Munish Chauhan, Ph.D.

Senior Scientist
Hoglund Biomedical Imaging Center
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Professional Summary

Accomplished Senior MR Scientist with experience in MRI and neuroimaging research. Expertise in Magnetic Resonance Imaging (MRI), Magnetic Resonance Spectroscopy (MRS), and advanced neuro-modulation techniques. Strong background in MR physics, MR imaging and electrical property imaging. Proven track record in leading research projects, mentoring students, and contributing to high-impact publications.

Education

Ph.D. in Biomedical Engineering. July 2014
Kyung Hee University, Yongin, South Korea.

M.Tech. in VLSI Design & Automation Techniques. July 2008
National Institute of Technology (NIT), Hamirpur, India.

B.E. in Electronics & Communication. July 2006
Sant Longowal Institute of Engineering & Technology,
Longowal Punjab, India.

Diploma in Electronics & Communication. July 2003
Govt. Polytechnic Kangra, Himachal Pradesh, India.

Expertise

- Magnetic Resonance Imaging (MRI)
- Magnetic Resonance Spectroscopy (MRS)
- MR based current density and electrical property imaging
- *neuro*-Modulation methods (tDCS/tACS)

Employment

Senior MR Scientist *Aug, 2021 - Present*
Hoglund Biomedical Imaging Center,University of Kansas Medical Center Kansas City, USA.

- Leading pre-clinical animal MR imaging studies on 9.4T Bruker MRI
- Developing study specific advanced imaging protocols for MRI/MRS
- Developing MRI data processing pipelines using Matlab or machine learning-based algorithms
- Managing the 9.4T MRI system and supporting small animal imaging research, successfully obtained S10 funding to replace the aging Varian 9.4T magnet with a new Bruker 94/30 Magnet
- Practical experience in the operation of preclinical micro-CT imaging systems
- Mentoring graduate students and collaborating with interdisciplinary research teams

Assistant Research Professor April, 2019 - July, 2021
neuro-Electricity Lab, SBHSE, Arizona State University, Tempe, Arizona, USA.

- Investigated neuro-stimulation effects electromagnetic property imaging using MRI-based current density mapping
- Developed high-speed imaging methodologies for electromagnetic property imaging applications
- Conducted direct functional imaging of electrical brain stimulation using ultra-high-field MRI on a Varian 18T vertical bore scanner
- Supervised Ph.D. students and contributed to grant writing and publications

Postdoctoral Research Associate December, 2014 - April, 2019

neuro-Electricity Lab, SBHSE, Arizona State University, Tempe, Arizona, USA.

- Investigated the feasibility of using Philips 3T Ingenia multi-band techniques for acquiring fast current density images during neuro-stimulation with MRI.
- Developed and optimized single- and multi-shot EPI-based current density imaging on a 7T Bruker MRI system
- Conducted phantom imaging studies to map electromagnetic field distribution in deep brain stimulation (DBS).

Graduate Research Assistant September, 2010 - August, 2014

Impedance Imaging Research Center (IIRC), Kyung Hee University, Yongin, South Korea.

- Focused on Magnetic Resonance Electrical Impedance Tomography (MREIT) for biomedical applications.
- Developed MREIT-based temperature mapping techniques.
- Designed experiments and processed imaging data from Philips 3T and Bruker 7T MRI scanners.

Lecturer July 2009- July 2010

Department of E&C Engineering Maharishi Markandeshwar University, Ambala, India.

Software Engineer August 2008- July 2009

SASKEN Communication Technologies Ltd., Bengaluru, India.

