Labeling," Proc. MR Angio Club 20th Meeting, Graz, October 2008, p. 93.

International Body Composition Symposium 2009

197. HH Hu and **KS Nayak**. "Absolute Quantification of Fat Mass in Adipose Tissue with MRI," Proc. Intl. Body Composition Symposium, New York, July 2008, p. 32.

ISMRM Scientific Sessions 2008

198. K Sung and **KS Nayak**. "SAR-constrained saturation pulse designs based on B0 and B1 maps," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 228.
199. HL Lee, A Shankaranarayanan, GM Pohost, **KS Nayak**. "Improved coronary MRA using wideband SSFP at 3 Tesla with sub-millimeter resolution," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 316.
200. JL Carvalho, HS Carvalho, **KS Nayak**. "Assessment of stroke volume variability using real-time spiral phase contrast," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 383.
201. JF Nielsen and **KS Nayak**. "Reference-less flow measurements using refocused SSFP," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 385.
202. JF Nielsen and **KS Nayak**. "Retrospective, reference-less ghosting correction in PROPELLER EPI," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 416.

203. YC Kim and **KS Nayak**. "Optimization of undersampled variable density spiral trajectories based on incoherence of spatial aliasing," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 422.
204. JF Nielsen and **KS Nayak**. "Analysis of eddy-current artifacts in interleaved balanced SSFP," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 834.
205. HH Hu, K Sung, **KS Nayak**, "Can MRI represent an accurate quantitative tool for assessing fat distribution in obesity research?," ISMRM 16th Scientific Sessions, Special Session: Unsolved Problems and Unmet Needs in MRI, Toronto, May 2008.
206. JL Carvalho, JF Nielsen, **KS Nayak**. "Carotid wall-shear rate measured with spiral Fourier velocity encoding," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 908.
207. MK Makhijani, GM Pohost, **KS Nayak**. "Rapid 3D vessel wall imaging at 3T: optimization of diffusion preparation and comparison to other protocols," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 956.
208. Z Zun, EC Wong, **KS Nayak**. "Arterial spin labeled myocardial perfusion imaging with background suppression," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 997.
209. T Shin, HH Hu, S Valencerina, GM Pohost, **KS Nayak**. "3D first-pass myocardial perfusion imaging at 3T: towards complete left ventricular coverage," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 998.
210. HH Hu, K Sung, **KS Nayak**. "Rapid proton-density weighted abdominal MRI at 3 Tesla with RF non-uniformity correction," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 1249.
211. HL Lee and **KS Nayak**. "A simplified model for stabilizing alternating-TR SSFP sequences," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 1358.
212. KH Sung, HL Lee, HH Hu, **KS Nayak**. "Magnetization transfer effects in cardiac balanced SSFP imaging at 3T," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p.1401.
213. YC Kim, JF Nielsen, S Narayanan, D Byrd, **KS Nayak**. "Application of compressed sensing to 3D imaging of the vocal tract for speech MRI," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 2003.
214. HH Hu and **KS Nayak**. "Absolute quantification of adipose tissue fat mass by MRI using a signal intensity based model," Proc. ISMRM 16th Scientific Sessions, Toronto, May 2008, p. 3794.

Society for Cardiovascular Magnetic Resonance 2008

215. Z Zun, EC Wong, **KS Nayak**. "Arterial Spin Labeled Myocardial Perfusion Imaging with Background Suppression: Initial Results," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 131.
216. A Shankaranarayanan, HL Lee, **KS Nayak**. "Multislice Wideband SSFP CINE for Routine 3T Cardiac Imaging," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 149.
217. K Sung, **KS Nayak**. "Myocardial Signal Behaviors of Balanced SSFP Imaging at 3T," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 150.
218. YC Kim, **KS Nayak**. "Optimally undersampled variable-density spiral trajectories applied to real-time cardiac MRI at 3 Tesla," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 213.
219. K Sung, EK Doyle, S Valencerina, **KS Nayak**. "B1+ non-uniformity in 3T CMR: patient study," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 1091.
220. T Shin, K Sung, GM Pohost, **KS Nayak**. "Spiral first-pass myocardial perfusion imaging at 3 Tesla: Feasibility Study," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 1125.

221. JLA Carvalho, HS Carvalho, **KS Nayak**. "Measurement of beat-to-beat variability of stroke volume," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 1138.
222. T Shin, HH Hu, S Valencerina, L Martinez, GM Pohost, **KS Nayak**. "3D first-pass myocardial perfusion imaging with complete left ventricular coverage at 3 Tesla," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 2004.
223. HL Lee, A Shankaranarayanan, GM Pohost, **KS Nayak**. "High-resolution 3D free-breathing coronary MR angiography using Wideband SSFP at 3 Tesla," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 2117.
224. JLA Carvalho, JF Nielsen, **KS Nayak**. "Validation of the spiral Fourier velocity encoding method," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 2134.
225. MK Makhijani, GM Pohost, **KS Nayak**. "Rapid 3D vessel wall imaging at 3T: optimization and evaluation of diffusion preparation," Proc. SCMR 11th Scientific Sessions, Los Angeles, February 2008, p. 2135.

ISMRM Scientific Sessions 2007

226. JL Carvalho, GM Pohost, **KS Nayak**, "Stroke volume and cardiac output measured on a beat-to-beat basis," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 248.
227. K Sung and **KS Nayak** "RF non-uniformity over the whole heart at 3T," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 355.
228. JL Carvalho and **KS Nayak** "Accelerated spiral Fourier velocity encoded imaging," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 588.
229. CH Cunningham, M Lustig, BS Hu, T Shin, **KS Nayak**, JM Pauly, "Novel design for notched RF saturation pulses using the SLR transform," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 1709.
230. JF Nielsen and **KS Nayak**, "Reference-less EPI ghost correction in real-time cardiac MRI," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 1832.
231. D Blezek, L Marinelli, I Hancu, **KS Nayak**, CJ Hardy. "Accurate and automatic slice repositioning for longitudinal carotid imaging studies," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 2467.
232. JL Carvalho, JC DiCarlo, AB Kerr, **KS Nayak**, "Reconstruction of variable-density data in Fourier velocity encoding," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 2514.
233. K Sung, YC Kim, HH Hu, **KS Nayak**, "Double inversion recovery first-pass myocardial perfusion imaging at 3 Tesla," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 2584.
234. MK Makhijani, CJ Hardy, GM Pohost, **KS Nayak**, "Fast 3D reduced field-of-view carotid imaging at 3T," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 3098.
235. YC Kim, JF Nielsen, S Narayanan, **KS Nayak**, "Edge detection using sub-sampled k-space data: application to upper airway MRI," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 3458.
236. HL Lee, A Shankaranarayanan, GM Pohost, **KS Nayak** "High-resolution 3D breath-hold coronary artery imaging at 3T using Wideband SSFP," Proc. ISMRM 15th Scientific Sessions, Berlin, May 2007, p. 3876.

ISMRM Workshop on Advances in High Field MR 2007

237. K Sung and **KS Nayak**. "Whole-heart B1+ non-uniformity correction with transmit in-plane compensation (TIP-COMP) RF pulse design," Proc. ISMRM Workshop on Advances in High Field MR. Pacific Grove, March 2007, p. 86.

ISMRM Flow and Motion Workshop 2006

238. JF Nielsen and **KS Nayak**. "In-vivo validation of a novel 3-echo SSFP phase-contrast sequence," Proc. ISMRM Flow and Motion Workshop. New York, July 2006, p. 1.
239. J Carvalho and **KS Nayak**. "Accelerated spiral Fourier velocity encoding using UNFOLD and partial-Fourier," Proc. ISMRM Workshop on Flow and Motion. New York, July 2006, p. 10.

