

Dr Hammad Omer

(Tamgha-i-Imtiaz)

Tenured Associate Professor, Department of Elect. & Comp. Engineering, COMSATS University Islamabad, Pakistan
Email: hammad.omer@comsats.edu.pk Cell No: 0092-331-8228500

Education and Qualifications

Imperial College London

PhD (MR Image Reconstruction)

Oct. 2008-Nov.2012

- **Title of Thesis:** 'Parallel MRI: Tools and Applications'
- Honored with the award of highly prestigious, Commonwealth Scholarship to pursue PhD in Magnetic Resonance Image Reconstruction at Imperial College London, United Kingdom
- Won Charles Wallace Pakistan Trust Award
- Participated in many Transferable Skills Programs (Mini MBA course, Negotiation Skills, Personal Organization & Effectiveness, Project Management, Media Communication etc) conducted by Graduate School of Engg & Physical Science

Imperial College London

Masters of Engineering & Physical Science in Medicine

2005-2006

- Won 'Bagrit Scholars Award'

Karachi University (Evening Program)

Masters of Computer Science

2001-2003

- 1st Division

Post Graduate Diploma in I.T

1999-2000

- 1st Division

Dawood College of Engineering & Technology, Pakistan

B. Eng. in Electronic Engineering

1997-2003

- 1st Division

Professional Experience

Comsats University Islamabad, Pakistan

March 2013-to date

- Working as a Tenured Associate Professor at Department of Electrical & Computer Engineering since 15th March 2019
- Leading 'Medical Image Processing Research Group (MIPRG)' of more than 30 researchers (Post-Doctoral Researchers, PhD, MS and BS students) [www.miprg.com]
- Developed Scheme of Studies of the Bachelor of Science in Biomedical Engineering to be offered at ECE Department.; the Academic Council approved the Scheme of Studies of the Bachelor of Science in Biomedical Engineering, to be effective from Fall-2023 in Feb 2023.
- Worked as an **Assistant Professor** in Department of Electrical & Computer Engineering between March 2013-March 2019
- Having special research interests in 'Magnetic Resonance Imaging(MRI)'
- Involved in teaching different courses at Undergraduate and Graduate level
- In-charge Undergraduate (Computer Engineering) at Department of Electrical Engineering (2015-2016) and successfully conducted PEC Accreditation Visit for Computer Engineering program
- Member Departmental Thesis Quality Review Committee (TQRC) constituted on May 22, 2014
- Member Departmental Academic Quality Assurance (AQA) Committee Nov 21, 2013
- HEC Approved PhD Supervisor

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- Imperial College London Oct. 2008-Nov. 2012
- Worked as **GTA** (Graduate Teaching Assistant) at Deptt. of Bioengineering. Involved in teaching different courses related to Medical Image Processing and Electronic Engineering
 - Moderated the Journal Club (for MSc students) at Deptt. of Bioengineering
- City University London, UK Sept.2008-Jan. 2009
- Worked as **GTA**(Graduate Teaching Assistant)
 - Taught Physics & Math to First and Second Year Engineering Students
- University of Kent, Canterbury, UK Feb.2008-Sept.2008
- Worked as **Research Assistant**
 - Main research focus in Medical Image Computing
- International Islamic University, Islamabad July 2007-Jan.2008
- Worked as an **Assistant Professor** in the Department of Electronic Engineering
 - Taught 'Digital Image Processing' and 'Instrumentation & Control' to MS Students and Final Year Students of Elect. Engg.
 - Supervised projects of Final Year Students in the area of medical image processing
- Comsats Institute of Information Technology, Islamabad March2007-July2007
- Worked as an **Assistant Professor** in the Department of Electrical Engineering
 - Taught 'Digital Image Processing' to MS Students and Final Year Students of Elect. Engg.
 - Supervised different projects of Final Year Students in the area of medical image processing
- SIEMENS, Dubai 2004-2005
- Worked as a **Sales Engineer**
 - Defined business plans to achieve sales targets
 - Delivered Technical Presentations to Consultants and other Professionals in the Industry to market Siemens Products
 - Worked on different projects related to Control and Instrumentation as well as PLC based projects.
 - Attended many Training Programs of different Multinational Companies e.g. Osram, Hager, Siemens
- Dawood College of Engineering & Technology, Pakistan 2003-2004
- Worked as a **Lecturer** at Department of Electronic Engineering
 - Taught different courses in Electronic Engineering and Computer Hardware/ Software
 - Organized and conducted Laboratory Sessions for Assembly/C++ , Bioengineering and Microprocessor Design
- Siemens Pakistan Engineering Company (12 months) 2002-2003
(Process and Automation Systems Department)
- Worked as a Team Leader on the project of "Interface Development for Digital Control of Substation Control System" with Siemens(Project for Dubai Electricity and Water Authority)
 - Learnt the Software and Hardware components involved in the project
 - Conducted a thorough study for the feasibility of the project, prepared a report and arranged presentations to brief the Senior Management about the Project

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Memberships

- Member of *International Society of Magnetic Resonance in Medicine (ISMRM)*, USA
- Member of *Pakistan Engineering Council (PEC)* [PEC Registration No: Electro-8629]

Skills

- Image Reconstruction techniques, Magnetic Resonance Imaging (MRI), Cardiac MRI, Inverse Problems, Medical Imaging

Professional Activities

- Member, National Panel of Accreditation Experts of Pakistan Engineering Council (PEC) since 2017; Visited several universities as a Convener and Program Expert nationwide.
- Member, Board of Studies of Department of Electrical Engineering, Government College University, Lahore, Pakistan (2023-2026)
- Member, Industrial Advisory Board, Riphah International University, Islamabad
- Member Selection Board, National Skills University, Islamabad, Pakistan

Mentored Students

Post-Doctoral Scholars (Completed)

Supervised Post-Doctoral Research of TWAS-CIIT Post-Doctoral Fellow (Dr Mukaila Rahman). The title of the research was 'Effect of Holy Quran Memorization on Human Brain: an MRI based study' [April 2016-March 2017]

PhD Students (Completed)

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|---|-------------|--------------------------------|
| Dr. Madiha Arshad | Fall 2021 | Supervisor: Dr. Hammad Omer |
| Dr. Faisal Najeeb | Fall 2020 | Supervisor: Dr. Hammad Omer |
| Dr. Irfanullah | Fall 2018 | Supervisor: Dr. Hammad Omer |
| Dr. Omair Inam (Assistant Prof. CIIT Islamabad) | Fall 2017 | Co-Supervisor: Dr. Hammad Omer |
| Dr. Sohaib Ayaz Qazi (Lecturer, CIIT Islamabad) | Fall 2017 | Supervisor: Dr. Hammad Omer |
| Dr. Mahmood Qureshi (Assistant Prof., CIIT Islamabad) | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Dr. Muhammad Kaleem (GM, Nescom Islamabad) | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Dr. Hassan Shahzad (Manager NCP, Islamabad) | Spring 2017 | Supervisor: Dr. Hammad Omer |

PhD Students (on-going)

