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EDUCATION

2009-2014 Ph.D. Electrical and Computer Engineering, University of Louisville, Louisville, KY

2016-2018 MBA Entrepreneurship Focused, University of Louisville, Louisville, KY

ACADEMIC APPOINTMENTS

2021-Present Assistant Professor of Radiology

University of Louisville

Louisville, KY

2016-Present Manager, MRI Research Facility

University of Louisville, Louisville,

Louisville, KY

OTHER POSITIONS AND EMPLOYMENT

2016-Present MRI Scientist and manager of MRI Research Facility, Department of Radiology, University of Louisville

2014-2016 Research Scientist, Department of Electrical and Computer Engineering, University of Louisville

2011-2016 Research Staff, Veteran's Affairs Medical Center, Louisville, KY

2010-2010 Internship, Philips Healthcare in the North America-MRI section, Cleveland, OH

CERTIFICATION AND LICENSURE

2010-Present Sequence Development, Pulse Programming and Data handling and operation of MRI scanner (Philips and Siemens).

2016-Present HIPAA and CITI certified at University of Louisville, Louisville, KY.

2010-Present Professional in Matlab, C++, Java, Philips GOALC and Siemens pulse programming language.

2020 IBM Enterprise Design Thinking badge.

Revised: 1/14/2022

HONORS AND AWARDS

2014 Dean's citation for leadership role in graduate school, University of Louisville
 2014 Outstanding Graduate Student award, University of Louisville
 2013 Theobald Scholarship award, Speed School of Engineering, University of Louisville
 2009-2012 Grosscurth Fellowship award, 4 years stipend and tuition, University of Louisville

EDUCATIONAL ACTIVITIES

PhD Committee member: Sean Callahan, PhD student, ECE Department, University of Louisville
 Instructor: Digital Signal Processing (ECE-520), Signals and Systems (ECE-420) and Matlab programming.
 MR imaging workshop: Department of cardiology and Radiology, University of Louisville.
 AI in Medicine: Department of Radiology, University of Louisville.
 Teacher Assistant: Logic Circuits, Electronic Circuits, Analog and Digital Communication.

CLINICAL ACTIVITIES

Ongoing Research Support

Co-Investigator NIH R01

Induction of Cardiomyocyte Proliferation via Transient Expression of Cell Cycle Factors as a Promising Therapy for Heart Failure

Head of Cardiac MRI imaging NIH P01

Protection of Ischemic Myocardium

MRI imaging and image processing scientist Christopher and Dena Reeve Foundation

Task and physiological specific stimulation for recovery of autonomic function, voluntary movement and standing using epidural stimulation and training after severe spinal cord injury.

MRI imaging and image processing scientist Craig H. Neilsen Foundation

Myelotomy with Hemorrhagic Necrosis Removal in a Porcine SCI Model

MRI imaging and image processing scientist Department of Defense USAMRAA SCRIP-IRA

Improving Outcomes Using Myelotomy with Intramedullary Hemorrhagic Necrosis Removal in Porcine Model of Acute Thoracic Cord Injury

Completed Research Support

MRI imaging and image processing scientist_R21

4D MR Imaging and Flow and Hemodynamics in Aortic Stenosis

EDITORIAL WORK

2015-Present IEEE Transactions on Medical Imaging (TMI)
 2015-Present IEEE Transactions on Biomedical Engineering (TBME).
 2015-Present Magnetic Resonance in Medicine (MRM)
 2015-Present Magnetic Resonance Imaging (MRI)
 2015-Present Journal of Magnetic Resonance Imaging (JMRI)
 2015-Present Computerized Medical Imaging and Graphics (CMIG)
 2014-Present Medical Image Computing and Computer Assisted Intervention (MICCAI)
 2014-Present International Symposium of Biomedical Imaging (ISBI)
 2014-Present Engineering in Medicine and Biology Society (EMBS)
 2015-Present Computers in Biology and Medicine (CBM)
 2018-Present Scientific Reports (Nature Research)

PUBLICATIONS

Dissertation:

1. MJ Negahdar, "4D Reduced TE (RTE) Spiral Phase Contrast MRI for Rapid Quantification and Visualization of Blood Flow and Hemodynamics", University of Louisville (2014).

Book chapter:

1. MJ Negahdar, M. Kadbi, A. Amini, "Flow Imaging with MRI", in Physics of cardiovascular and neurovascular imaging, Carlo Cavedon and Stephen Rudin, Taylor & Francis Books, Inc., New York, NY, (2015).