- Developed and optimized embedded software for wireless communication systems

TECHNICAL SKILLS

- **Professional Training:**
  - Philips MRI **System Development Mode and Pulse Sequence Programming** (SDM/PPE)
  - Philips MRI **Recon 2.0**
  - Bruker 9.4T Paravision 360/ Topspin **Pulse Programming**
- **Programming Languages:**
  - C, C++, Python
- **Application Softwares:**
  - MATLAB, COMSOL, FSL, Statistical Parametric Mapping (SPM), ScanIP (Simpleware),
- **Experiment Equipment:**
  - MR imaging expert (14+ years) with strong background in MR physics and clinical applications. Proficient with the operation of MRI systems *(**Philips 3T Ingenia/Achieve** (10+ years), **Siemens 3T Skyra**, **Bruker BioSpec 7T/9.4T** (6+ years), **Quantum GX2 mi-***

***croCT**, Medinus Magnus 3T, and Varian 800MHz Ultra-Shield NMR).*
- Solartron Impedance Analyzers (SF-1200), RF2000 (Boston Scientific Corporation, Natick, MA, USA), IIRC MREIT current source.
- **Neuro Stimulators:** neuroConn DC-STIMULATOR MC, TDT multi-channels stimulators (RZ5-MS16 and RZ5D-IZ2) programming.

Publications & Editorial Roles

- Over 40 peer-reviewed publications (Google Scholar: LINK)
- Reviewer for *Neuroimage*, *IEEE Transactions on Medical Imaging*,*Journal of Neural Engineering* and *MRM etc.*
- Review Editor, *Frontiers in Human Neuroscience*
- Topic Editor, *Brain Sciences* and *Healthcare Journal*

Past Research Projects

1S10OD036321-01 (2024) : "*Zero Cryogen Boil-off Technology Magnet: A Regional Animal MRI Resource*", National Institute of Health (NIH), USA. (Senior Scientist, PI: Dr. William Brooks).

RF1 MH114290-01 (2017-2021) : "*Mechanism and dosimetry exploration in transranial electrical electrical stimulation using magnetic resonance current mapping method*", National Institute of Health (NIH), USA. (Post Doctoral Associate/ Assistant Research Professor, PI: Dr. R. J. Sadleir).

DARPA-16-24-TNT-FP-021 (2017-2019) : "*TENPO – Transdermal neurostimulation*.", Defense Advanced Research Projects Agency (DARPA), USA. (Post Doctoral Associate, PI: Dr. Helms Tillery).

R01NS077004 (2014-2019) : "*Direct functional imaging of electrical brain stimulation*.", National Institute of Health (NIH), USA.(Post Doctoral Associate, PI: Dr. R. J. Sadleir).

R21INS081646 (2014-2017) : "*In-vivo imaging of therapeutic electric current flow*.", National Institute of Health (NIH), USA.(Post Doctoral Associate, PI: Dr. R. J. Sadleir).

Press on our work

October, 2019
Riding the brain wave: ASU scientists research human electrical activity, Interview published in The State Press website.

May, 2019
Interview published in Annual MRM magazine, Magnetic Resonance In Medicine Highlights, (ISMRM2019), pp-50-51.

January, 2019
Functional magnetic resonance electrical impedance tomography (fMREIT) sensitivity analysis using an active bidomain finite-element model of neural tissue, Publication featured as *Editor's Pick*, Magnetic Resonance in Medicine (MRM).

July, 2018
Interview published in Annual MRM magazine, Magnetic Resonance In Medicine Highlights, (ISMRM2018), pp-60-61.

May, 2018
Imaging current flow in the brain during transcranial electrical stimulation, Publication Highlighted at The National High Magnetic Field Laboratory website.

January, 2018
Multi-shot echo-planar Mreit for fast imaging of conductivity, current density, and electric field distributions, Publication featured as *Editor's Pick*, Magnetic Resonance in Medicine (MRM).