ISMRM Scientific Sessions 2006

240. HL Lee, GM Pohost, **KS Nayak**. "Gated and Real-Time Wideband SSFP Cardiac Imaging at 3 Tesla," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 143.
241. HL Lee, GM Gold, **KS Nayak**. "High-Resolution Cartilage Imaging with Wideband SSFP," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 207.
242. KH Sung, CH Cunningham, **KS Nayak**. "Validation of B1+ non-uniformity correction in the chest at 3T using TIP-COMP," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 597.
243. T Shin, JF Nielsen, **KS Nayak**. "Accelerating Dynamic Spiral MRI by Algebraic Reconstruction from Undersampled k,t space," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 691.
244. JF Nielsen, **KS Nayak**. "Pulse Sequences for Phase-Contrast SSFP Imaging from a Single Steady-State," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 879.
245. JL Carvalho, **KS Nayak**. "Rapid cardiovascular flow quantitation using slice-selective spiral Fourier velocity encoding," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 1906.
246. CY Liu and **KS Nayak**. "Variable-density spiral imaging for real-time color flow cardiac MRI at 3T," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 1923.
247. YC Kim, JF Nielsen, **KS Nayak**. Real-time oblique echo-planar imaging: ghosting artifact reduction in arbitrary scan orientations. Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 2350.
248. MK Makhijani, **KS Nayak**. "Exact correction of sharply varying off-resonance effects in spiral MRI using spatially varying deconvolution," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 2372.
249. Z Zun and **KS Nayak**. "Graphical derivation of the steady-state magnetization in balanced SSFP MRI," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 2410.
250. IM Colrain, **KS Nayak**, JF Nielsen. "Real-time MRI of upper airway collapse during inspiratory loading," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 2417.
251. D Xu, CH Cunningham, DA Kelley, **KS Nayak**, AP Chen, JM Pauly, DB Vigneron. "Time-efficient flip angle measurement at 7T," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 2432.
252. CH Cunningham, JM Pauly, **KS Nayak**. "Saturated double-angle method for rapid B1+ mapping," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 2625.
253. KH Sung and **KS Nayak**. "Reduced field-of-view RF pulse designs with fat-suppression," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 3010.
254. KH Sung, YC Kim, GM Pohost, **KS Nayak**. "Experiment and simulation-based optimization of blood-myocardium CNR in cardiac SSFP imaging," Proc. ISMRM 14th Scientific Sessions, Seattle, May 2006, p. 3595.

ISMRM Workshop on Real-Time MRI 2006

255. E Bresch, JF Nielsen, **KS Nayak**, S Narayanan. "Synchronized Audio Recording and Real-Time MR Imaging of Fluent Speech," Proc. ISMRM Workshop on Real-Time MRI. Santa Monica, February 2006, p. 2.

256. CY Liu, **KS Nayak**. "High Resolution and Extended Coverage in First-Pass Myocardial Perfusion Imaging using a Real-Time Imaging Platform," Proc. ISMRM Workshop on Real-Time MRI. Santa Monica, February 2006, p. 2.
257. YC Kim, JF Nielsen, **KS Nayak**. "Adaptive Correction of EPI Ghosting for Real-Time Interactive MRI with Arbitrary Oblique Scan Planes," Proc. ISMRM Workshop on Real-Time MRI. Santa Monica, February 2006, p. 10.
258. HL Lee, **KS Nayak**. "Real-Time Cardiac Imaging at 3T Using Wideband SSFP," Proc. ISMRM Workshop on Real-Time MRI. Santa Monica, February 2006, p. 11.
259. KH Sung, JF Nielsen, **KS Nayak**. "Fast Cardiac Imaging Using a Novel Reduced-FOV Excitation and EPI Acquisition," Proc. ISMRM Workshop on Real-Time MRI. Santa Monica, February 2006, p. 12.
260. KH Sung, CH Cunningham, **KS Nayak**. "Interactive B1+ Nonuniformity Correction using TIP-COMP," Proc. ISMRM Workshop on Real-Time MRI. Santa Monica, February 2006, p. 13. **2nd Place Best Poster Award**

Society for Cardiovascular Magnetic Resonance 2006

261. CY Liu, P Varadarajan, GM Pohost, **KS Nayak**. "Real-Time Color overlay Cardiac Phase Contrast Spiral Imaging at 3 Tesla," Proc. SCMR 9th Scientific Sessions, Miami, January 2006. J. Cardio. Magn. Reson. 2006; Vol. 8 No 1.

ISMRM Scientific Sessions 2005

262. KH Sung, **KS Nayak**. "B1+ non-uniformity correction using 2D RF pulse design," Proc. ISMRM 13th Scientific Sessions, Miami, May 2005, p. 18.
263. CY Liu, P Varadarajan, GM Pohost, **KS Nayak**. "Studies of Gd-DTPA Relaxivity in different tissue models at 3T," Proc. ISMRM 13th Scientific Sessions, Miami, May 2005, p. 254.
264. JB Park, BS Hu, SM Conolly, **KS Nayak**, DG Nishimura. "Rapid Cardiac-Output Measurement with Ungated Spiral Phase-Contrast," Proc. ISMRM 13th Scientific Sessions, Miami, May 2005, p. 1641.
265. **KS Nayak**, HL Lee, BS Hu, BA Hargreaves. "Wideband SSFP: SSFP with imaging bandwidth greater than 1/TR," Proc. ISMRM 13th Scientific Sessions, Miami, May 2005, p. 2387. **1st Place Best Poster Award, Category: Pulse Sequences**
266. JB Park, BS Hu, **KS Nayak**, JM Santos, G Narayan, and DG Nishimura, "Cardiac-Output Measurement in 5 seconds using Ungated Spiral Phase Contrast," Proc. SCMR 8th Scientific Sessions, San Francisco, January 2005, p. 124.
267. **KS Nayak**, P Varadarajan, CY Liu, GM Pohost, "CMR at 3 Tesla using a large flexible surface coil: initial experience," Proc. SCMR 8th Scientific Sessions, San Francisco, January 2005, p. 407.

ISMRM Scientific Sessions 2004

268. JH Brittain, A Shankaranarayanan, V Ramanan, A Shimakawa, CH Cunningham, S Hinks, R Francis, R Turner, JW Johnson, **KS Nayak**, S Tan, JM Pauly, GM Bydder. "Ultra-Short TE Imaging with Single-Digit (8 μ s) TE," Proc. ISMRM 12th Scientific Sessions, Kyoto, Japan, May 2004, p. 629.
269. P Nguyen, **KS Nayak**, CH Cunningham, JM Santos, M Tsukiji, J Brittain, MV McConnell, DG Nishimura, BS Hu, JM Pauly, PC Yang. "Real-time MR Coronary Angiography at 3T," Proc. ISMRM 12th Scientific Sessions, Kyoto, Japan, May 2004, p. 1877.
270. MS Hyon, H Kaneda, F Ikeno, **KS Nayak**, A Yeung, MV McConnell. "Magnetic Resonance Angiography can Serially Evaluate Thrombolysis of In-stent Thrombus," Proc. ISMRM 12th Scientific Sessions, Kyoto, Japan, May 2004, p. 1914.
271. G Narayan, **KS Nayak**, JM Pauly, BS Hu. "Complete Assessment of LV and RV Function and Volume in a Single Breath-hold using Real-Time Spiral Steady State Free

Precession,” Proc. ISMRM 12th Scientific Sessions, Kyoto, Japan, May 2004, p. 1954. **2nd Place Best Poster Award, Category: Body/Cardiac Imaging**

272. JB Park, JM Santos, G Narayan, **KS Nayak**, BS Hu, DG Nishimura. “Cardiac Output Measurement with Ungated Spiral Phase Contrast and Triggered Real-Time SSFP Imaging,” Proc. ISMRM 12th Scientific Sessions, Kyoto, Japan, May 2004, p. 2585.
273. D Lee, **KS Nayak**, JM Pauly. “Reducing Spurious Minima in Automatic Off-Resonance Correction for Spiral Imaging,” Proc. ISMRM 12th Scientific Sessions, Kyoto, Japan, May 2004, p. 2678.

Society for Cardiovascular Magnetic Resonance 2004

274. JM Santos, PC Yang, CH Cunningham, **KS Nayak**, BS Hu, MV McConnell, J Brittain, JM Pauly. “High Resolution Spiral MRCA with Real-Time Localization at 3T,” Proc. SCMR 7th Scientific Sessions, Barcelona, February 2004, p. 217.
275. MS Hyon, H Kaneda, F Ikeno, **KS Nayak**, AC Yeung, MV McConnell. “Magnetic Resonance Angiography Detects In-Stent Thrombosis and Thrombolysis,” Proc. SCMR 7th Scientific Sessions, Barcelona, February 2004, p. 443.
276. PK Nguyen, **KS Nayak**, CH Cunningham, JM Santos, JM Pauly, BS Hu, MV McConnell, PC Yang. “Real-Time Coronary MR Angiography at 3T,” Proc. SCMR 7th Scientific Sessions, Barcelona, February 2004, p. 528.
277. **KS Nayak**, CH Cunningham, JM Santos, JM Pauly. “Real-Time Cardiac Imaging at 3T and 1.5T: SNR and CNR comparison,” Proc. SCMR 7th Scientific Sessions, Barcelona, February 2004, p. 547.
278. G Narayan, **KS Nayak**, JM Pauly, BS Hu. “Single Breath-Hold, 4 Dimensional, Fast Assessment of LV and RV Function using Triggered, Real-Time, Steady-State Free Precession MRI in Heart Failure Patients: A Novel, Clinically Robust Protocol,” Proc. SCMR 7th Scientific Sessions, Barcelona, February 2004, p. 552.