Peer reviewed Journals:

1. A. Smith, C. Angeli, B. Ugiliweneza, K. Weber, MJ Negahdar, S. Mesbah, M. Boakye, S. Harkema, E. Rejc, Spinal cord imaging markers and recovery of standing with epidural stimulation in individuals with clinically motor complete spinal cord injury, Experimental Brain Research (2021).
2. E. Rejc, A. Smith, K. Weber, B. Ugiliweneza, R. Bert, MJ Negahdar, M. Boakye, S. Harkema, C. Angeli, Spinal cord imaging markers and recovery of volitional leg movement with spinal cord epidural stimulation in individuals with clinically motor complete spinal cord injury, Frontiers in Systems Neuroscience (2020).
3. S. Callahan, N. Singam, M. Kendrick, MJ Negahdar, H. Wang, M. Stoddard, A. Amini, Dual Venc Acquisition for 4D Flow MRI with Spiral Read-outs, Journal of Magnetic Resonance Imaging (2019).
4. R. Bert, N. Settippalle, E. Tiwana, D. Muddasani, R. Nath, B. Wellman, F. Mihlon, MJ Negahdar, Amir Amini, M. Boakye, The Relationships Between Spinal CSF Flows, Spinal Cord Geometry and Vascular Correlations: Intrathecal Sources and Sinks Contribute to CSF Pulsations, American Journal of Physiology: Regulatory, Integrative and Comparative Physiology (2019).
5. MJ Negahdar, M. Kadbi, K. Michael, M. Stoddard, A. Amini, 4D Spiral Flow: Imaging of Stenotic Flows in Phantoms and Subjects with Aortic Stenosis, Magnetic Resonance in Medicine (2015).
6. M. Kadbi, MJ Negahdar, J. Cha, M. Traughber, P. Martin, A. Amini, 4D UTE Flow: A Phase Contrast MRI Technique for Assessment of Stenotic Flows, Magnetic Resonance in Medicine-MRM (2015).
7. R. Bert, N. Settippalle, D. Muddasani, E. Tiwana, B. Wellman, MJ Negahdar, F. Mihlon, A. Amini, M. Boakye. ECG Gating Is More Precise Than Peripheral Pulse Gating When Quantifying Spinal CSF Pulsations Using Phase Contrast Cine MRI. Academic Radiology (2020).
8. R. Bert, D. Muddasani, MJ Negahdar, J. Xu, J. Kim, A. Seifert, M. Boakye, developing a Robust Imaging Protocol for a Porcine Model of Traumatic Spinal Cord Injury, Spine Journal.

Peer reviewed Conferences:

1. JW Kim, M. Sharma, MJ Negahdar, R. Bert, M. Morgan, R. Ahmed, D. Howland, S. Davison, L. Sherwood, M. Budde, J. Xu, M. Boakye, Role of MRI Biomarker in Prognosticating Recovery Following Spinal Cord Injury In a Yucatan Animal Model, Society of Neuroscience, USA (2021).
2. Kazemi, R. Nath, MJ Negahdar, M. Stoddard, A. Amini, 4D flow MRI and CFD simulations of pulsatile flow in a phantom model of arterial stenosis: visualizing the vortex dynamics, SPIE Medical Imaging, USA (2021).
3. R. Nath, A. Kazemi, S. Callahan, MJ Negahdar, M. Stoddard, A. Amini, A 1D encoder-decoder deep network for pressure estimation from 4D flow MRI: in-vitro experiments, SPIE Medical Imaging, USA (2021).
4. MJ Negahdar, M. Zhu, M. Haroon, E. Espe, C. Ng, Reproducibility and reliability of strain analysis in mice using 4D flow phase contrast MRI, World Molecular Imaging Congress (WMIC), Montreal, CA (2019).
5. S. Callahan, A. Henn, M. Kendrick, H. Wang, MJ Negahdar, A. Kheradvar, M. Stoddard, A. Amini, 4D Dual-Venc Spiral Flow, 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Honolulu, HI (2018).
6. R. Nath, MJ Negahdar, R. Bert, A. Amini, 4D CSF Flow Measurement in Cervical Spine at 3T, 26th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM), Paris, France (2018).
7. S. Hooshyar, MJ Negahdar, A. Amini, A Least Squares Approach for Relative Pressure Measurement from 4D flow PC-MRI, 26th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM), Paris, France (2018).
8. S. Callahan, MJ Negahdar, A. Henn, M. Kendrick, H. Wang, A. Amini, Dual-Venc 4D Spiral Flow Imaging, 26th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM), Paris, France (2018).