INVITED TALKS & WORKSHOPS

- "Low-Frequency Electrical Conductivity Imaging using Magnetic Resonance Imaging", VIRTUAL MRI Seminar: Hosted by the *Mallinckrodt Institute of Radiology (MIR)*, Washington University, St. Louis, Missouri, June 8, 2021.
- "Practical Aspects of Phantom and in-vivo MREIT Measurement and Analysis", workshop talk presented at 40^{th} annual conference of the IEEE engineering and medicine and biology society (EMBC'18), Hawaii, USA, July 17, 2018.
- "A multi-physics model to understand magnetohydrodynamic (MHD) effects in MREIT at ultra-high magnetic fields", workshop talk presented on the behalf of Dr Atul Singh Minhas at 40^{th} annual conference of the IEEE engineering and medicine and biology society (EMBC'18), Hawaii, USA, July 17, 2018.
- "High-field Magnetic Resonance Electrical Impedance Tomography", Symposium talk presented at Core Facilities Symposium,Arizona State University, USA, November 6, 2018.
- "Multi-shot Echo-Planar MREIT for Fast Imaging of Conductivity, Current Density & Electric Field Distributions", talk in Joint Study Group Virtual Meeting: Electro-Magnetic Tissue Study Group, ISMRM, May 17, 2018.
- "Functional MREIT at 18.8 Tesla", workshop talk presented at 39^{th} annual conference of the IEEE engineering and medicine and biology society (EMBC'17), Jeju Island, South Korea, July 11, 2017.

BOOK CHAPTERS

- **M. Chauhan**,and R. Sadleir "Phantom Construction and Equipment Configurations for Characterizing Electrical Properties Using MRI." In: *Electrical Properties of Tissues. Advances in Experimental Medicine and Biology*, vol 1380, pp 83-110, Springer, Cham, 2022. DOI
- **M. Chauhan**,and R. Sadleir "MR Current Density and MREIT Data Acquisition." In: *Electrical Properties of Tissues. Advances in Experimental Medicine and Biology*, vol 1380, pp 111-134, Springer, Cham, 2022. DOI

AWARDS AND SCHOLARSHIPS

- *Editor's Pick* – Magnetic Resonance in Medicine (2018, 2019)
- *Power-Pitch* (Top 2%) – ISMRM Annual Meetings (2017, 2018)
- Trainee (Educational) Stipend, ISMRM 26th Annual Meeting, Paris, France, 2018.
- Postdoc Travel Award, for Annual Meeting of Intl. Soc. Mag. Reson. Med. (**ISMRM'2017**), Honolulu, Hawaii, USA.
- Trainee (Educational) Stipend, ISMRM 25th Annual Meeting, Honolulu, USA (2017).
- Best Paper Award by Korean Society of Medical & Biological Engineering (10 May 2014).

- Student Travel Award, for Annual Meeting of Intl. Soc. Mag. Reson. Med. (**ISMRM'2013**), Utah, USA.
- Trainee (Educational) Stipend, ISMRM 21th Annual Meeting, Utah, USA (2013).
- Graduate Research Assistantship, Department of Biomedical Engineering, Kyung Hee University, South Korea (2010-2014).
- Kyung Hee University, Presidency Scholarship (2010-2012).

PhD students Mentorship

- **Aprinda Indahlastari(PhD)**, Arizona State University, 2015-2017. Currently working as a Research Assistant Professor at University of Florida.
- **Fanrui Fu (PhD)**, Arizona State University, 2015-2019. Currently working as a Postdoctoral Scholar at Stanford University.
- **Neeta Ashok Kumar (PhD)**, Arizona State University, 2015-2019. Currently working as a Postdoctoral Research Associate at University at Buffalo.
- **Sulagna Sahu**, PhD Student, *neuro*-Electricity lab, Arizona State University, 2017-2021
- **Enock Boakye**, PhD Student, *neuro*-Electricity lab, Arizona State University, 2019-2021
- **Tara McQuillan**, PhD Student, Cell Biology and Physiology: Christianson Lab, University of Kansas Medical Center, 2022-

Dissertation

Ph.D. : **Temperature and Dual-Frequency Conductivity Mapping using MR-based Electrical Tissue Property Imaging**
Advisor: Eung Je Woo, Ph.D.
Department of Biomedical Engineering
Kyung Hee University, Yongin, Republic of Korea