Radiological Society of North America 2003

279. **KS Nayak**, BA Hargreaves, T Besier, SL Delp. “High-Resolution Real-Time Imaging of Knee Kinematics,” RSNA 89th Scientific Assembly, Chicago, November 2003, p. 332.

ISMRM Scientific Sessions 2003

280. **KS Nayak**, M Amitai, MV McConnell, BS Hu, DG Nishimura. “Imaging and Quantitation of High-Speed Flow Jets in a Single Breath-Hold,” Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 155.
281. BA Hargreaves, SS Vasanawala, **KS Nayak**, J Brittain, BS Hu, DG Nishimura. “Fat Suppressed Steady-State Free Precession Imaging using Phase Detection,” Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 548.
282. RW Schaffer, BA Hargreaves, CH Meyer, **KS Nayak**, BS Hu, DG Nishimura. “Spiral Steady State Free Precession Imaging with the Diminishing Variance Algorithm for High Resolution Coronary Artery Imaging,” Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 941.
283. JM Santos, BA Hargreaves, **KS Nayak**, JM Pauly. “Real-Time Fat Suppressed SSFP,” Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 982.
284. SS Vasanawala, BA Hargreaves, **KS Nayak**, GE Gold, JM Pauly, DG Nishimura. “Musculoskeletal Imaging with Phase Sensitive SSFP,” Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 1487.
285. P Nguyen, **KS Nayak**, G Narayan, D Liang, I Schnittger, J Brittain, JM Pauly, MV McConnell, BS Hu, PC Yang. “Dobutamine stress MR with real-time spiral SSFP – pilot clinical study,” Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 1598.

286. MS Hyon, F Ikeno, H Kaneda, **KS Nayak**, CH Meyer, A Yeung, MV McConnell. "Magnetic Resonance Imaging Detects In-Stent Thrombosis," Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 1643.
287. JB Park, JM Santos, **KS Nayak**, DG Nishimura. "Comparison of Real-Time and Ungated Phase-Contrast Imaging for Rapid Mean Flow Measurements," Proc. ISMRM 11th Scientific Sessions, Toronto, July 2003, p. 1676.
288. **KS Nayak**, CH Cunningham, JM Santos, JM Pauly, DG Nishimura. "Real-Time Cardiac Imaging at 3 Tesla," Late-Breaking Clinical Science Session, ISMRM 11th Scientific Sessions, Toronto, July 2003.

Unlabeled (2003 and earlier)

289. S Narayanan, **KS Nayak**, D Byrd, S Lee. "An Approach to Real-Time Magnetic Resonance Imaging for Speech Production," Proc. ASA Spring Meeting, Nashville, April 2003.
290. **KS Nayak**, M Amitai, MV McConnell, BS Hu, DG Nishimura. "In Vivo Quantitation of High-Speed Flow Jets in a Single Breath Hold," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 138.
291. P Nguyen, **KS Nayak**, G Narayan, D Liang, I Schnittger, JM Pauly, MV McConnell, BS Hu, PC Yang. "Dobutamine Stress MR with Spiral Real Time SSFP Reliably Detects Wall Motion Abnormalities," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 202.
292. MS Hyon, F Ikeno, **KS Nayak**, CH Meyer, A Yeung, MV McConnell. "Minimal-Artifact Stents for Real-Time MRI Guided Stenting and Acute and Chronic Evaluation of Stent Patency," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 340.
293. BA Hargreaves, **KS Nayak**, DG Nishimura. "Rapid Peripheral Angiography using SSFP with Phase-Based Fat-Nulling," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 391.
294. JB Park, **KS Nayak**, BS Hu, DG Nishimura. "A New Approach to Cardiac Output Measurement: Ungated Spiral Phase Contrast," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 408.
295. G Narayan, P Nguyen, J Engvall, **KS Nayak**, PC Yang, BS Hu. "Rapid (< 10 secs), Complete, 4D Assessment of LV/RV Volumes Using SSFP in Heart Failure Patients," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 413.
296. **KS Nayak**, JM Pauly, BS Hu. "Triggered Real-Time Cardiac MRI," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 414.
297. A Carrillo, A Shankaranarayanan, JM Santos, **KS Nayak**, PC Yang, BS Hu, GA Wright, JH Brittain. "Localized Measurement, Display, and Adaptation of Functional Information Through a Real-Time Interface," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 417.
298. J Engvall, G Narayan, P Nguyen, **KS Nayak**, PC Yang, BS Hu. "Use of SSFP Realtime MRI Improves SNR, CNR, and Wall Motion Assessment," Proc. SCMR 6th Scientific Sessions, Orlando, February 2003, p. 433.
299. E Pena-Almageur, **KS Nayak**, M Terashima, PC Yang, JM Pauly, DH Liang, BS Hu, MV McConnell, "Real-Time Color-Flow Magnetic Resonance Imaging of Congenital Heart Disease," Proc. ISMRM 10th Scientific Sessions, Honolulu, May 2002, p. 90.
300. **KS Nayak**, DG Nishimura, S Kaji, JM Pauly, BS Hu, "Complete LV Assessment (mass, volume, and wall motion) in a Single Short Breath Hold using Triggered Real-Time Imaging," Proc. ISMRM 10th Scientific Sessions, Honolulu, May 2002, p. 1653.
301. **KS Nayak**, BA Hargreaves, BS Hu, JM Pauly. "Measurement of Fast Flow Jets using Short-TR Spiral Phase Contrast," Proc. ISMRM 10th Scientific Sessions, Honolulu, May 2002, p. 1720.

302. M Terashima, E Pena-Almaguer, **KS Nayak**, JM Pauly, PC Yang, BS Hu, MV McConnell. "High-Resolution Real-Time and Color-Flow MRI of Nitinol Stents," Proc. ISMRM 10th Scientific Sessions, Honolulu, May 2002, p. 1789.
303. JC Dicarlo, **KS Nayak**, BS Hu, DG Nishimura, JM Pauly. "Cardiac-Gated Multi-Shot Fourier Velocity Encoding," Proc. ISMRM 10th Scientific Sessions, Honolulu, May 2002, p. 1802.
304. A Carrillo, GA Wright, J Brittain, **KS Nayak**, BS Hu. "Integrated Visualization of Physiologic Data in Cardiovascular Applications," Proc. ISMRM 10th Scientific Sessions, Honolulu, May 2002, p. 2460.
305. PC Yang, **KS Nayak**, S Kaji, M Terashima, E Pena-Almageur, J Engvall, MV McConnell, JM Pauly, DG Nishimura, BS Hu, "Simultaneous Evaluation of Exercise-Stress Wall Motion and Myocardial Perfusion Using Real-time Interactive Multislice MRI – Clinical Validation," Proc. SCMR 5th Scientific Sessions, Orlando, January 2002, p. 153.
306. M Terashima, PC Yang, BS Hu, E Pena-Almageur, CH Meyer, **KS Nayak**, JM Pauly, DG Nishimura, MV McConnell. "MRI of Nitinol Coronary Stents: Implications for Assessing Stent Patency and Guiding Interventions," Proc. SCMR 5th Scientific Sessions, Orlando, January 2002, p. 215.
307. E Pena-Almaguer, **KS Nayak**, M Terashima, PC Yang, JM Pauly, DH Liang, BS Hu, MV McConnell, "Assessment of Extracardiac Abnormalities in Congenital Heart Disease with Real-Time Color-Flow MRI," Proc. SCMR 5th Scientific Sessions, Orlando, January 2002, p. 311.
308. PA Rivas, **KS Nayak**, MV McConnell, PC Yang, JM Pauly, DG Nishimura, BS Hu, "Real-Time Color Flow MRI for Evaluation of Valvular Regurgitation," Proc. AHA, November 2001; #3018.
309. M Terashima, E Pena-Almageur, **KS Nayak**, PC Yang, JM Pauly, BS Hu, MV McConnell. "High-Resolution Real-Time MRI for Vascular Interventions," Proc. AHA, November 2001; #3019.
310. **KS Nayak**, SI Urayama, CH Meyer, "Fast LV Segmentation in Single Slices," Proc. ISMRM 9th Scientific Sessions, Glasgow, April 2001, p. 826.
311. CH Meyer, JM Pauly, **KS Nayak**, MV McConnell, A Macovski, DG Nishimura, BS Hu, "Real-time Spiral SSFP Cardiac Imaging," Proc. ISMRM 9th Scientific Sessions, Glasgow, April 2001, p. 442.
312. D Asakawa, GE Gold, S Blemker, **KS Nayak**, JM Pauly, DG Nishimura, S Delp, "Measurement of Skeletal Muscle Velocities Using Real-Time MR Imaging," Proc. ISMRM 9th Scientific Sessions, Glasgow, April 2001, p. 133.
313. GE Gold, T Wren, **KS Nayak**, DG Nishimura, G Beaupre, "In Vivo Short Echo Time Imaging of Achilles Tendon," Proc. ISMRM 9th Scientific Sessions, Glasgow, April 2001, p. 244.
314. D Asakawa, **KS Nayak**, DG Nishimura, JM Pauly, S Delp, GE Gold, "Real-Time MR Imaging of Skeletal Muscle Motion," ORS, San Francisco, February 2001.
315. **KS Nayak**, PA Rivas, MV McConnell, JM Santos, GC Scott, DG Nishimura, JM Pauly, BS Hu, "Real-time black-blood imaging and active tracking for catheter-based MRI," Proc. SCMR 4th Scientific Sessions, Atlanta, January 2001, p. 69.
316. GE Gold, **KS Nayak**, JM Pauly, DG Nishimura, "MR Imaging of Ultra-short T2 Species in the Brain," Proc. 86th RSNA, Chicago, 2000, p. 250.
317. D Stucker, **KS Nayak**, JM Pauly, D Resnick, GE Gold, "Short Echo Time MR Imaging of the Knee Meniscus," Proc. 86th RSNA, Chicago, 2000, p. 218.
318. GE Gold, D Asakawa, **KS Nayak**, D Stucker, J Drace, S Delp, DG Nishimura, "Real-time Color Flow MRI of Muscle Motion," Proc. 86th RSNA, Chicago, 2000;