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| Engr. Muhammad Adnan Naseem | PhD Candidate (Supervisor: Dr. Hammad Omer) |
| Engr. Abdul Basit (Lecturer, Khawaja Fareed Uni. RYK) | PhD Candidate (Supervisor: Dr. Hammad Omer) |
| Engr. Shafique Malik (Lecturer, University of Poonch) | PhD Candidate (Supervisor: Dr. Hammad Omer) |
| Yumna Bilal (Assistant Professor, University of Gujrat) | PhD Candidate (Supervisor: Dr. Hammad Omer) |

MS Students (Completed)

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|---|-------------|-----------------------------|
| Muhammad Saqib (Lab Engineer, CIIT Islamabad) | Fall 2014 | Supervisor: Dr. Hammad Omer |
| Ahsen Imtiaz (Lab Engineer, CIIT Islamabad) | Fall 2014 | Supervisor: Dr. Hammad Omer |
| Sarah Javed (Nescom Islamabad) | Fall 2014 | Supervisor: Dr. Hammad Omer |
| Ali Raza (Lab Engineer, CIIT Islamabad) | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Zona Saad (Lab Engineer, CIIT Islamabad) | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Zaeem Bukhari | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Sana Elahi | Fall 2015 | Supervisor: Dr. Hammad Omer |
| Ibtisam Aslam | Fall 2015 | Supervisor: Dr. Hammad Omer |
| Ayesha Nasir | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Samha Amin | Fall 2016 | Supervisor: Dr. Hammad Omer |

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|-----------------|-------------|-----------------------------|
| Mehmona | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Anam Fatima | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Pakeeza Wasti | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Amna Sajjad | Fall 2017 | Supervisor: Dr. Hammad Omer |
| Tooba | Fall 2017 | Supervisor: Dr. Hammad Omer |
| Rabia Basharat | Fall 2017 | Supervisor: Dr. Hammad Omer |
| Muhammad Usman | Spring 2018 | Supervisor: Dr. Hammad Omer |
| Iram Shahzadi | Fall 2018 | Supervisor: Dr. Hammad Omer |
| Taquwa Aslam | Spring 2021 | Supervisor: Dr. Hammad Omer |
| Fariha Amir | Spring 2021 | Supervisor: Dr. Hammad Omer |
| Mudassar Abbasi | Fall 2022 | Supervisor: Dr. Hammad Omer |

MS Students (on-going)

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| Marva Touheed | Supervisor: Dr. Hammad Omer |
| Javeria Tabrez | Supervisor: Dr. Hammad Omer |
| Sarah Ahmed Khan | Supervisor: Dr. Hammad Omer |
| Urooj Zubair | Supervisor: Dr. Hammad Omer |
| Mahrukh Mazhar | Supervisor: Dr. Hammad Omer |

Undergraduate Students (Completed)

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| Junaid Muhammad | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Asadullah Najam | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Daniyal Bashir | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Abbas Raza | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Muddassar Abbasi | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Zaki Ahmed | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Yasir Tariq | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Sehrish Aslam | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Varda Iqbal | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Maham Tariq | Spring 2015 | Supervisor: Dr. Hammad Omer |
| Unsub Zia | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Amna Irfan | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Sadia Sohail | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Muhammad Faizan | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Wajahat Abbasi | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Ayisha Nisar | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Talha Khan | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Hamza Mughal | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Yousif Rauf | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Bilal Hassan | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Abubakar Shafique | Spring 2016 | Supervisor: Dr. Hammad Omer |
| Saima Nasir | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Abeera Saeed | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Malik Muhammad Qasim | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Haseeb | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Habab Nisar | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Farhan Shahid | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Sohaib Talat | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Mahwish Khan | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Taquwa Aslam | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Fakiha Akber | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Rida Qasim | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Palwasha | Fall 2016 | Supervisor: Dr. Hammad Omer |

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|--------------------|-------------|-----------------------------|
| Iram Shahzadi | Fall 2016 | Supervisor: Dr. Hammad Omer |
| Maria Bashir | Spring 2017 | Supervisor: Dr. Hammad Omer |
| Fareena Tariq | Spring 2018 | Supervisor: Dr. Hammad Omer |
| Zoia Laraib | Fall 2018 | Supervisor: Dr. Hammad Omer |
| Hamza Akram | Fall 2018 | Supervisor: Dr. Hammad Omer |
| Adil Khalil | Spring 2019 | Supervisor: Dr. Hammad Omer |
| Muhammad Afaq | Spring 2019 | Supervisor: Dr. Hammad Omer |
| Ahmed Hussain Raza | Fall 2019 | Supervisor: Dr. Hammad Omer |
| Mujahid Nisar | Fall 2019 | Supervisor: Dr. Hammad Omer |
| Iqrar Hussain | Spring 2020 | Supervisor: Dr. Hammad Omer |
| Zikria Mansoor | Spring 2020 | Supervisor: Dr. Hammad Omer |
| Anwar Ansari | Spring 2020 | Supervisor: Dr. Hammad Omer |
| Asjal Alvi | Spring 2021 | Supervisor: Dr. Hammad Omer |
| Abdul Qadeer | Spring 2021 | Supervisor: Dr. Hammad Omer |
| Saad Rana | Spring 2021 | Supervisor: Dr. Hammad Omer |
| Abdul Moiz | Spring 2021 | Supervisor: Dr. Hammad Omer |
| Amna Ammar | Spring 2022 | Supervisor: Dr. Hammad Omer |
| Rameesha Khawaja | Spring 2022 | Supervisor: Dr. Hammad Omer |
| Muhammad Atif | Spring 2022 | Supervisor: Dr. Hammad Omer |
| Fatima Sattar | Spring 2022 | Supervisor: Dr. Hammad Omer |
| Saadia Ahsan | Spring 2022 | Supervisor: Dr. Hammad Omer |
| Rafia Ahsan | | |

Undergraduate Students (on-going)

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|-------------|-----------------------------|
| Tayyaba Gul | Supervisor: Dr. Hammad Omer |
| Nimra Naeem | Supervisor: Dr. Hammad Omer |

Awards to Mentored Students

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| Muhammad Atif | ISMIRM (International Society of Magnetic Resonance in Medicine) Award (of USD 2500) to present research paper at ISMIRM & ISMRT Annual Meeting & Exhibition, 03-08 June 2023, Toronto, Canada Won 'One Year Research Fellowship' under HEC Faculty Development Program to spend One Year at Department of Biomedical Engineering, The Ohio State University, USA [January 2023] |
| Muhammad Shafique | |
| Yumna Bilal | ISMIRM (International Society of Magnetic Resonance in Medicine) Award (of USD 2000) to present research paper at ISMIRM & SMRT Annual Meeting & Exhibition, London, UK (07-15 May 2022) |
| Fatima Sattar | ISMIRM (International Society of Magnetic Resonance in Medicine) Award (of USD 2000) to present research paper at ISMIRM & SMRT Annual Meeting & Exhibition, London, UK (07-15 May 2022) |
| Madiha Arshad | ISMIRM (International Society of Magnetic Resonance in Medicine) Award (of USD 2500) to present research paper at ISMIRM & SMRT Annual Meeting & Exhibition, London, UK (07-15 May 2022) |
| Rafia Ahsan | ISMIRM (International Society of Magnetic Resonance in Medicine) Award (of USD 2000) to present research paper at ISMIRM & SMRT Annual Meeting & Exhibition, London, UK (07-15 May 2022) |
| Dr. Iram Shahzadi | Joined Siemens Healthineers, Germany in September 2022 as AI and Data Scientist improving MRI reconstruction. She completed her UG and MS Thesis under my supervision before completing her PhD at Dresden University of Technology, Germany in 2022. |