M.Tech. : **Design and implementation of high speed AES FIPS-197 Rijndael 128-Bit Processor**
Advisor: Ashwani Rana, Ph.D.
Department of Electronics and Communication Engineering
National Institute of Engineering (NIT), Hamirpur, H.P., India

Professional Memberships

International Socitey for Magnetic Resonance in Medicine (ISMRM) 2013- till date

References

William M. Brooks, Ph.D.
Professor, Neurology,
Former Director Hoglund Biomedical Imaging Center,
University of Kansas Medical Center,
Kansas City, Kansas , USA.
E-mail: williambrooks5300@gmail.com

Rosalind J Sadleir, Ph.D.
Associate Professor,
School of Biological and Health System Engineering,

Arizona State University,
Tempe, Arizona , USA.
E-mail:rosalind.sadleir@asu.edu

Phil Lee, Ph.D.
Professor,
Dept. of Radiology,
University of Kansas Medical Center,,
Kansas City, Kansas , USA.
E-mail: plee2@kumc.edu

Complete list of publications

Peer Reviewed Publications

1. J. P. Goering, M. Moedritzer, M. Stetsiv, D. G. Isai, B. M.Hufft-Martinez, Z. Umar, M. K.Rickabaugh, P. Keselman, **M. Chauhan**, P. Tran, W. M.Brooks, K. J. Fischer, A. Czirok and, I. Saadi, "Novel insights into palatal shelf elevation dynamics in normal mouse embryos", *Front. Cell Dev. Biol.*, 13:, 2025. **DOI**
2. S. Z. K. Sajib, **M. Chauhan**,S. Sahu, E. Boakye and R. J. Sadleir, Validation of Conductivity Tensor Imaging against Diffusion Tensor Magnetic Resonance Electrical Impedance Tomography", *Scientific Reports* **14**, 17995, July, 2024. **DOI**.
3. I. Saadi, J. P. Goering, M. Moedritzer, M. Stetsiv, D. G. Isai, B. M.Hufft-Martinez, Z. Umar, M. K.Rickabaugh, P. Keselman, **M. Chauhan**, W. M.Brooks, K. J. Fischer and A. Czirok, "Novel insights into the fundamentals of palatal shelf elevation dynamics in normal mouse embryos", *The FASEB Journal*, 36:, 2022. **DOI**
4. S. Z. K. Sajib, **M. Chauhan**, O. I. Kwon and R. J. Sadleir, "Magnetic-resonance-based measurement of electromagnetic fields and conductivity in vivo using single current administration- A machine learning approach", *PLOS ONE*, 16(7): e0254690, 2021. **DOI**.
5. Y. Song, S. Z. K. Sajib, H. Wang, H. Kwon **M. Chauhan**, J. K. Seo and R. J. Sadleir, "Low frequency conductivity reconstruction based on a single current injection via MREIT", *Physics in Medicine and Biology*, 65(22):225016, 2020. **DOI**.
6. N. A. Kumar, **M. Chauhan**, S. K. Kandala, S. M. Sohn and R. J. Sadleir, "Development and Testing of Implanted Carbon Electrodes for Electromagnetic Field Mapping during Neuromodulation", *Magn. Reson. Med.*,00,1–14, 2020. **DOI**.
7. A. Indahlastari, **M. Chauhan**, and R. J. Sadleir, "Benchmarking transcranial electrical stimulation finite element simulations: a comparison study", *Journal of Neural Engineering*, 16:026019, 2019. **DOI**.
8. A. S. Minhas, **M. Chauhan**, F. Fu, and R. J. Sadleir, "Evaluation of Magnetohydrodynamic Effects in Magnetic Resonance Electrical Impedance Tomography at Ultra-high Magnetic Fields", *Magnetic Resonance in Medicine*, 81:2264–2276, 2019. **DOI**
9. A. Indahlastari, A. K. Kasinadhuni, C. Saar, B. Mousa, K. Castellano,**M. Chauhan**, T. H. Mareci, and R. J. Sadleir, "Methods To Compare Predicted And Observed Phosphene Experience In Tacs Subjects", *Neural Plasticity*, 8525706:1-10, 2018. **DOI**
10. B. L. Schwartz, **M. Chauhan**, and R. J. Sadleir, "Analytic modeling of conductively anisotropic neural tissue", *Journal of Applied Physics*, 124(6):064701, 2018. **DOI**
11. R. J. Sadleir, F. Fu, and **M. Chauhan**, "Functional magnetic resonance electrical impedance tomography (fMREIT) sensitivity analysis using an active bidomain finite-element model of neural tissue", *Magnetic Resonance in Medicine*,81(1):602-614, 2018. **DOI**
12. F. Fu, **M. Chauhan**, and R. J. Sadleir, "The effect of potassium chloride on Aplysia Californica abdominal ganglion activity", *Biomedical Physics & Engineering Express*, 4(3):035033, 2018. **DOI**