319. **KS Nayak**, JM Pauly, BS Hu, PC Yang, CH Meyer, AB Kerr, DG Nishimura, "Real-time Interactive Coronary MR Angiography," Proc. AHA, November 2000, p. 1938.
320. **KS Nayak**, BS Hu, JM Pauly, E Putz, AB Kerr, DG Nishimura, "Real-Time Interactive Multislice MRI: stress LV function and first pass perfusion," Proc. AHA, November 2000, p. 3322.
321. GE Gold, **KS Nayak**, JM Pauly, D Resnick, "Ultra-short Echo Time MR Imaging of the Knee Meniscus," International Skeletal Society, Special Scientific Session, September 2000.
322. **KS Nayak**, CM Tsai, and DG Nishimura, "Off-resonance Correction Integrated with Variable Density Spirals," Proc. ISMRM 8th Scientific Sessions, Denver, 2000; p. 116.
323. **KS Nayak**, JM Pauly, GE Gold, and DG Nishimura, "Imaging Ultra-short T2 Species in the Brain," Proc. ISMRM 8th Scientific Sessions, Denver, 2000; p. 509.
324. PA Rivas, **KS Nayak**, AB Kerr, MV McConnell, PC Yang, JM Pauly, DG Nishimura, and BS Hu, "Evaluation of Valvular Regurgitation: Real-time Color Flow Magnetic Resonance Imaging compared to Echo," J. Amer. Coll. Cardiol., Feb 2000; Vol. 35 Supplement A; p. 453.
325. **KS Nayak**, JM Pauly, PC Yang, AB Kerr, CH Meyer, BS Hu, and DG Nishimura, "Real-time Coronary MRA," Proc. SCMR 3rd Scientific Session. Atlanta 2000; p. 337. **3rd Place Best Abstract.**
326. **KS Nayak**, JM Pauly, BS Hu, AB Kerr, and DG Nishimura, "Real-Time Black Blood Cardiac MRI," Proc. AHA, November 1999, p. 49930.
327. PA Rivas, **KS Nayak**, AB Kerr, DG Nishimura, JM Pauly, and BS Hu, "Real-time Interactive Cardiac MRI System with Color Flow Mapping: Assessment of Regurgitation Severity Compared with Ultrasound Color Doppler," Proc. AHA, November 1999, p. 49933.
328. **KS Nayak**, JM Pauly, PA Rivas, BS Hu, AB Kerr, and DG Nishimura, "Imaging Valvular Regurgitation with Real-Time Color Flow MRI," Proc. ISMRM 7th Scientific Session, Philadelphia, 1999, p. 393.
329. **KS Nayak**, JM Pauly, AB Kerr, and DG Nishimura, "Real-Time Black Blood MRI," Proc. ISMRM 7th Scientific Session, Philadelphia, 1999, p. 1638.
330. FP Chan, KCP Li, **KS Nayak**, PR Hilfiker, and JM Pauly, "Efficient Characterization of Mesenteric Blood Flow Using Color-Flow Real-Time Interactive MRI," Proc. ISMRM 7th Scientific Session, Philadelphia, 1999, p. 188.
331. PA Rivas, MV McConnell, **KS Nayak**, GC Scott, CH Meyer, JM Pauly, DG Nishimura, A Macovski, and BS Hu, "Real-Time Intravascular Magnetic Resonance Receiver Probe: in vivo Observations in the Rabbit Aorta," Proc. ISMRM 7th Scientific Session, Philadelphia, 1999, p. 82.
332. PA Rivas, **KS Nayak**, AB Kerr, PC Yang, JM Pauly, DG Nishimura, and BS Hu, "Real-Time Interactive Cardiac MRI System with Color Flow Mapping," Proc. ACC, New Orleans, 1999, p. 1238.
333. **KS Nayak**, PA Rivas, AB Kerr, JM Pauly, BS Hu, and DG Nishimura, "Applications of Real-Time MRI with Color Flow Mapping: Fast and Slow Flow," Proc. SCMR 2nd Scientific Session, Atlanta, 1999, p. 54.
334. **KS Nayak**, AB Kerr, BS Hu, JM Pauly, and DG Nishimura, "Real-Time Cardiac MRI with Color Flow Mapping," Proc. AHA, November 1998, p. I-513.
335. **KS Nayak**, and DG Nishimura, "Randomized Trajectories for Reduced Aliasing Artifact," Proc. ISMRM 6th Scientific Session, Sydney, 1998, p. 670.
336. **KS Nayak**, AB Kerr, BS Hu, JM Pauly, and DG Nishimura. "Real-Time Interactive MRI with Color Flow Mapping," Proc. ISMRM 6th Scientific Session. Sydney, 1998, p. 1969.

337. **KS Nayak**, and DG Nishimura, "Automatic Field Map Generation and Off-resonance Correction for PR Imaging," Proc. ISMRM 5th Scientific Session, Vancouver, 1997, p. 1985.

BOOK

1. GM Pohost and **KS Nayak**, “Handbook of Cardiovascular Magnetic Resonance Imaging,” Informa Healthcare, New York, 2006. ISBN: 0824758412.

BOOK CHAPTERS

1. R Vliegenthart, M Jerosch-Herold, **KS Nayak**, T Leiner, S Plein. “Myocardial Perfusion and Permeability,” in MR and CT Perfusion Imaging: Clinical Applications and Theoretical Principles, Ed: Roland Bammer, Wolters-Kluwer, 2015. ISBN: 9781451147155.
2. VC Rispoli, JLA Carvalho, JF Nielsen, **KS Nayak**. “Assessment of Carotid Flow Using Magnetic Resonance Imaging and Computational Fluid Dynamics,” in Fluid Dynamics, Computational Modeling and Applications, Ed: L. Hector Juarez, InTech, 2012. ISBN: 978-953-51-0052-2.
3. JLA Carvalho and **KS Nayak**. “Rapid Quantitation of Aortic Valve Flow Using Spiral Fourier Velocity Encoded MRI,” in Aortic Valve, Eds: Ying-Fu Chen and Chwan-Yao Luo, InTech, 2011. ISBN: 978-953-307-561-7.
4. HH Hu, MI Goran, **KS Nayak**, “Assessment of Abdominal Adiposity and Organ Fat with Magnetic Resonance Imaging,” in Role of the Adipocyte in Development of Type 2 Diabetes, Ed: Coleen Croniger, InTech, 2011. ISBN: 978-953-307-598-3.
5. **KS Nayak**, JF Nielsen, “CMR Imaging Methods,” in Atlas of Cardiovascular Magnetic Resonance, Eds: W Manning and E Braunwald, Springer—Current Medicine, 2009. ISBN: 1573402990.
6. **KS Nayak**, GM Pohost, “Ischemic Heart Disease: Myocardial Perfusion Imaging,” in Handbook of Cardiovascular Magnetic Resonance Imaging, Eds: GM Pohost and KS Nayak, Informa Healthcare, 2006, p179–194.
7. GM Pohost, **KS Nayak**, “The Future of CMR,” in Handbook of Cardiovascular Magnetic Resonance Imaging, Eds: GM Pohost and KS Nayak, Informa Healthcare, 2006, p425–434.
8. P Varadarajan, K Souibri, **KS Nayak**, GM Pohost, “Cardiovascular magnetic resonance: Evaluation of myocardial function, perfusion and viability,” in Cardiac CT, PET and MR, Eds: V Dilsizian and GM Pohost, Blackwell Futura, 2006, p155–191.