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|------------------|--|
| Abdul Moiz | ISMIRM (International Society of Magnetic Resonance in Medicine) Award to present research paper at ISMIRM & SMRT Annual Meeting & Exhibition, 15-20 May 2021 |
| Yumna Bilal | ISMIRM (International Society of Magnetic Resonance in Medicine) Award to present research paper at ISMIRM & SMRT Annual Meeting & Exhibition, 15-20 May 2021 |
| Madiha Arshad | ISMIRM (International Society of Magnetic Resonance in Medicine) Award to present research paper at ISMIRM & SMRT Annual Meeting & Exhibition, 15-20 May 2021 |
| Abubakr Shafique | Won a highly competitive Fully Funded PhD position at Systems Design Engineering Department, University of Waterloo, Canada. The topic of his PhD research will be focused on AI-based medical imaging (July 2020) |
| Adil Khalil | Won National Taiwan University of Science and Technology (NTUST) Scholarship awarded by Taiwan Government to do Masters in Biomedical Engineering (Fully Funded) (February 2020) |
| Madiha Arshad | ISMIRM (International Society of Magnetic Resonance in Medicine) Award to present research paper at ISMIRM 28 th Annual Meeting, Sydney, NSW, Australia (18-23 April 2020) |
| Abdul Basit | ISMIRM (International Society of Magnetic Resonance in Medicine) Award to present research paper at ISMIRM 28 th Annual Meeting, Sydney, NSW, Australia (18-23 April 2020) |
| Fariha Amir | ISMIRM (International Society of Magnetic Resonance in Medicine) Award to present research paper at ISMIRM 28 th Annual Meeting, Sydney, NSW, Australia (18-23 April 2020) |
| Rida Zainab | ISMIRM (International Society of Magnetic Resonance in Medicine) Award to present research paper at ISMIRM 28 th Annual Meeting, Sydney, NSW, Australia (18-23 April 2020) |
| Faisal Najeeb | IRSIP (International Research Support Initiative Program) Award by HEC, Gov. of Pakistan to spend 6 months during PhD at University of Nottingham, United Kingdom [December 2019-May 2020] |
| Zoona Javed | Won the position of Marie-Curie Early Stage Researcher (ESR-4) of the INSPIRE-MED European project at the Universitat Autònoma de Barcelona (UAB), Spain. This position is one of the 15 ESR positions of the INSPIRE-MED European Training Network, which focuses on the development of Magnetic Resonance Spectroscopy (MRS) and MR Spectroscopic Imaging (MRSI) combined with Positron Emission Tomography (PET) [2019] |
| Ibtisam Aslam | Won a Fully Funded PhD position at Department of Radiology & Medical Informatics, University of Geneva, Switzerland. The research is focused on 'Diagnosing the disorders in Human Kidney Function using MRI' [2019] |
| Iram Shahzadi | Won a Fully Funded PhD Position at German Cancer Research Center, Dresden University of Technology Germany. Her PhD research will be focused on "Identification of imaging and molecular biomarkers in rectal carcinoma" [2019] |
| Zoona Javed | ISMIRM Clinical Stipend to present research paper at 27 th Annual Conference, Montreal, Canada. 11-16 May 2019 |
| Omaid Inam | HEC Travel Grant to present research papers at 34 th Annual Scientific Meeting of ESMRMB 2017, October 19 – October 21, 2017, Barcelona |
| Sohaib Ayaz Qazi | IRSIP (International Research Support Initiative Program) Award by HEC, Gov. of Pakistan to spend 6 months during PhD at Linköping University, Sweden [April 2017-September 2017] |

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|------------------|---|
| Muhammad Kaleem | IRSIP (International Research Support Initiative Program) Award by HEC, Gov. of Pakistan to spend 6 months during PhD at University of Wurzburg, Germany [May 2016-October 2016] |
| Mahmood Qureshi | IRSIP (International Research Support Initiative Program) Award by HEC, Gov. of Pakistan to spend 6 months during PhD at Case Western Reserve University, Ohio, USA [April 2015-September 2015] |
| Sohaib Qazi | HEC Travel Grant to present Research Paper at 34 th Annual Scientific Meeting of ESMRMB 2017, October 19 – October 21, 2017, Barcelona |
| Irfanullah | ESMRMB Travel Grant to present Research Paper at 33 rd Annual Scientific Meeting of ESMRMB 2016, September 29 – October 1, 2016, Vienna, Austria |
| Sohaib Qazi | ESMRMB Travel Grant to present Research Paper at 33 rd Annual Scientific Meeting of ESMRMB 2016, September 29 – October 1, 2016, Vienna, Austria |
| Hassan Shahzad | GTC Travel Grant to present paper at GPU Technology Conference, 2016, Silicon Valley, USA |
| Mahwish Khan | ISMRM Award to present Research Paper at 24 th Annual Meeting of ISMRM 2016, May 07 – 13, 2016, Singapore |
| Taquwa Aslam | ISMRM Award to present Research Paper at 24 th Annual Meeting of ISMRM 2016, May 07 – 13, 2016, Singapore |
| Amna Irfan | CIIT Award to present Research Paper (under-graduate project) at 32 nd Annual Scientific Meeting of ESMRMB 2015, October 1–3, 2015, Edinburgh/UK. |
| Ayisha Nisar | CIIT Award to present Research Paper (under-graduate project) at 32 nd Annual Scientific Meeting of ESMRMB 2015, October 1–3, 2015, Edinburgh/UK. |
| M Faizan | CIIT Award to present Research Paper (under-graduate project) at 32 nd Annual Scientific Meeting of ESMRMB 2015, October 1–3, 2015, Edinburgh/UK. |
| Wajahat Abbasi | CIIT Award to present Research Paper (under-graduate project) at 32 nd Annual Scientific Meeting of ESMRMB 2015, October 1–3, 2015, Edinburgh/UK. |
| Bilal Hassan | CIIT Award to present Research Paper (under-graduate project) at 32 nd Annual Scientific Meeting of ESMRMB 2015, October 1–3, 2015, Edinburgh/UK. |
| M Unsub Zia | CIIT Award to present Research Paper (under-graduate project) at 32 nd Annual Scientific Meeting of ESMRMB 2015, October 1–3, 2015, Edinburgh/UK. |
| Abbas Raza | CIIT Award to present Research Paper (under-graduate project) at Physics Meets Biology Conference, University of Oxford, UK, 3-5 September 2014 |
| Muddassar Abbasi | CIIT Award to present Research Paper (under-graduate project) at British Chapter Meeting-International Society of Magnetic Resonance in Medicine, University of Edinburgh, UK, 3-5 September 2014 |
| Maham Tariq | CIIT Award to present Research Paper (under-graduate project) at Physics Meets Biology Conference, University of Oxford, UK, 3-5 September 2014 |
| Sehrish Aslam | CIIT Award to present Research Paper (under-graduate project) at British Ch. Meeting-International Society of Magnetic Resonance in Medicine, University of Edinburgh, United Kingdom, 3-5 September 2014 |
| Asadullah Najam | CIIT Award to present Research Paper at Physics Meets Biology Conference, University of Oxford, United Kingdom, 3-5 September 2014 |