13. Y. Song, J. K. Seo, **M. Chauhan**, A. Indahlastari, N. A. Kumar, and R. J. Sadleir, "Accelerating acquisition strategies for low-frequency conductivity imaging using MREIT", *Physics in Medicine and Biology*, 63(4):045011, 2018. **DOI**

14. **M. Chauhan**, A. Indahlastari, A. K. Kasinadhuni, M. Schar, T. H. Mareci, and R. J. Sadleir, "Low-Frequency Conductivity Tensor Imaging of the Human Head in vivo using DT-MREIT: First Study", *IEEE Transactions on Medical Imaging*, 37(4):966-976, 2018. **DOI**

15. A. K. Kasinadhuni, A. Indahlastari, **M. Chauhan**, T. H. Mareci, and R. J. Sadleir, "Comparisons between in-vivo current density images and computational models in human TACS recipients", *Brain Stimulation*, 10(4):e30-e31, 2017. **DOI**

16. A. K. Kasinadhuni, A. Indahlastari, **M. Chauhan**, M. Schär, T. H. Mareci, and R. J. Sadleir, "Imaging of current flow in the human head during transcranial electrical therapy", *Brain Stimulation*, 10(4):764-772, 2017. **DOI**

17. **M. Chauhan**, R. V. Shankar, N. A. Kumar, V. D. Kodibagkar, and R. J. Sadleir, "Multishot echo-planar MREIT for fast imaging of conductivity, current density, and electric field distributions", *Magnetic Resonance in Medicine*, 79(1):71-82, 2018. **DOI**

18. A, Indahlastari, **M, Chauhan**, B. L. Schwartz, and R. J. Sadleir, "Changing head model extent affects finite element predictions of transcranial direct current stimulation distributions", *Journal of Neural Engineering*, 13(6):66006, 2016. **DOI**

19. B. L. Schwartz, **M. Chauhan**, and R. J. Sadleir, "Analytic Modeling of Neural Tissue: I. A Spherical Bidomain", *Journal of Mathematical Neuroscience* 6(9),2016. **DOI**

20. O. I. Kwon, **M. Chauhan**, H. J. Kim, W. C. Jeong, H. Wi, T. I. Oh, and E. J. Woo, "Fast conductivity imaging in magnetic resonance electrical impedance tomography (MREIT) for RF ablation monitoring", *International Journal of Hyperthermia*,30(7):447-455, 2014. **DOI**

21. D. H. Kim, **M. Chauhan**, M. O. Kim, W. C. Jeong, H. J. Kim, I. Sersa, O. I. Kwon, and E. J. Woo, "Frequency-Dependent Conductivity Contrast for Tissue Characterization Using a Dual-Frequency Range Conductivity Mapping Magnetic Resonance Method", *IEEE Transactions on Medical Imaging*, 34(2):507-513, 2015. **DOI**