9. R. Bert, D. Muddasani, **MJ Negahdar**, B. Wellman, M. Boakye, Differences in Velocity Distributions in Supine vs. Prone CSF Pulsations in the Cervical Spinal Canal Support Local Arterial Contributions to CSF Pulsatilities, 56th Annual Meeting of the American Society of Neuroradiology, Vancouver, BC, Canada (2018).
10. **MJ Negahdar**, J. Xu, D. Muddasani, J. Kim, M. Boakye, R. Bert, Thoracic Spinal Cord Diffusion Tensor Imaging in Miniature Swine Model for Spinal Cord Injury, 21th Symposium Neuroradiologicum, Taipei (2018).
11. R. Bert, D. Muddasani, **MJ Negahdar**, J. Xu, J. Kim, A. Seifert, B. Wellman, M. Boakye, Developing Imaging Pulse Sequences for Miniature Swine Traumatic Spinal Cord Injury Model, 21th Symposium Neuroradiologicum, Taipei (2018).
12. R. Bert, D. Muddasani, E. Tiwana, N. Settippalle, **MJ Negahdar**, F. Mihlon, Amir Amini, M. Boakye, The Relationships of Cervical, Thoracic and Lumbar CSF Flows with Cross Sectional Cord Area, Caudal Residual Cord Volume and Arterial, Venous Correlations: Evidence of Intrathecal Sources and Sinks Contributing to CSF Pulsations, 21th Symposium Neuroradiologicum, Taipei (2018).
13. L. Sherwood, B. Wellman, **MJ Negahdar**, M. Boakye, R. Bert, Imaging Pig Model for Traumatic Spinal Cord Injury, 55th American Society of Neuroradiology (ASNR), Long Beach, California, USA (2017).
14. R. Bert, D. Muddasani, **MJ Negahdar**, L. Sherwood, B. Wellman, M. Boakye, Developing Imaging Pulse Sequences for Miniature Swine Traumatic Spinal Cord Injury Model, 55th American Society of Neuroradiology (ASNR), Long Beach, California, USA (2017).
15. M. Dobson, B. Gootee, M. Kendrick, R. Bert, **MJ Negahdar**, A. Amini, 4D Spiral Flow in MR compatible Spinal Canal Phantom with and without Occlusion, 24th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM), Singapore (2016).
16. **MJ Negahdar**, R. Bert, A. Amini, Quantification and Visualization of CSF flow in the Cervical Spine using 4D Spiral flow MRI, 24th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM), Singapore (2016).
17. N. Settippalle, M. Boakye, A. Amini, **MJ Negahdar**, R. Bert, CSF Pulsations in the Spinal Canal in Acute Traumatic Spinal Stenosis Patients: Evidence of Interstitial Movement of Fluid and Spinal Cord Sources and Sinks, American Society of Neuroradiology (ASNR), Washington DC, USA (2016).
18. N. Settippalle, M. Boakye, A. Amini, **MJ Negahdar**, K. Nosova, R. Bert, Retrocardiac-Gated Phase Contrast Cine Flow Time Curves in Cervical, Thoracic and Lumbar Regions of Normal Volunteers: Evidence of Spinal Canal Sources and Sinks, American Society of Neuroradiology (ASNR), Washington DC, USA (2016).
19. **MJ Negahdar**, M. Kadbi, M. Kendrick, M. Stoddard, A. Amini, 4D Spiral MR Imaging of Flows through a Stenotic Narrowing: In-vivo Flows, International Symposium on Biomedical Imaging (ISBI) New York, USA (2015).
20. N. Settippalle, K. Nosova¹, M. Boakye, A. Amini, **MJ Negahdar**, R. Bert, Comparison of cardiac and pulse gated CSF cine flow throughout the spinal canal demonstrating true sources and sinks, The Eastern Neuroradiological Society (ENRS), Rhode Island, USA (2015).
21. **MJ Negahdar**, M. Kadbi, M. Kendrick, R. Longaker, M. Stoddard, and A. Amin, Assessment and Quantification of Aortic Stenosis Hemodynamics with 4D Flow: Comparison with Doppler Echocardiography, 22th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM). Milano, Italy (2014).
22. **MJ Negahdar**, M. Kadbi, M. Kendrick, R. Longaker, S. Ikram, M. Stoddard, A. Amini, Non-invasive 4D Pulsatile Pressure Calculation from 4D Flow in a Stenotic Phantom, International Symposium on Biomedical Imaging (ISBI) Beijing, China (2014).
23. **MJ Negahdar**, M. Kadbi, M. Kendrick, R. Longaker, S. Ikram, M. Stoddard, A. Amini, Assessment and Visualization of Pulsatile Flow in Aortic Stenosis with 4D Flow MRI, International Symposium on Biomedical Imaging (ISBI) Beijing, China (2014).
24. M. Kadbi, **MJ Negahdar**, M. Traughber, P. Martin, A. Amini, Assessment of flow and hemodynamics in the carotid artery using a reduced TE 4D flow spiral phase-contrast MRI, IEEE Engineering in Medicine and Biology conference (EMBC), Osaka, Japan (2013).