PATENTS

1. **KS Nayak**, "Magnetic Measurement of Fat Fraction," US Provisional Application 62/440,294, December 2016.
2. HP Do, TR Jao, **KS Nayak**, "Multi-Pulsed Arterial Spin Labeled Magnetic Resonance Imaging," USC Disclosure #D2014-0072. April 2014.
3. Y Zhu, Y Guo, RM Lebel, **KS Nayak**, "Method for Dynamic 3D MRI Data Sampling," USC File #2014-227. US Provisional Application 61/980,462. April 2014.
4. **KS Nayak** and Y Chai, "Alignment Indicator for Dental Radiography," USC File #2014-187. February 2014.
5. T Smith and **KS Nayak**, "Method for Reduced Field-of-View MRI in an inhomogeneous field with rapid Outer Volume Suppression," U.S. Patent #9,739,861. Issued August 2017.
6. T Jao, Z Zun, and **KS Nayak**, "Efficient Mapping of Tissue Properties for Unregistered Data with Low Signal-to-Noise Ratio," (under review) U.S. Patent Application #13/231,741. March 2012.
7. K Sung and **KS Nayak**, "Tailored radiofrequency pulses for uniform saturation in magnetic resonance imaging," U.S. Patent #8,324,898. issued Dec. 2012.
8. JF Nielsen and **KS Nayak**, "Eddy-current artifact reduction in balanced steady-state free precession magnetic resonance imaging," U.S. Patent #8,283,924. issued Oct. 2012.
9. HL Lee and **KS Nayak**, "Preparing the magnetization state of a sample for alternating repetition time steady state free precession magnetic resonance imaging," U.S. Patent #8,269,494, issued September 2012.
10. JF Nielsen and **KS Nayak**, "Fast velocity measurements using balanced SSFP magnetic resonance imaging," U.S. Patent #8,212,561. issued July 2012.
11. CH Cunningham, **KS Nayak**, JM Pauly, "RF field mapping for magnetic resonance imaging," U.S. Patent #7,446,526. issued Nov. 2008. Licensed to GE, Siemens, and Philips.
12. K Sung and **KS Nayak**, "Compensating for non-uniformity of excitation field in MRI," U.S. Patent #7,372,270. issued May 2008.
13. **KS Nayak** and BA Hargreaves, "Steady-State Free-Precession MRI with Increased Signal Bandwidth," U.S. Patent #7,332,908. issued Feb. 2008. Licensed to GE, Siemens, and Philips.
14. **KS Nayak** "Ultra-short T2 Imaging Pulse Sequence," 2003, software licensed to GE.
15. KI Iourcha, **KS Nayak**, Z Hong, "System and Method for Fixed-rate Block-based Image Compression with Inferred Pixel Values," U.S. Patent #5,956,431, issued Sept. 1999. Continuation: "Fixed-rate Block-based Image Compression with Inferred Pixel Values," U.S. Patent #6,658,146, issued Dec. 2003. Continuation: "Fixed-rate Block-based Image Compression with Inferred Pixel Values," U.S. Patent #6,683,978, issued Jan. 2004. Continuation: "Fixed-rate Block-based Image Compression with Inferred Pixel Values," U.S. Patent #6,775,417, issued Aug. 2004. Continuation: "Fixed-rate Block-based Image Compression," U.S. Patent #7,039,244, issued May 2006. Continuation: "Image Processing System," U.S. Patent #7,043,087, issued May 2006. Continuation: "Imaging CODEC Engine," U.S. Patent #7,801,363, issued Sept. 2010.

INVITED TALKS

INVITED CONFERENCE TALKS

1. High Performance Low Field MRI at USC, Southern California Hi-Lo Field Workshop, Los Angeles, October 2019.
2. High Performance Low Field MRI, NIST Workshop on Low-Field Magnetic Resonance, Boulder Colorado, August 2019.
3. Myocardial Arterial Spin Labeled (ASL) Perfusion Imaging, Non-Contrast CMR Assessment of Ischemic Heart Disease, ISMRM Scientific Sessions, Montreal, May 2019.
4. Journal to Awareness of Social Bias in Science, RESONATE: Discussion of Scientific and Social Biases within ISMRM. ISMRM/ESMRMB Scientific Sessions, Paris, June 2018.
5. Acquisition Strategies: CE and NCE Approaches, Sunrise Course: Advanced Techniques in Cardiovascular MR: Tissue Perfusion, ISMRM/ESMRMB Scientific Sessions, Paris, June 2018.
6. Advanced Reconstruction Techniques for DCE/DSC, Weekend Course: Advanced Topics in Perfusion MRI, ISMRM/ESMRMB Scientific Sessions, Paris, June 2018.
7. Arterial Spin Labeling, Session: Non-contrast Methods, SCMR/ISMRM Co-Provided Workshop on CMR in Ischemic Heart Disease, Barcelona, February 2018.
8. Diagnostic Real-Time MRI, Plenary Session "Dynamic Real-Time MRI", ISMRM 2017 Scientific Sessions, Honolulu, HI, April 2017.
9. MR Phase Imaging, ISMRM Workshop on Quantitative MR Flow: Innovation & Implementation for Clinical & Physiological Insights, San Francisco, CA, October 2016.
10. MRI at Multiple Spatial Scales, daVinci Convergence Symposium - Imaging Across Scales, Santa Monica, CA, February 2016.
11. Myocardial ASL Perfusion, ISMRM Workshop on Non-Contrast Cardiovascular MRI, Long Beach, CA, March 2015.
12. Real-Time Imaging and Compressed Sensing, Gordon Research Conference on In-Vivo NMR, Proctor Academy, Andover, NH, July 2014.
13. Imaging Challenges at 3T and Above, ISMRM 2014, Course: Cardiovascular MRI at 3T and Beyond, Milano, Italy, May 2014.
14. Real-Time MRI of Speech Production, Speech MRI Summit, Los Angeles, CA, February 2014.
15. How to Quantify Blood Flow, SCMR 16th Scientific Sessions, Physician Pre-conference Course, January 2014.
16. What is Compressed Sensing and How Can We Use It? ASFNR-ISMRM Session on Ultrafast MR Imaging, ASNR 51st Annual Meeting, San Diego, CA, May 2013.
17. New CMR Sequences and Techniques. ISMRM 2013 Weekend Course, Recent Innovations in Cardiovascular MR, Recent Developments in Hardware and Software Relevant to CMR. Salt Lake City, April 2013.
18. Towards myocardial perfusion imaging using arterial spin labeling at high fields. SCMR-ISMRM Joint Workshop: New Horizons in High-Field Cardiovascular MR: Promise and Progress. San Francisco, CA, January 2013.
19. New CMR Sequences and Techniques. ISMRM 2012 Weekend Course, Recent Advances in Cardiovascular MR, Recent Developments in Hardware and Software. Melbourne, Australia, May 2012.
20. Non-contrast perfusion methods: Ready for prime time? SCMR 14th Scientific Sessions, Orlando, FL, February 2012.
21. CMR Perfusion using Arterial Spin Labeling. GE Lunchtime Symposium at the SCMR 14th Scientific Sessions, Nice, France, February 2011.