22. T. I. Oh,**M. Chauhan**, S. Z. K. Sajib, J. E. Kim, W. C. Jeong, H. Wi, O. I. Kwon, E. J. Woo, and H. J. Kim, "Modeling of electromagnetic field distribution for optimizing electrode configurations in liver MR-based electrical impedance tomography", *Electronics Letters*, 50(18):1273-5, 2014. **DOI**

23. W. C. Jeong, **M. Chauhan**, S. Z. K. Sajib, H. J. Kim, I. Sersa, O. I. Kwon, and E. J. Woo, "Optimization of magnetic flux density measurement using multiple RF receiver coils and multi-echo in MREIT", *Physics in Medicine Biology*, 59(17):4827-44, 2014. **DOI**

24. H. J. Kim, Z. J. Meng, S. Z. K. Sajib, **M. Chauhan**, W. C. Jeong, H. Wi, O. I. Kwon, E. J. Woo, and T. I. Oh, "Numerical simulation of electromagnetic field distribution induced in brain by electrical stimulation", *Electronics Letters*, 50(15):1045-7, 2014. **DOI**

25. **M. Chauhan**, W. C. Jeong, H. J. Kim, O. I. Kwon, and E. J. Woo, "Radiofrequency ablation lesion detection using MR-based electrical conductivity imaging: A feasibility study of ex vivo liver experiments", *International Journal of Hyperthermia*, 29(7):643-652,2013. **DOI**

26. **M. Chauhan**, W. C. Jeong, H. J. Kim, O. I. Kwon, and E. J. Woo, "Optimization of magnetic flux density for fast MREIT conductivity imaging using multi-echo interleaved partial fourier acquisitions", *BioMedical Engineering OnLine*, 12(1):82,2013. **DOI**
27. T I Oh, H J Kim, W C Jeong, **M Chauhan**, O I Kwon, and E J Woo, "Detection of temperature distribution via recovering electrical conductivity in MREIT", *Physics in Medicine and Biology*, 58(8):2697-2711, 2013. **DOI**
28. Z. J. Meng, S. Z. K. Sajib, **M. Chauhan**, R. J. Sadleir, H. J. Kim, O. I. Kwon, and E. J. Woo, "Numerical simulation of MREIT conductivity imaging for brain tumor detection", *Computational and Mathematical Methods in Medicine*, 704829, 2013. **DOI**
29. Z. J. Meng, S. Z. K. Sajib, **M. Chauhan**, W. C. Jeong, Y. T. Kim, H. J. Kim, and E. J. Woo, "Improved conductivity images of human lower extremity using MREIT with chemical shift artifact correction", *Biomedical Engineering Letters*, 2(1):62-8, 2012. **DOI**

Conference Abstracts

2024:

1. T. E. McQuillan, R. M. Foright, J. M. Frick, C. Gagnon, B. M. Levasseur, **M. Chauhan**, I. Y. Choi,P. Lee, J. A. Christianson, "Wheel Running Improves Hippocampal Integrity and Urogenital Sensitivity After Maternal Separation", **Submitted**, *IASP 2024 World Congress on Pain (IASP 2024)*, Amsterdam, Netherlands, 2024.

2. T. E. McQuillan, R. M. Foright, J. M. Frick, C. Gagnon, B. M. Levasseur, **M. Chauhan**, I. Y. Choi,P. Lee, J. A. Christianson, "Voluntary Wheel Running Improves Hippocampal Integrity and Urogenital Hypersensitivity in Adult Mice Exposed to Neonatal Maternal Separation", **Submitted**, *US Association for the Study of Pain annual meeting (USASP 2024)*, Seattle, Washington,USA, 2024.