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Junaid Muhammad CIIT Award to present Research Paper (under-graduate project) at British Chapter Meeting-International Society of Magnetic Resonance in Medicine, University of Edinburgh, United Kingdom, 3-5 September 2014

Daniyal Bashir CIIT Award to present Research Paper (under-graduate project) at Physics Meets Biology Conference, University of Oxford, United Kingdom, 3-5 September 2014

Teaching Activity at COMSATS University Islamabad, Pakistan

Electrical Measurement & Instrumentation (BS): Spring 2020, Spring 2022

Probability Methods in Engineering (BS): Spring 2019, Fall 2019

Electronics 2 (BS): Fall 2017, Spring 2018, Fall 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2023

Digital Logic Design (BS): Spring 2017, Spring 2021, Fall 2021

Digital Image Processing (BS, MS & PhD): Spring 2013, Fall 2013, Spring 2014, Fall 2014, Fall 2015, Fall 2016, Spring 2017, Spring 2018, Fall 2018, Fall 2019, Fall 2020, Spring 2022

Advance Topics in Image Processing (MS and PhD): Spring 2015, Spring 2019, Spring 2020, Fall 2022

Special Topics in Signal Processing (MS and PhD): Fall 2014, Spring 2018, Spring 2022

Electronics 1 (BS): Fall 2014, Spring 2016, Fall 2021, Fall 2022, Fall 2023

Electric Circuit Analysis 1 (BS): Spring 2013

Key Note Addresses & Talks at National & International Conferences

- Delivered an Invited Talk entitled 'AI's Interdisciplinary Insights' at AI Symposium organized by City School, Northern Region at Islamabad. The talks was attended by the Directors, Head Teachers and top management and students of The City School Northern Region-in person; while the event was broadcasted live to all the City School Campuses in the whole country. September 2, 2023
- Delivered an invited talk at International Symposium on Artificial Intelligence Medical Imaging and Pattern Recognition (ISAIMP-2023) organized by Artificial Intelligence Technology Centre (AITeC), National Center for Physics, Islamabad on July 24-25, 2023. The talk was entitled "AI in Magnetic Resonance Image (MRI) Reconstruction". The talk was fondly attended by many eminent national and international AI experts and researchers
- Delivered an Invited Talk entitled 'Magnetic Resonance Imaging: a climax in science & Engineering at Deptt. of Biomedical Engineering, SMME, NUST, ISB, Pakistan. May 2, 2023
- Delivered an Invited Talk entitled 'MRI an Emerging Revolution in Medical Imaging Technology' at National Center for Physics (NCP), Quad-i-Azam University, Islamabad, Pakistan. Aug 2019
- Delivered an Invited Talk entitled 'Accelerating MRI using GPUs' at *GPU Technology Conference 2019*, San Jose, Silicon Valley, California, USA. March 2019
- Key Note Address at '*Vavuniya Campus International Research Symposium 2017*', University of Jaffna, Vavuniya, Sri Lanka, 9th August 2017
- Delivered an Invited Talk entitled 'Latest Advances in Medical Imaging' at Department of Physics, University of Jaffna, Sri Lanka, 10th August 2017

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- Delivered an Invited Talk entitled 'MRI an Emerging Revolution in Medical Imaging Technology' at 14th International Conference on Frontiers of Information Technology, Islamabad, Pakistan, 19-21st December 2017
- Delivered an Invited Talk entitled 'Research to Reality' at I-Pakistan2016. Rector CIIT hosted the event and Prof. Dr. Arshad Ali (Executive Director HEC) was the Chief Guest on the occasion. Serena Hotel, Islamabad, Pakistan, November 2016
- Gave an Invited Talk entitled 'An Introduction to MRI Technology' at Advisor's Forum of COMSATS Institute of Information Technology. 1st June 2016
- Delivered an Invited Talk at 'Two-Day Conference on Applied and Computational Mathematics', CIIT, Islamabad, Pakistan 29-30th March 2016
- Delivered an Invited Talk at 8th monthly brain storming event on 'Making Pakistan Science Conscious' at CIIT, Islamabad organized by the Pakistan Academy of Science (PAS). The title was 'Magnetic Resonance Imaging (MRI), a climax in Science & Engineering'. October 2015
- Delivered an Invited Talk entitled 'My Experiences of Higher Education & Research in UK' at UK Alumni Forum, CIIT Islamabad, Pakistan. The event was hosted by Pro-Rector, CIIT. His Excellency, Philip Barton, High Commissioner of UK was the Chief Guest on the occasion. 10th August 2015

Events and Trainings

- Resource Person for a workshop entitled 'Writing Winning Research Proposals' at a workshop organized by Office of Research, Innovation and Commercialization (ORIC) of International Islamic University, Islamabad (IIUI) on Wednesday 15th March 2023. The workshop was attended by more than 70 faculty members and researchers of all faculties, institutes, academies and centers of IIUI, Pakistan
- Resource Person for a Two-Day Training Workshop on 'Leadership, Team Building and Career Counselling' organized by ORIC-PD, CUI for the Academic and Administrative Departmental Heads of CUI. Rector and other officials of CUI participated in the workshop; 26-27 August 2022
- Organized an international workshop on 'Effective Management of Decentralized Partnerships/Agreements' from the platform of International Office, COMSATS University Islamabad which was attended by Faculty members/Researchers from many National and International Universities/ Organizations; 26th May 2022
- Resource Person for a One-Day PEC-CPD workshop on 'Technical Writing' organized by Department of Electrical & Computer Engineering, COMSATS University Islamabad. The workshop was attended by more than 30 participants from different departments; 22nd December 2021
- Resource Person for a One-Day PEC-CPD workshop on 'Technical Writing' arranged by Riphah International University, Islamabad, Pakistan. The workshop was attended by more than 60 faculty members and researchers of different departments of RIU; 28th October 2021
- Participated in 'Pakistan Engineering Council (PEC) Program Evaluators Training Program' July 29- August 02, 2019, PEC HQ, Islamabad, Pakistan
- Participated in the 'Visiting Program for Pakistani Education Delegation' at China Foreign Affairs University, Beijing, People's Republic of China organized by Ministry of Foreign Affairs, China. June 11-19, 2019