22. Novel Myocardial Perfusion Techniques: Arterial Spin Labeling. SCMR 14th Scientific Sessions, Basic Science Pre-conference Course. Nice, France, February 2011.
23. Advanced Pulse Sequences for 3 Tesla CMR. ISMRM 18th Scientific Sessions, Sunrise Course: Cardiovascular MR Imaging, Stockholm, May 2010.
24. Tools for Mapping and Quantitative Imaging. ISMRM 18th Scientific Sessions, Educational Course: Imaging Strategies, Stockholm, May 2010.
25. Update on Myocardial Perfusion using Arterial Spin Labeling. SCMR 13th Scientific Sessions, Phoenix, AZ, January 2010.
26. Technical Challenges and Solutions for CMR at 3 Tesla. SCMR High-Field and Basic Science Pre-conference workshop. Phoenix, AZ, January 2010.
27. Real-Time Measurement of Cardiac Function and Flow. ISMRM Workshop on Cardiovascular Function, Flow, and Tissue Mechanics. Sintra, Portugal, September 2009.
28. Quantitative MRI of Abdominal Fat: Recent Developments. NCI Transdisciplinary Research on Energetics and Cancer (TREC) Scientific Meeting. Cleveland, OH, May 2009.
29. Myocardial Perfusion using Arterial Spin Labeling. SCMR 12th Scientific Sessions, Orlando, FL, January 2009.
30. Real-Time Imaging at 3T. SCMR 11th Scientific Sessions, Los Angeles, CA, February 2008.
31. Handling RF Variation at 3T. Workshop on High-Field Cardiovascular MR: An Update, Los Angeles, CA, January 2008.
32. Real-Time Imaging at 3T. ISMRM 15th Scientific Sessions, Clinical Categorical Course: Cardiovascular Imaging at High Field, Berlin, May 2007.
33. Strategies for collecting temporally-resolved physiological data. ISMRM 15th Scientific Sessions, Educational Course: MR Physics for Physicists, Berlin, May 2007.
34. Spiral and Real-Time Imaging. SCMR 10th Scientific Sessions, Rome, February 2007.
35. The Current Cutting-Edge in Rapid CMR Imaging, SCMR 10th Scientific Sessions, Rome, February 2007.
36. Spiral and Real-Time Imaging. NIH/NIBIB Workshop on High-Field Cardiovascular Magnetic Resonance, Washington, DC, September 2006.
37. EPI Artifact Correction using Parallel Imaging. IEEE-EMBS, Special Session on Cardiac Imaging, September 2006.
38. Real-Time Flow Imaging. ISMRM Workshop on Flow and Motion: Imaging Assessment of Cardiovascular and Tissue Mechanics, New York, July 2006.
39. Recent Advances in the Diagnosis of Coronary Artery Disease. North American Konkani Association Medical Symposium, Hamilton, Ontario, July 2006.
40. Real-Time Color Flow MRI. ISMRM 14th Scientific Sessions, Flow and Motion Study Group Meeting, Seattle, May 2006.
41. Spirals at High Field. SCMR 9th Scientific Sessions, Basic Science Plenary Session: Parallel and Other Novel Imaging Techniques, Miami, January 2006.
42. Identification, Modeling and Correction of Image Artifacts. ISMRM 13th Scientific Sessions, Educational Course: MR Physics for Physicists, Miami, May 2005.
43. Real-Time Cardiac Imaging. GE-Asia Seminar Series (five locations): Sydney, New Delhi, Mumbai, Beijing, and Shanghai, March 2005.
44. How to Transition to the Real World. SCMR 8th Scientific Sessions, Trainee and Students Hour, San Francisco, January 2005.
45. Non-cooperative Patients and Arrhythmia: Real-Time and Single Shot Imaging. SCMR 8th Scientific Sessions, Pre-Conference Workshop, San Francisco, January 2005.

46. Cardiovascular 3T Imaging. NASCI 32nd Annual Meeting, Next Generation Cardiac MR Session, Amelia Island, October 2004.
47. Hemodynamic Visualization with Real-Time MRI. University of Toronto Real-Time MRI Workshop, Toronto, July 2003.

COLLOQUIA

California Institute of Technology, Medical Engineering Department, February 2020
 Long Beach Memorial Medical Center, Cardiology Grand Rounds, May 2019
 University of Southern California, BRIDGE institute seminar, March 2019
 University of Southern California, Brain Tumor Consortium, March 2019
 Aix-Marseille, MRI Seminar, June 2018
 University of California at Berkeley, Bioengineering Seminar, May 2018
 University of Southern California, Cardiology Grand Rounds, March 2018
 Axilor Ventures, December 2017
 GE John F. Welch Technology Center, December 2017
 Dayananda Sagar College of Engineering, November 2017
 ISMRM India Chapter, Bangalore, November 2017
 Indian Institute of Sciences, Computational and Data Sciences, November 2017
 University of Wisconsin-Madison, Medical Physics, October 2017
 Arizona State University, Biomedical Engineering, September 2017
 University of California, San Diego, Physiology & Medicine, June 2017
 Case Western Reserve University, Case Center for Imaging Research, October 2016
 University of California, Davis, Radiology Grand Rounds, October 2016
 Cincinnati Children's Hospital, Radiology Grand Rounds, October 2014
 University of California, Los Angeles, Department of Radiology, June 2014
 University of Calgary, Alberta, Canada, June 2013
 University of California, San Diego, Center for Functional MRI, May 2013
 University of Southern California, Center for Excellence in Teaching, May 2013
 Cedars-Sinai Medical Center, Biomedical Imaging Research Institute, January 2013
 Seoul National University Hospital, Seoul, South Korea, August 2012
 Neuroscience Research Institute, Gachon University, Incheon, South Korea, August 2012
 NIH / NHLBI Laboratory for Cardiac Energetics, Bethesda, June 2010.
 Linköping University Hospital, Linköping, Sweden, February 2010.
 University of Louisville, Electrical Engineering, Louisville, November 2009
 University of California, San Diego, Penner Biomechanics Seminar, October 2009
 Brigham and Women's Hospital, Department of Radiology, October 2009
 FAMU/FSU College of Engineering, May 2009
 Loma Linda University Medical Center, May 2008
 Yale University, Bioimaging Science Lecture Series, November 2006.
 University of California, San Diego, Center for Functional MRI, August 2006.
 GE Global Research Center, Niskayuna, July 2006.
 University of Virginia, Biomedical Engineering, Charlottesville, April 2006.
 Johns Hopkins University, Radiology, Baltimore, April 2006.
 Florida State University, Computer Science, Tallahassee, November 2004.
 NIH / NHLBI Laboratory for Cardiac Energetics, Bethesda, February 2004.
 Medtronic AVE Inc., Santa Rosa, June 2003.
 Linköping University Hospital, Linköping, Sweden, October 2002.
 Guidant Inc., Santa Clara, September 2001.

Agilent Labs, Palo Alto, April 2001.

Kawasaki Medical College, Okayama, Japan, July 2000.

TEACHING & MENTORING

TEACHING and MENTORING GRANTS

- **Principal Investigator**, NSF/DGE, “New GK-12: Body Engineering Los Angeles,” Grant #1045595. August 2011-July 2016. \$1.4M. (with \$1M matching funds from the USC Viterbi School of Engineering)
- **Principal Investigator**, SAMPE Foundation, “GK-12: Body Engineering Los Angeles,” August 2014. \$10,000.
- **Principal Investigator**, Stevens Institute for Innovation, Innovation Inside Curriculum Grant, “Commercialization of Magnetic Resonance Imaging Technology,” December 2007. \$2,000.
- **Principal Investigator**, Viterbi New Initiatives Request, “Development of a Tabletop MRI Design-Build Course,” July 2019, \$25,000.

DIRECT TRAINEES

Name	Degrees, Years	Current Position
Joao Luiz Carvalho	PhD, 2004-08	Associate Professor, Universidade de Brasilia (Brazil)
Kyunghyun Sung	PhD, 2004-08	Assistant Professor, University of California, Los Angeles
Hsu-Lei Lee	PhD, 2004-08	Research Fellow, Queensland Brain Institute (Australia)
Taehoon Shin	PhD, 2004-09 Postdoc, 2009-10	Professor, Ewha Womans University (Korea)
Chia-Ying Liu	Postdoc, 2004-06	Assistant Professor, Johns Hopkins University
Jon-Fredrik Nielsen	Postdoc, 2005-08	Research Assistant Professor, University of Michigan, Ann Arbor
Yoonchul Kim	PhD, 2005-10 Postdoc, 2010-14	Scientist, Samsung Medical Center (Korea)
Zungho Zun	PhD, 2005-10	Assistant Professor, Children’s National Medical Center
Mahender Makhijani	PhD, 2005-12	Senior Engineer, Continuum Analytics
Houchun Hu	Postdoc, 2006-09	Director of Radiology Research, Nationwide Children’s Hospital
Samir Sharma	PhD, 2007-12	Engineer, Toshiba America Medical Systems,
Travis Smith	PhD, 2007-12	Research Assistant Professor, Oregon Health Sciences University
Marc Lebel	Postdoc, 2010-12	Scientist, GE Applied Sciences Laboratory (Canada)
Yinghua Zhu	PhD, 2010-15	Engineer, Google
Ziyue Wu	PhD, 2011-15	CEO, Wuxi Marvelstone Healthcare (China)