2022:

3. S. Z. K. Sajib, **M. Chauhan**, E. Boakye, S. Sahu and R. J. Sadleir, "Comparison of Diffusion Tensor MREIT and Conductivity Tensor Imaging in human subjects", **Presentation**, *International Conference on Bioelectromagnetism, Electrical Bioimpedance, and Electrical Impedance Tomography (ICBEM-ICEBI-EIT 2022)*, South Korea, 2022.
4. R. J. Sadleir, S. Z. K. Sajib, E. Boakye, S. Sahu and **M. Chauhan** "Measurements of Electrical Properties in humans in vivo using Magnetic Resonance Imaging", **Presentation**, *International Conference on Bioelectromagnetism, Electrical Bioimpedance, and Electrical Impedance Tomography (ICBEM-ICEBI-EIT 2022)*, South Korea, 2022.
5. "Novel insights into the fundamentals of palatal shelf elevation dynamics in normal mouse embryos",**Poster** *EXPERIMENTAL BIOLOGY 2022*, Philadelphia, Pennsylvania April 2-5, 2022.

2021:

6. **M. Chauhan**, S. Sahu, E. Boakye,S. Z. K. Sajib, M. Schar, G. Banan, M. Amin, N. Evangelista, A. O'Shea, A. J. Woods, T. H. Mareci and R. J. Sadleir "Electric Field, Current Density and Conductivity Mapping in Transcranial Electrical Stimulation (TES) using magnetic resonance methods, and correlations with functional Magnetic Resonance Imaging measures in a 3-back memory task", **Poster Number- 4071**, *7th Annual brain initiative investigators meeting,(2021)*, Washington, DC, USA (Virtual conference).
7. **M. Chauhan**, S. Z. K. Sajib, S. Sahu, E. Boakye, W. S. Kasoff and R. J. Sadleir, "Electromagnetic field distribution imaging during deep brain stimulation (DBS) using MRI: a biological tissue phantom study", **Oral Presentation**, *21th International Conference on Biomedical Applications of Electrical Impedance Tomography (EIT2021)*,32, Virtual Conference, Galway, Ireland.
8. S. Z. K. Sajib, **M. Chauhan**, S. Sahu, E. Boakye ,and R. J. Sadleir, "MR-based low-frequency electrical conductivity tensor imaging using DTMREIT and CTI: a comparison study", **Oral Presentation**, *21th International Conference on Biomedical Applications of Electrical Impedance Tomography (EIT2021)*, 45, Virtual Conference, Galway, Ireland.
9. S. Sahu, **M. Chauhan**, S. Z. K.Sajib, and R. J. Sadleir, " Influence of Transcranial Electrical Stimulation (TES) waveform on neural excitability of a realistic axon: a simulation study",*43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, **Poster**, Oct 31 - Nov 4, 2021, Expo Guadalajara, Mexico.
10. N. J. Bos, **M. Chauhan**,R. J. Sadleir, Alistair McEwan, and A. S. Minhas, " Four-channel current switching device to enable multi-electrode magnetic resonance current density imaging",*43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, **Poster**, Oct 31 - Nov 4, 2021, Expo Guadalajara, Mexico.
11. **M. Chauhan**, S. Z. K. Sajib, S. Sahu, E. Boakye, W. S. Kasoff and R. J. Sadleir, "Imaging of electromagnetic field distribution in deep brain stimulation (DBS): a biological tissue phantom study", *Proc. Intl. Soc. Mag. Reson. Med.,29(2021)*, 0740, **Oral Presentation**, Virtual conference and Exhibition.
12. S. Z. K. Sajib, **M. Chauhan**, S. Sahu, E. Boakye ,and R. J. Sadleir, "Comparison of MR-based low-frequency electrical conductivity tensor using DT-MREIT and CTI: abiological tissue phantom study", *Proc. Intl. Soc. Mag. Reson. Med.,29(2021)*, 3786, **Digital Poster**, Virtual conference and Exhibition.
13. G. Banan, **M. Chauhan**, M. Amin, S. Ramanna, Z. Hosseini, E. Yacoub, M. Schär, T. H. Mareci and R. J. Sadleir, "Phase Dispersion from Steady-State Signal Behavior in Phase-Sensitive Multiband Imaging withApplication to MREIT", *Proc. Intl. Soc. Mag. Reson. Med.,29(2021)*, 3787, **Digital Poster**, Virtual conference and Exhibition.