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- Organized '*Medical Imaging Symposium 2018*' at Department of Electrical Engineering, CIIT Islamabad, 20th Feb 2018. The event was presided by Dr.SM Junaid Zaidi(Executive Director COMSATS) and Rector CIIT. The Key-Note speakers included eminent professors from Imperial College London and University College London. Secured funding from HEC for the event.
- Conducted a National 3 Day Workshop on 'Principles and Applications of Magnetic Resonance Imaging (MRI)' as a Resource Person between 21-23rd November 2017. The workshop was very successful and was attended by the delegates from all over Pakistan including Cardiologists, Radiologists, Professors, Engineers and Scientists.
- Represented CIIT along with my research team in Regional innovative product display at NUST as part of HEC 15 Years Celebrations on 22nd September 2017
- Represented CIIT on World Intellectual Property Day 2017 along with my research team to present our inventions on 26th April 2017 at Marriott, Islamabad.
- Organized '*Medical Imaging Symposium 2016*' at Department of Electrical Engineering, CIIT Islamabad, Pakistan, 22nd November 2016. The event was presided by Rector CIIT and Lieutenant General S.M.Imran Majeed (Vice Chancellor of National University of Medical Science (NUMS), Rawalpindi) was the Chief Guest on the occasion.
- Organized a seminar entitled "*The Effect of Holy Quran Memorization on Brain Atrophy using Magnetic Resonance Imaging Techniques*", to share the research results of my Post-Doctoral visiting scholar Dr. Mukaila Alade Rahman. His Excellency MR. Aminu Abdulkadir, High Commissioner, Federal Republic of Nigeria, Pakistan was the Chief Guest on the occasion. CIIT Library, Islamabad, 7th November 2016
- Delivered a Training Workshop on '*Starting in Research*' to more than 30 Faculty Members at Faculty Development Academy, COMSATS Head Quarters, Islamabad, 27th July 2017
- Delivered a Training Workshop on 'How to Research' to a group of more than 35 Faculty Members of different universities at Faculty Development Academy, COMSATS Head Quarters, Islamabad, Pakistan. 21st July 2016
- Participated in the Presentation on the COMSATS Institute of Information Technology given at Aiwan-e-Sadr, Islamabad on 25th April 2016 given by Rector CIIT, along with other senior officials of CIIT.
- Delivered a Training Workshop on '*Commonwealth Scholarships: Worth an Opportunity*' to Faculty Members of different universities at Faculty Development Academy, COMSATS Head Quarters, Islamabad, Pakistan. 28th January 2016
- Organized '*Medical Imaging Symposium 2015*' at Department of Electrical Engineering, CIIT Islamabad, Pakistan, 27th October 2015. The event was presided by Rector CIIT and Major General Shamrez Khan (Commandant Armed Forces Institute of Radiology & Imaging, Rawalpindi) was the Chief Guest on the occasion.
- Attended a Two Day 'Hands-on Workshop on Writing Research Proposals' arranged by ORIC-PD, CIIT Islamabad from 15-16 January 2014

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Research Funding / Projects:

| S. No. | Project Title | Funding Amount | Funding Agency | Status |
|--------|--|--|--|--|
| 1 | 2D to 3D cardiac cine in Heart Failure [A Joint Research Proposal with Geneva Teaching Hospital, Switzerland] | ~150 Million PKR (489335 Swiss Francs) | Swiss National Science Foundation (SNF) | Under Evaluation [Submitted in Nov 2022] |
| 2 | NVIDIA Academic Hardware Grant of worth PKR 460,000 approx. (i.e. 2400 USD) for our project entitled 'Reducing MRI Scan Time by designing a Parallel Framework'. As part of this grant we will be provided 400 compute hours on V100 GPU instances via NVIDIA's partner, SaturnCloud. The SaturnCloud instance includes pre-built container images allowing us to execute our AI Based MR image reconstruction methods without obstacles caused by hardware & software compatibility etc. | ~460,000 PKR (2400 USD) | NVIDIA USA | Granted in March 2022 (on-going) |
| 3 | Lab Development Fund provided by Higher Education Commission, Pakistan; which has been used to set up GPU enabled Computer Systems at Medical Image Processing Research Group Lab (MIPRG Lab), Deptt. of Electrical & Computer Engineering, COMSATS University Islamabad, Pakistan | 3 Million PKR | Higher Education Commission, Government of Pakistan | 2016-2023 |
| 4 | FPGA Implementation of Large Complex Floating Point Matrix Inversion Technique using High Level Synthesis (HLS) | 0.1 Million PKR | NESCOM | January 2017- June 2018 |
| 5 | Vulnerability Analysis of FPGA Design against instruction and the countermeasures | 0.1 Million PKR | NESCOM | January 2017- June 2018 |
| 6 | The effect of scriptural memorization on brain atrophy using MRI techniques | 2 Million PKR | The Word Academy of Sciences (TWAS) & COMSATS University Islamabad, Pakistan | March 2016- January 2017 |

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International Patents:

- 'GPU BASED IMPLEMENTATION OF SENSE (A PARALLEL MRI ALGORITHM) USING QR DECOMPOSITION'; **Patent No. US 10,408,906 B2**, Type: Grant, **Date of Patent: September 10, 2019**, Inventors: Hassan Shahzad, Irfanullah, **Hammad Omer**. Grant Authority: United States Patent & Trademark Office
- 'GRAPHICAL PROCESSING UNIT (GPU) IMPLEMENTATION OF MAGNETIC RESONANCE FINGERPRINTING (MRF)'; **Patent No. US 10,634,748 B2**, Type: Grant, **Date of Patent: April 28, 2020**, Inventors: Irfanullah, **Hammad Omer**. Grant Authority: United States Patent & Trademark Office
- 'PARAMETERIZED FPGA IMPLEMENTATION OF A REAL-TIME SENSITIVITY ENCODING RECONSTRUCTION'; **Patent number: US 10,488,483 B2**, Type: Grant, **Date of Patent: November 26, 2019**, Inventors: Muhammad Faisal Siddiqui, **Hammad Omer**. Grant Authority: United States Patent & Trademark Office
- 'GPU BASED IMPLEMENTATION OF SENSE (A PARALLEL MRI ALGORITHM) USING LEFT INVERSE METHOD'; **Patent No: US 10,598,753 B2**, Type: Grant, **Date of Patent: March 24, 2020**, Inventors: Hassan Shahzad, Irfanullah, **Hammad Omer**. Grant Authority: United States Patent & Trademark Office