Name	Degrees, Years	Current Position
Johannes Töger	Postdoc, 2015-16	Researcher, Lund University (Sweden)
Sajan Lingala	Postdoc, 2014-17	Assistant Professor, University of Iowa
Hung Phi Do	PhD, 2010-2017 Postdoc, 2017	MR Clinical Collaborations Manager Toshiba America Medical Systems
Yi Guo	PhD, 2012-2017	Engineer, SnapChat
Terrence Jao	PhD, 2011-2017	Radiology Resident, Stanford
Xin Miao	PhD, 2013-2018	Scientist, Siemens Healthcare & Dana Farber Cancer Institute
Weiyi Chen	PhD, 2013-2019	
Vanessa Landes	PhD, 2012-2019	PET-MR Scientist, GE Healthcare
Ahsan Javed	PhD, 2012-2019	Postdoc, NIH/NHLBI
Yongwan Lim	PhD, 2015-	
Yannick Bliesener	PhD, 2015-	
Sreedevi Gutta	Postdoc, 2018-	
Namgyun Lee	PhD, 2018-	
Zhibo Zhu	PhD, 2018-	
Erum Mushtaq	PhD, 2018-	
Ziwei Zhao	PhD, 2019-	
Bochao Li	PhD, 2019-	
Kübra Keskin	PhD, 2019-	
Ecem Bozkurt	PhD, 2019-	
Ye Tian	Postdoc, 2019-	

INDIRECT TRAINEES (not the primary advisor)

Name	Degrees, Years	Current Position
Erik Bresch	PhD, 2005-2010	Scientist, Philips Research Laboratories (Netherlands)
Taehyun Rhee	PhD, 2005-2010	Senior Lecturer, Victoria University of Wellington (New Zealand)
Eamon Doyle	PhD, 2011-2017	Medical Student, Vanderbilt University
Adam Bush	PhD, 2011-2017	Postdoc, Stanford-Lucile Packard Children's Hospital

TRAINEE AWARDS

Ziyue Wu, W.S. Moore Young Investigator Award, ISMRM	2016
Sajan Lingala, USC Provost's Postdoctoral Scholar Research Grant	2015
Ziyue Wu, Grodins Graduate Award (#1 PhD student in the BME department)	2015
Ziyue Wu, Coulter Award, BME Department	2015
Yoon-chul Kim, American Heart Association Postdoctoral Fellowship	2013-15
Christopher Sandino, USC McNair Scholar	2013

Travis Smith, Ming Hsieh Institute Best PhD Dissertation Award	2013
Samir Sharma, Best Research “Fast Pitch”, USC EE Research Festival	2012
Travis Smith, American Heart Association Predoctoral Fellowship	2011-12
Samir Sharma, Ming Hsieh Institute Ph.D. Scholar (one of five)	2011-12
Taehoon Shin, American Heart Association Postdoctoral Fellowship	2009-11
Hsu-Lei Lee, USC Women in Science and Engineering, Merit Award	2008
Taehoon Shin, Best Student Paper Honorable Mention, USC EE Department	2008
Joao Carvalho, Best Student Paper Award, USC EE Dept.	2007
Joao Carvalho, USC Dissertation Completion Fellowship	2007-08
Jon-Fredrik Nielsen, American Heart Association Postdoctoral Fellowship	2006-08
Numerous conference travel grants (not practical to list individually)	2005-
Numerous conference paper awards (listed above under Publications)	2005-

DISSERTATION COMMITTEES

- **Ph.D. Thesis Defense and Qualifying Exam:** Dimitrios Pantazis (EE), Manjiang Zhang (Physics), Hsiao-Fen Chou (Civil), Ismail Sebe (EE), Fariba Ariei (EE), Bei Wang (EE), Yuriy Brun (CS), Nilesh Ghugre (BME), Taehyun Rhee (CS), Anand Joshi (EE), Ramakrishnan Iyer (BME), Matthew Behrend (EE), Alec Wong (BME), Kenneth Hayworth (Neuroscience), Jonghye Woo (EE), Sangeetha Somayajula (EE), Hua Hui (EE), Erik Bresch (EE), Jay Mung (BME), Vikram Ramanarayanan (EE), Samantha Cunningham (BME), Wentao Zhu (EE), Seth Nfonoyim-Hara (BME), Chitresh Bhushan (EE), Brian Hsu (Linguistics), Yi Lao (BME), Eamon Doyle (BME), Adam Bush (BME), Xin Miao (BME), Yuxiao Yang (EE), Samantha Ma (BME), Tanner Sorensen (Linguistics).
- **Ph.D. Qualifying Exam Only:** Changsung Kim (EE), Jingliang Peng (EE), Dahua Xie (EE), Esen Kucukaltun-Yildirim (EE), Belma Dogdas (EE), Abhijit Chaudhari (EE), Yousef Al-Rjoub (Civil), Pankaj Mishra (EE), Chiao Wang (EE), Jong Dae Oh (EE), Sanghee Cho (EE), Sundeep Pattem (EE), Joyita Dutta (EE), Juan Soto (EE), Dongwoo Kang (EE), Matthew Borzage (BME), Wentao Zhu (EE), Yanguang Lin (EE), Adam Bush (BME), Joseph Crew (BME), Eamon Doyle (BME), Yi Lao (BME), Yang Li (BME), Chi Tat Chiu (BME), Yu Ryan Chen (BME), Zhaojun Yang (EE), Niharika Gajawelli (BME), Azarang Golmohammadi (EE), Divya Varadarajan (EE), Daeun Kim (EE), Minqi Chong (EE), Yunhua Ji (BME), Tae Hyung Kim (EE), Han-Lin Hsieh (EE), Chau Vu (BME), Omid Ghasem-Sani (EE), Krishna Somandepalli (EE).
- **M.S. Thesis Committees:** Abhijit Kher (BME), Amrita Rajagopalan (BME), Naren Nallapareddy (EE), Grant Haskins (BME).

DIRECTED RESEARCH

- **Medical Students:** Terrence Jao (USC MD/PhD), Gabriel Rudd-Barnard (Drexel MD)
- **Ph.D. Students:** Barry Vanek (EE), Zihong Fan (EE), Firooz Aflatouni (EE), Stephen Tobin (Linguistics), Ximing Wang (BME), Eric Sohn (BME), Adam Bush (BME), Yunhua Ji (BME).
- **M.S. Students:** Kyunghyun Sung (EE), Antonio Ordonez (EE), Aditya Sane (EE), Taek-yoon Nam (EE), Vishwanath Kottignahal (EE), Ashish Medewar (EE), Peter Shin (EE), Vikram Ramanarayanan (EE), Niharika Gajawelli (EE), Jack Chang (EE), Ziyue Wu (BME), Yinghua Zhu (EE), Divya Varadarajan (EE), Cecilie Anker (Informatics, TU-Denmark), Josephine Jensen (Informatics, TU-Denmark), Naren Nallapareddy (EE), Siyuan Meng (EE), Shayan Farzad (EE), Jiessen Chen (EE), Xitong Wang (ECE), Yuheng Huang (ECE).

- **Undergraduates:** Eamon Doyle (Olin College), Sameer Chopra (UC-Riverside), David Chartash (U Western Ontario), Tim Brochier (USC), Melanie Houselog (USC), Samantha Kaplan (USC), Sheldon Cheng (USC), Christopher Sandino (USC), Sam Thornton (USC), Andriana Ayiotis (USC), Natasha Goran (University of Leeds, UK), Octavio Marin Pardo (UNAM, Mexico), Jieshen Chen (USC), Andrew Yock (USC), Samarth Kamle (USC).
- **High School Students:** Arjun Viswanathan (Minnetonka High School, Minnesota), Nikhil Rajulapati (Trinity Preparatory School, Florida).