2020:

14. **M. Chauhan**, R. J. Sadleir, E. Boakye, N. Evangelista, S. Z. K. Sajib, M. Schar, G. Banan, A. O'Shea, S. Sahu, A. J. Woods, and T. H. Mareci, "Replicability of Repeated Transcranial Electrical Stimulation (TES), and Correlation of functional Magnetic Resonance Imaging and Magnetic Resonance Electrical Impedance Tomography (MREIT)-derived current density maps in TES", **Poster 194**, *6th Annual brain initiative investigators meeting,(2020)*, Washington, DC, USA (Virtual conference).

15. S. Z. K. Sajib , **M. Chauhan**, and R. J. Sadleir, "In-vivo Electrical Conductivity and Field Mapping for Transcranial Electrical Stimulation (tES) using Deep Learning Strategies", *The Joint Annual Meeting of The Bioelectromagnetics Society and the European BioElectromagnetics Association, BioEM2020*,139-140, Oxford, UK.

16. **M. Chauhan**, S. Sahu, S. Z. K. Sajib, E. Boakye M. Schar, and R. J. Sadleir, "Current Density Measurements in the Human Brain in-vivo during TES treatment, using Multi-Band methods", **Digital Poster**, *Proc. Intl. Soc. Mag. Reson. Med., 28(2020)*, 3179, Virtual conference and Exhibition.

17. S. Sahu, **M. Chauhan**, S. Z. K. Sajib, S. H. Tillery , V. D. Kodibagkar, and R. J. Sadleir, "Modelling Neural Excitability of Realistic DTI-Derived Axon Trajectories", **Digital Poster**, *Proc. Intl. Soc. Mag. Reson. Med., 28(2020)*, 4478, Virtual conference and Exhibition.

18. S. Z. K. Sajib , **M. Chauhan**, and R. J. Sadleir, "In-vivo Electromagnetic Field Mapping for Transcranial Electrical Stimulation (tES) using Deep Learning", *Proc. Intl. Soc. Mag. Reson. Med., 28(2020)*, 0178, *Power Pitch Presentation(top 1% of the abstracts)* .

19. **M. Chauhan**, S. Z. K. Sajib , S. Sahu ,W. S. Kasoff ,and R. J. Sadleir, "Imaging of Current Density Distribution in Deep Brain Stimulation (DBS)", **Digital Poster**, *Proc. Intl. Soc. Mag. Reson. Med., 28(2020)*, 3180, Virtual conference and Exhibition.

2019:

20. R. J. Sadleir, **M. Chauhan**, S. Sahu, S. Z. K. Sajib, M. Schar, G. Banan, A. O'Shea, A. J. Woods, and T. H. Mareci, "Correlation of functional magnetic resonance imaging with Magnetic Resonance Electrical Impedance Tomography (MREIT) current density maps during transcranial electrical stimulation", **Poster S-122**, *5th Annual brain initiative investigators meeting,(2019)*,Washington, DC, USA.

21. S. Z. K. Sajib, **M. Chauhan**, O. I. Kown, and R. J. Sadleir, "Towards Unconstrained *Invivo* Transcranial Electrical Stimulation (TES) Field Measurements using DT-MREIT", *20th International Conference on Biomedical Applications of Electrical Impedance Tomography (EIT2019)*, pp-37, London, UK.

22. **M. Chauhan**, M. Schar, S. Sahu, T. H. Mareci, and R. J. Sadleir, "Fast MREIT acquisition using Multi-Band and SENSE Techniques", **Digital Poster & Presentation**, *Proc. Intl. Soc. Mag. Reson. Med.,27(2019)*, 5046, Montreal, Canada.

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