25. **MJ Negahdar**, J. Cha, M. Kadbi, J. Cebal, and A. Amini, Noninvasive 3D Pressure Calculation From PC-MRI Via Non-Iterative Harmonics-based Orthogonal Projection: Constant Flow Experiment, IEEE Engineering in Medicine and Biology conference (EMBC), Osaka, Japan (2013).
26. **MJ Negahdar**, M. Kadbi, J. Cha, J. Cebal, and A. Amin, A Fast 3D Non-Iterative Approach to Pressure Calculation from PC-MRI: Phantom Experiments, 21th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM). Salt Lake city, Utah, USA (2013).
27. M. Kadbi, **MJ Negahdar**, M. Traughber, P. Martin, and A. Amini, A Fast Reduced TE 4D Spiral PC MRI Sequence for Assessment of Flow and Hemodynamics, 21th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM). Salt Lake city, Utah, USA (2013).
28. **MJ Negahdar**, M. Kadbi, V. Tavakoli, J. Heidenreich, and A. Amini, Comparison of Cartesian, UTE radial, and Spiral Phase-Contrast MRI in Measurement of Blood Flow in Extracranial Carotid Arteries: Normal Subjects, SPIE Medical Imaging, Orlando, Florida, USA (2013).
29. **MJ Negahdar**, J. Cha, M. Shakeri, M. Kendrick, M. Alshaher, I. Khodarahimi, M. Sharp, A. Yancey, J. Heidenreich, and A. Amini, Effect of Venc on Accuracy of Velocity Profiles in Multi-Slice Phase-Contrast MR Imaging of Stenotic Flow, International Symposium on Biomedical Imaging (ISBI) Madrid, Spain (2012).
30. M. Kadbi, **MJ Negahdar**, J. Cha, M. Traughber, P. Martin, and A. Amini, Validation of 3D Ultra-Short TE (UTE) Phase-Contrast MRI For Imaging of Steady Flow: Initial Phantom Experiments, IEEE Engineering in Medicine and Biology conference (EMBC), San Diego, CA, USA (2012).
31. V. Tavakoli, **MJ Negahdar**, M. Kendrick, M. Alshaher, M. Stoddard, A. Amini, A Biventricular Multimodal (MRI/Ultrasound) Cardiac Phantom, IEEE Engineering in Medicine and Biology conference (EMBS), San Diego, CA, USA (2012).
32. M. Kadbi, H. Wang, **MJ Negahdar**, L. Warner, M. Traughber, P. Martin, and A. Amini, A Novel Phase-Corrected 3D Cine Ultra-Short TE (UTE) Phase-Contrast MRI Technique, IEEE Engineering in Medicine and Biology conference (EMBC), San Diego, CA, USA (2012).
33. **MJ Negahdar**, M. Kadbi, M. Kotys, S. Fischer, and A. Amini, Rapid Flow Quantification in the Iliac Arteries with Fast Spiral Phase Contrast MRI, IEEE Engineering in Medicine and Biology conference (EMBS), Boston, MA, USA (2011).
34. **MJ Negahdar**, M. Shakeri, E. McDowell, J. Wells, S. Harkema, and A. Amini, Cine Phase-Contrast MRI Measurement of CSF Flow in the Cervical Spine: A Pilot Study in Patients with Spinal Cord Injury, SPIE Medical Imaging, Orlando, FL, USA (2011).
35. M. Kadbi, H. Wang, **MJ Negahdar**, M. Kotys, S. Fischer, and A. Amini, A real-time cine late gadolinium enhancement imaging method at 3T, 19th International Society of Magnetic Resonance in Medicine Annual Meeting (ISMRM), Montreal, Canada (2011).
36. **MJ Negahdar**, M. Ardebilipour, and M. Mapar, A Method for Coverage Control in Wireless Sensor Networks With Two Degrees of Freedom, Second International Conference on Electrical Engineering 2008 (ICEE 2008), Pakistan (2008).
37. **MJ Negahdar**, M. Ardebilipour, and M. Mapar, Adaptive Method for Decreasing Over-covered Areas in Wireless Sensor Networks, The Fourth International Conference on Wireless and Mobile Communications (*ICWMC 2008*) Athens, Greece (2008).
38. M. Mapar, A. Sotoudeh, and **MJ Negahdar**, The Optimum Value of Alpha in the Pre-specified Coverage Control Algorithm in Wireless Sensor Networks to Achieve Minimum Active Nodes, 4th IEEE/IFIP International Conference in Central Asia on Internet (ICI 2008), Uzbekistan (2008).