CLASSROOM TEACHING @ USC (student evals: *1.00 is poor, 5.00 is excellent*)

- Magnetic Resonance Imaging and Reconstruction (EE 591)
Spring 2004 (4.65), Fall 2004 (4.71), Fall 2005 (5.00), Fall 2007 (4.78),
Fall 2009 (4.79), Spring 2012 (4.79), Spring 2015, Spring 2019, Spring 2020
- Advanced Topics in Magnetic Resonance Imaging (EE 691)
Fall 2008 (4.44), Fall 2012 (4.70).
- Electrical Engineering Research Seminar (EE 598)
Fall 2012 (4.75), Fall 2013 (4.75)
- Engineering Freshman Academy (ENGR 102)
Fall 2011 (4.86 & 4.42), Fall 2012 (4.57 & 4.62), Fall 2013 (4.44 & 4.69),
Fall 2014 (4.42 & 4.25), Fall 2018 (4.71, 4.84).
- Digital Signal Processing (EE 483)
Spring 2005 (4.32).
- Introduction to Linear Systems (EE 301)
Spring 2007 (4.12), Spring 2009 (4.45), Spring 2014 (3.58), Spring 2016.
- Real-Time DSP Laboratory (EE 434L)
Spring 2008 (3.86).
- Advanced Real-Time DSP Laboratory (EE 586L)
Spring 2008 (4.44).
- Introduction to Electrical Engineering Systems (EE 200L)
Spring 2010 (4.17).
- EPIC Programming (programming language for GE MRI scanners, informal course)
Oct-Dec 2004, June-Aug 2005, Feb-April 2006, May-June 2008, July-Aug 2010.

CLASSROOM TEACHING @ Stanford (student evals: *5.00 is poor, 1.00 is excellent*)

- Introductory Digital Signal Processing (EE 103)
Summer 2001 (1.43), Summer 2002 (1.25)
- Statistical Signal Processing (EE 278)
Summer 2003 (unknown)

OTHER MENTORING

- Society for Cardiovascular Magnetic Resonance Mentoring Program 2011-
- Stanford Alumni Mentoring 2009-15

OTHER OUTREACH

- Prepared a teaching unit on Medical Imaging appropriate for a high-school physics course, for the USC Physics Instant Update, a workshop for LA-area high-school physics teachers run by Prof. Stephan Haas (Physics).
- Introductory Medical Imaging - USC Mission Science program, 2019

SERVICE

WORKSHOP ORGANIZATION

Annual Meeting Program Committee, ISMRM	2018-21
Program Committee, SCMR Scientific Sessions. Barcelona, Spain	2018
Co-Chair, SCMR/ISMRM Co-Provided Workshop Probing Mechanisms of Heart Disease: Micro to Macro to Model. Washington DC	2017
Program Committee, SCMR Scientific Sessions. Washington DC	2017
Member of Organizing Committee, ISMRM Workshop on Flow and Motion Quantification. San Francisco, CA	2016
Program Committee, SCMR Scientific Sessions. Nice, France	2015
Member of Organizing Committee, ISMRM Workshop on Non-Contrast Cardiovascular MRI. Long Beach, CA	2015
Chair, USC Speech MRI Summit. Los Angeles, CA	2014
Member of Organizing Committee, SCMR/ISMRM Joint Workshop on High-Field Cardiovascular Magnetic Resonance. San Francisco, CA	2013
Program Committee, SCMR Scientific Sessions. Orlando, FL	2012
Co-Organizer, SCMR Pre-conference Session on High-Field Cardiovascular Imaging and Basic Science. Phoenix, AZ	2010
Member of Organizing Committee, ISMRM Workshop on Data Sampling and Image Reconstruction. Sedona, AZ	2009
Co-Chair, Workshop on High-Field Cardiovascular MR: An Update. Beverly Hills, CA	2008
Member of Organizing Committee, ISMRM Workshop on Non-Cartesian MRI. Sedona, AZ	2007
Member of Organizing Committee, NIH/NIBIB Workshop on High-Field Cardiovascular MR: the promise, the problems, the potential solutions. Washington DC	2006
Chair, ISMRM Workshop on Real-Time MRI: Dynamic Interactive Imaging and its Applications. Santa Monica, CA	2006

GRANT REVIEW

- National Institutes of Health:
 - ZRG1 DTCS-A (81) S, Mail Reviewer, Feb 2015.
 - ZHL1 CCT-Q C1 Wireless Physiologic Telemetry for Interventional MRI, Sept 2013.
 - ZHL1 CCT-H C4 NHLBI SBIR Phase I/II Contract Review, Feb 2013.
 - ZHL1 CCT-N C2 B Wireless Physiologic Telemetry for Interventional MRI, Feb 2012.
 - ZRG SBIBU55 Academic-Industry Partnerships Panel, Jun 2010.
 - ZHL1 K99/R00 Panel, Feb 2010.
 - SBIB L30 Special Emphasis Panel, High End Shared Instruments Panel, Nov 2009.
- American Heart Association:
 - Western States Bioengineering Panel, Spring 2010.
 - Radiology, Imaging, and Surgery Panel, Fall 2007, Spring 2008, Fall 2008.
- USC Internal Grants:
 - SC-CTSI, Pilot and Translational Research Grants, 2013.

- “Cardiovascular, Metabolism, and Neuroscience”, “Systems Biology and Bioengineering”
 - SC-CTSI, Pilot and Translational Research Grants, 2012.
 - “Biology, Bioengineering, Molecular Medicine”, “Diabetes, Obesity, Metabolic Diseases”
 - Clinical Translational Science Initiative, Pilot and Feasibility Grants, 2008.
 - James H. Zumberge Research and Innovation Fund, 2007.
 - Saban Research Institute, Career Development Fellowships, 2006.
- Other:
 - Technology Foundation STW (Netherlands), Innovation Research Incentive Grants, May 2010.
 - Instituto de Telecomunicações (Portugal), Information Technology Grants, April 2014.

JOURNAL REVIEW

- Reviewer:

Magnetic Resonance in Medicine	2000-
Journal of Magnetic Resonance Imaging	2001-
Journal of Cardiovascular Magnetic Resonance	2002-
IEEE Transactions on Medical Imaging	2007-
MAGMA – Magnetic Resonance Materials in Physics, Biology, and Medicine	2008-
Journal of the American College of Cardiology – Cardiovascular Imaging	2008-
Circulation – Cardiovascular Imaging	2009-
Concepts in Magnetic Resonance Part A	2009-
Radiology	2010-
Investigative Radiology	2010-
PLOS ONE	2013-
- Editorial Board Member:

Journal of Cardiovascular Magnetic Resonance	2002-10
Current Cardiology Reviews	2004-11
- Conference Paper/Abstract Reviewer:

ISMRM Scientific Sessions	2005-
SCMR Scientific Sessions	2012
ISMRM Workshops (several years)	2006-
ISBI	2005-09

OTHER PROFESSIONAL SERVICE

- International Society for Magnetic Resonance in Medicine

Board of Trustees (elected by the membership)	2018-21
Annual Meeting Program Committee	2018-21
Equity Diversity and Inclusiveness Task Force	2018-
Young Investigator Awards Committee, Member	2012-14
Nominating Committee, Member	2016
- Society for Cardiovascular Magnetic Resonance,

Science Committee, Member	2006-12
---------------------------	---------

- | | |
|--|----------|
| Science Committee, Chair | 2010-12 |
| Election Committee, Member | 2011 |
| Annual Meeting Program Committee, Member | 11,16,17 |
- External Review Board, National Institutes of Health, "Training in Cardiac Magnetic Resonance Imaging," T32 Training Grant (T32HL007846) to Stanford University.

UNIVERSITY SERVICE

University of Southern California

University Research Committee	2019-
Center for Excellence in Teaching, Faculty Fellow	2013-16
Center for Excellence in Teaching, Academic Careers Week, Session Staff	2009-13
3TMRI for Cardiovascular and Neuroimaging, Technical Advisory Board	2006-
University Hospital MRI Unit, Technical Advisory Board	2004-
Dornsife Neuroimaging Center, Technical Advisory Board	2004-12

Viterbi School of Engineering

Appointment, Promotion, and Tenure (APT) Committee Member	2011-13
Viterbi Research Awards Committee	2012
Electrical Engineering Department Unification, Committee Member	2009
Interviewer, Presidential and Trustee Scholars	2006-07

Ming Hsieh Department of Electrical and Computer Engineering

Faculty Recruitment Committee - Chair, Systems Design Integration	2018-19
Faculty Recruitment Committee	2014-16
Ming Hsieh Institute	
Advisory Board	2013-
Educational Talks on NSF & NIH Funding	2013,19
MHI Scholars Selection Committee	2011
Signal and Image Processing Group	
Group Director	2018-
Screening Exam Coordinator	2003-12
Admissions and Fellowship Nomination Committee	2008-12
Annual Faculty Merit Review, Committee Member	2010,
	2012,
	2017
Faculty Candidate Evaluation (several short appointments)	2006-