List of Publications

Journals:

| | Title | Impact Factor |
|----|--|---------------|
| 45 | Accelerating GRAPPA reconstruction using SoC design for real-time cardiac MRI (Abdul Basit, Omair Inam, Hammad Omer) in Computers in Biology and Medicine, volume 160 (June 2023) | 7.70 |
| 44 | GPU accelerated grouped magnetic resonance fingerprinting using clustering techniques (Irfan Ullah, Abdul Moiz Hassan, Rana Muhammad Saad , Hammad Omer) In Magnetic Resonance Imaging, Elsevier, volume 97 (2023) 13–23 | 3.13 |
| 43 | GPU accelerated Cartesian GRAPPA reconstruction using CUDA (Omair Inam, Mahmood Qureshi, Zoia Laraib, Hamza Akram, Hammad Omer), In Journal of Magnetic Resonance, Elsevier, volume 337, 2022 | 2.229 |
| 42 | Real-time, single breath-hold, multi-slice, 2D cine radial MR image reconstruction using sc-GROG k-t ESPIRiT (Ibtisam Aslam, Lindsey A Crowe, Miklos Kassai, Sohaib Ayaz Qazi, Hammad Omer , Jean-Paul Vallee), In Biomedical Physics & Engineering Express, IOPScience, volume 1, 2022 | 1.46 |
| 41 | Accelerated Diffusion-Weighted MR Image Reconstruction Using Deep Neural Networks (Fariha Aamir, Ibtisam Aslam, Madiha Arshad, Hammad Omer), In Journal of Digital Imaging, Springer, volume 1, 2022 | 4.056 |
| 40 | Improved Dynamic Contrast Enhanced MRI Using Low Rank with Joint Sparsity Reconstruction (Jichang Zhang, Faisal Najeeb, Xinpei Wang, Pengfei Xu, Hammad Omer , Jianjun Zheng, Jingfeng Zhang, Sue Francis, Paul Glover, Richard Bowtell, Chengbo Wang), In IEEE Access, IEEE, volume 1, 2022. | 3.367 |

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| 39 | Tangent Vector-based Gradient Method with $l(1/2)$ -Regularization: Iterative Half Thresholding Algorithm for CS-MRI (Mehmood Qureshi, Omair Inam, Sohaib A. Qazi, Ibtisam Aslam, Hammad Omer), In Journal of Magnetic Resonance, Elsevier, Volume 333, 2021. | 2.229 |
| 38 | Muhammad Adil Khalil, Afaq Ashfaq, Hassan Shahzad, Sohaib Ayaz Qazi, Hammad Omer , 'GPU based parallel framework for receiver coil sensitivity estimation in SENSE reconstruction' Magnetic Resonance Imaging, Elsevier, Volume 80, July 2021, Pages 58-70 | 2.053 |
| 37 | Madiha Arshad, Omair Inam, Mehmood Qureshi, Hammad Omer ; 'Transfer Learning in Deep Neural Network-Based Receiver Coil Sensitivity Map Estimation', Magnetic Resonance Materials in Physics, Biology and Medicine, Springer, Volume 76, February 2021, Pages 96-107 | 2.065 |
| 36 | Madiha Arshad, Omair Inam, Mehmood Qureshi, Hammad Omer ; 'Transfer Learning in Deep Neural Network Based Under-sampled MR Image Reconstruction'; <i>Magnetic Resonance Imaging</i> , Elsevier, Volume 76, Pages 96-107, February 2021 | 2.053 |
| 35 | Sohaib A. Qazi, Fareena Tariq, Irfan Ullah and Hammad Omer ; 'Parallel implementation of L+S signal recovery in dynamic MRI'; Magnetic Resonance Materials in Physics, Biology and Medicine, Springer, Volume 34 (2) 2021 Pages 297-307 | 1.932 |
| 34 | Iram Shahzadi, Muhammad Faisal Siddiqui, Ibtisam Aslam, Hammad Omer ; 'Respiratory motion compensation using data binning in dynamic contrast enhanced golden-angle radial MRI'; <i>Magnetic Resonance Imaging</i> (2020), Volume 70, July 2020, Pages 115-125 | 2.053 |
| 33 | M Nasir Khan, M Jamil, S O Gilani, I. Ahmad, M Uzair, Hammad Omer ; 'Photo detector-based indoor positioning systems variants: A new look'; <i>Computers & Electrical Engineering</i> , Volume 83, May 2020 | 2.663 |
| 32 | Omair Inam, Abdul Basit, Mahmood Qureshi, Hammad Omer ; 'FPGA-based Hardware Accelerator for SENSE (a parallel MR image reconstruction method)'; <i>Computers in Biology and Medicine</i> , Elsevier, Volume 117, February 2020 | 3.434 |
| 31 | Mukaila Alade Rahman, Benjamin Segun Aribisala, Ifranullah, Hammad Omer ; 'Association between Scripture Memorization and Brain Atrophy'; <i>Acta Neurobiologiae Experimentalis</i> , Volume 80, Issue 1, pp 90-97, 2020 | 1.541 |
| 30 | Faisal Najeeb, Muhammad Usman, Ibtisam Aslam, Sohaib A. Qazi, Hammad Omer ; 'Respiratory motion-corrected, compressively sampled dynamic MR image reconstruction by exploiting multiple sparsity constraints and phase correlation-based data binning' <i>Magnetic Resonance Materials in Physics, Biology and Medicine</i> , Springer. Volume 33, Issue 3, pp 411-419, 2020 | 2.836 |
| 29 | Omair Inam, Mehmood Qureshi, Hammad Omer ; 'De-noising multi-coil Magnetic Resonance Imaging using Patch based Adaptive Filtering in Wavelet Domain' <i>Applied Magnetic Resonance</i> , Springer. Volume 50, pp1325–1343, 2019 | 0.864 |

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| 28 | Tooba Khan, Siddiqui, Muhammad Faisal, Omer, Hammad ; 'FPGA based Pipelined Architecture for Real-Time Sensitivity Maps Estimation in Parallel MRI' <i>Journal of Circuits, Systems, and Computers</i> . Volume 29, Issue 8, 2020 | 1.363 |
| 27 | Shahzadi, Iram, Aslam, Ibtisam, Qazi, Sohaib Ayyaz and Omer, Hammad ; 'Golden-Angle Radial Sparse Parallel MR Image Reconstruction Using SC-GROG Followed by Iterative Soft Thresholding' <i>Applied Magnetic Resonance</i> , Volume 50, Issue 8, pp 977–988 Springer, 2019 | 0.864 |
| 26 | Qazi, Sohaib A, Siddiqui, Muhammad Faisal, Wikner, J Jacob and Omer, Hammad ; 'ASIC modelling of SENSE for parallel MRI' <i>Computers in Biology and Medicine</i> , Elsevier, Volume 109, 2019, pp 53-61 | 3.434 |
| 25 | Ullah, Irfan, Inam, Omair, Aslam, Ibtisam and Omer, Hammad ; 'Accelerating Parallel Magnetic Resonance Imaging using p-thresholding based Compressed-Sensing' <i>Applied Magnetic Resonance</i> , Springer, Volume 50, pp. 243–261(2019) | 0.864 |
| 24 | Irfan Ullah; Habab Nisar; Haseeb Raza; Malik Qasim; Omair Inam; Hammad Omer ; 'QR-Decomposition Based SENSE Reconstruction using Parallel Architecture', <i>Computers in Biology and Medicine</i> , Elsevier, Volume 95, 1 April 2018, Pages 1-12 | 3.434 |
| 23 | Sana Elahi, Muhammad Kaleem, Hammad Omer ; 'Compressively Sampled MR Image Reconstruction using Generalized Thresholding Iterative Algorithm', <i>Journal of Magnetic Resonance</i> . Volume 286, January 2018, Pages 91-98, Elsevier | 2.63 |
| 22 | Sohaib A Qazi, Saima Nasir, Abeera Saeed, Hammad Omer 'Optimizing Image Reconstruction in SENSE Using GPU'; <i>Applied Magnetic Resonance</i> . Volume 49 (2), February 2018, Pages 151-164, Springer | 0.864 |
| 21 | Muhammad Faisal Siddiqui, Ahmed Wasif Reza, Abubakr Shafique, Hammad Omer , JeevanKanesan; "FPGA implementation of real-time SENSE reconstruction using pre-scan and E-maps sensitivities", <i>Magnetic Resonance Imaging</i> (2017), Volume 44, December 2017, Pages 82-91, Elsevier | 2.225 |
| 20 | Ibtisam Aslam, Faisal Najeeb and Hammad Omer ; "Accelerating MRI using GROG gridding followed by ESPIRiT for non-Cartesian Trajectories", <i>Applied Magnetic Resonance</i> , Volume 49, Issue 1, January 2018, pp 107–124, Springer | 0.864 |
| 19 | Omair Inam, Mahmood Qureshi, Shahzad A. Malik, Hammad Omer ; "Iterative Schemes to solve low-dimensional calibration equations in parallel MR Image Reconstruction with GRAPPA" Volume 2017, Article ID 3872783, <i>BioMed Research International</i> (2017), Hindawi | 2.583 |
| 18 | Omair Inam, Mahmood Qureshi, Shahzad A. Malik, Hammad Omer ; "GPU-Accelerated Self-Calibrating GRAPPA Operator Gridding for Rapid Reconstruction of non-Cartesian MRI Data" <i>Applied Magnetic Resonance</i> 48, no 10 (2017) pp 1055–1074 | 0.864 |

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| 17 | Qazi, Sohaib A., Abeera Saeed, Saima Nasir, and Hammad Omer . "Singular Value Decomposition Using Jacobi Algorithm in pMRI and CS." <i>Applied Magnetic Resonance</i> 48, no. 5 (2017): 461-471. | 0.864 |
| 16 | Qureshi, Mahmood, Muhammad Kaleem, and Hammad Omer . "Journey through k-space: an interactive educational tool." <i>Biomedical Research</i> 28 no 4 (2017): 1618-1623 | 0.219 |
| 15 | Khan, Mahwish, Taquwa Aslam, Hassan Shahzad, and Hammad Omer . "Line Profile Measure as a Stopping Criterion in CG-SENSE Algorithm." <i>Applied Magnetic Resonance</i> 48 no 3 (2017): 227-240 | 0.864 |
| 14 | Haider, Hassaan, Jawad Ali Shah, Ijaz Mansoor Qureshi, Hammad Omer , and Kushsairy Kadir. "Compressively Sampled MRI Recovery Using Modified Iterative-Reweighted Least Square Method." <i>Applied Magnetic Resonance</i> 47, no. 9 (2016): 1033-1046. | 0.864 |
| 13 | Shahzad, H., M. F. Sadaqat, B. Hassan, W. Abbasi, and Hammad Omer . "Parallel MRI Reconstruction Algorithm Implementation on GPU." <i>Applied Magnetic Resonance</i> 47, no. 1 (2016): 53-61. | 0.864 |
| 12 | Qureshi, Mahmood, Muhammad Junaid, Asadullah Najam, Daniyal Bashir, Irfan Ullah, Muhammad Kaleem, and Hammad Omer . "Image reconstruction using compressed sensing for individual and collective coil methods." <i>Biomedical Research</i> (2016). Special Issue: S287-S292 | 0.219 |
| 11 | Irfan, Amna Shafa, Ayisha Nisar, Hassan Shahzad, and Hammad Omer . "Sensitivity Maps Estimation Using Eigenvalues in Sense Reconstruction." <i>Applied Magnetic Resonance</i> 47, no. 5 (2016): 487-498. | 0.864 |
| 10 | Kaleem, Muhammad, Mahmood Qureshi, and Hammad Omer . "Compressively Sampled MR Image Reconstruction Using POCS with g-Factor as Regularization Parameter." <i>Applied Magnetic Resonance</i> 47, no. 1 (2016): 13-22. | 0.864 |
| 9 | Kaleem, Muhammad, Mahmood Qureshi, and Hammad Omer . "An Adaptive Algorithm for Compressively Sampled MR Image Reconstruction Using Projections onto l_p -Ball." <i>Applied Magnetic Resonance</i> 47, no. 4 (2016): 415-428. | 0.864 |
| 8 | Shahid, Ali Raza, Zaki Ahmed, Abbas Raza, Yasir Tariq, Muddassar Abbasi, and Hammad Omer . "A Matlab-Based Advance MR Image Reconstruction Package with Interactive Graphical User Interface." <i>Applied Magnetic Resonance</i> 47, no. 12 (2016): 1305-1321. | 0.864 |
| 7 | Omer, Hammad , Mahmood Qureshi, and Robert J. Dickinson. "Regularization-based SENSE reconstruction and choice of regularization parameter." <i>Concepts in Magnetic Resonance Part A</i> 44, no. 2 (2015): 67-73. | 0.769 |
| 6 | Shah, Jawad, Ijaz Qureshi, Hammad Omer , Amir Khaliq, Yiming Deng. 'Compressively sampled magnetic resonance image reconstruction using separable surrogate functional method' <i>Concepts in Magnetic Resonance Part A Vol 43, Issue 5 (2014): 157-165</i> | 1 |

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| 5 | Omer, Hammad , Robert J. Dickinson, and Shakil A. Awan. "Phased array coil for implementing parallel MRI in intravascular imaging: A feasibility study." <i>Concepts in Magnetic Resonance Part A</i> 43, no. 6 (2014): 267-276. | 1 |
| 4 | Shah, Jawad, Ijaz Qureshi, Hammad Omer , and Amir Khaliq. "A modified POCS-based reconstruction method for compressively sampled MR imaging." <i>International Journal of Imaging Systems and Technology</i> 24, no. 3 (2014): 203-207. | 1.301 |
| 3 | Omer, Hammad , and Robert Dickinson. "Regularization in parallel MR image reconstruction." <i>Concepts in Magnetic Resonance Part A</i> 38, no. 2 (2011): 52-60. | 1.674 |
| 2 | Omer, Hammad , and Robert Dickinson. "A graphical generalized implementation of SENSE reconstruction using Matlab." <i>Concepts in Magnetic Resonance Part A</i> 36, no. 3 (2010): 178-186. | 1.674 |
| 1 | Delakis, Ioannis, Omer Hammad , and Richard I. Kitney. "Wavelet-based de-noising algorithm for images acquired with parallel magnetic resonance imaging (MRI)." <i>Physics in Medicine and biology</i> 52, no. 13 (2007): 3741. | 2.784 |

International Conferences:

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| 119 | FGPA based accelerator for pMRI using coil compression (Tayyaba Gul, Nimra Naeem, Omair Inam, Hammad Omer), Annual ISMRM & ISMRT Annual Meeting & Exhibition, 03-08 June 2023, Toronto, Canada |
| 118 | Dual Domain Deep Learning Framework for Cardiac MR Image Reconstruction (Authors: Faisal Najeeb, Madiha Arshad, Muhammad Shafiq, Hammad Omer), Annual ISMRM & ISMRT Annual Meeting & Exhibition, 03-08 June 2023, Toronto, Canada |
| 117 | Deep Attention Unfolding CNN Architecture for Parallel MRI (Authors: Muhammad Shafique, Sohaib Ayaz Qazi, Faisal Najeeb, Hammad Omer), Annual ISMRM & ISMRT Annual Meeting & Exhibition, 03-08 June 2023, Toronto, Canada |
| 116 | GROG Gridding using modified VGG-16 CNN model for Non-Cartesian MR Image Reconstruction (Authors: Muhammad Atif, Hassan Shahzad, Hammad Omer), Annual ISMRM & ISMRT Annual Meeting & Exhibition, 03-08 June 2023, Toronto, Canada |
| 115 | SOC-GRAPPA: An MPSoC based Accelerator for GRAPPA (Abdul Basit, Omair Inam, Hammad Omer), Annual ISMRM & ISMRT Annual Meeting & Exhibition, 03-08 June 2023, Toronto, Canada |
| 114 | High-Performance FPGA-based Accelerator using Random Projection for pMRI method (Nimra Naeem, Tayyab Gul, Omair Inam, Hammad Omer), Annual ISMRM & ISMRT Annual Meeting & Exhibition, 03-08 June 2023, Toronto, Canada |
| 113 | BPE XD-GRASP: Using GROG-BPE for improved respiratory motion compensation in dynamic contrast enhanced golden-angle radial MRI (Yumna Bilal, Ibtisam Aslam, Muhammad Faisal Siddiqui, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 112 | Compressed SVD for L+S Matrix Decomposition Model to Reconstruct Undersampled Dynamic MRI (Muhammad Shafique, Sohaib A Qazi, Irfan Ullah, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |

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| 111 | A Hybrid Dual Domain Deep Learning Framework for Cardiac MR Image Reconstruction (Rameesha Khawaja, Amna Ammar, Madiha Arshad, Faisal Najeeb and Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 110 | A Framework for Brain Tumor Detection, Classification and Segmentation using Deep Learning (Rafia Ahsan, Iram Shahzadi, Ibtisam Aslam, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 109 | Super Resolution of MR Images with Deep Learning Based k-space Interpolation (Madiha Arshad, Mehmood Qureshi, Omair Inam, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 108 | Deep Learning-Based Receiver Coil Sensitivity Map Estimation for SENSE Reconstruction using Transfer Learning (Madiha Arshad, Mehmood Qureshi, Omair Inam, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 107 | EPI Nyquist Ghost Artifact Correction for Brain Diffusion Weighted Imaging (DWI) using Deep Learning (Fatima Sattar, Sadia Ahsan, Fariha Aamir, Ibtisam Aslam, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 106 | Improved Motion Correction in Dynamic Contrast Enhancement MRI Using Low Rank with Soft Weighting (Jichang ZHANG, Faisal Najeeb, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 105 | Improved Dynamic contrast in Motion Corrected Dynamic Contrast Enhancement MRI Using Low Rank with Soft Weighting and Joint sparsity (Jichang ZHANG, Faisal Najeeb, Hammad Omer), In Joint Annual Meeting ISMRM-ESMRMB & ISMRT 07-12 May, London, United Kingdom, 2022 |
| 104 | F. Aamir, I. Aslam, Hammad Omer "Under-sampled diffusion-weighted MR image reconstruction through convolution neural network", ESMRMB 2021 Online 38th Annual Scientific Meeting 7–9 October 2021 |
| 103 | F. Aamir, I. Aslam, Hammad Omer "Neuro-imaging DW-MR data Reconstruction through cascaded neural network", ESMRMB 2021 Online 38th Annual Scientific Meeting 7–9 October 2021 |
| 102 | Ibtisam Aslam, Fariha Aamir, Dr. Lindsey A CROWE, Dr. Miklos KASSAI, Hammad Omer , Prof. Jean-Paul VALLEE "Reconstruction of Whole-Heart Cardiac Radial MRI using Neural Network Transfer Learning Approach"; ISMRM Annual Meeting & Exhibition, 15-20 May 2021 [Online] |
| 101 | Yumna Bilal, Faisal Siddiqui, Hammad Omer ; "GROG-BPE radial data reconstruction using Compressed Sensing"; ISMRM Annual Meeting & Exhibition, 15-20 May 2021 [Online] |
| 100 | Abdul Moiz, Rana Saad, Irfan Ullah, Hammad Omer ; "GPU Accelerated Grouped Magnetic Resonance Fingerprinting using Clustering Techniques"; ISMRM Annual Meeting & Exhibition, 15-20 May 2021 [Online] |
| 99 | Faisal Najeeb, Jichang Zhang, Hammad Omer ; "Efficient DCE-MR Image reconstruction with feasible temporal resolution in L+S Decomposition model"; ISMRM Annual Meeting & Exhibition, 15-20 May 2021 [Online] |
| 98 | Jichang Zhang, Faisal Najeeb, Hammad Omer ; "Improved Dynamic Contrast Enhanced MRI Using Low Rank with Joint Sparsity Reconstruction"; ISMRM Annual Meeting & Exhibition, 15-20 May 2021 [Online] |
| 97 | Madiha Arshad, Mehmood Qureshi, Omair Inam, Hammad Omer ; "A Deep k-means Based Tissue Extraction from Reconstructed Human Brain MR Image"; ISMRM Annual Meeting & Exhibition, 15-20 May 2021 [Online] |
| 96 | Madiha Arshad, Mehmood Qureshi, Omair Inam, Hammad Omer ; "PCA and U-Net based Channel Compression for Fast MR Image Reconstruction"; ISMRM Annual Meeting & Exhibition, 15-20 May 2021 [Online] |

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| 95 | I. Aslam, L. A. Crowe, F. Aamir, M. Kassa, H. Omer , J.-P. Vallee; "Whole Heart Cardiac Cine Radial MR Image Reconstruction using Deep Neural Network (DNN)" SCR 2021: Swiss Congress of Radiology, June 24-26, 2021 |
| 94 | Ibtisam Aslam, Dr. Lindsey A CROWE, Fariha Aamir, Dr. Miklos KASSAI, Dr. Hammad Omer , Prof. Jean-Paul VALLEE; "NUFFT and GROG for Whole Heart Cardiac Cine Radial MR Image Reconstruction using Deep Learning" • SCMR 24 th ANNUAL SCIENTIFIC SESSIONS 2021(Online) February 17-20, 2021 under the Society for Cardiovascular Magnetic Resonance (SCMR), USA |
| 93 | Fariha Amir, Husnain Javed Bhatti, Ibtisam Aslam, Hammad Omer ; "CS based p-thresholding with pMRI for the Reconstruction of Radial MRI data" ESMRMB 2020 Online Meeting, September 30 – October 2, 2020 |
| 92 | Taquwa Aslam, Hassan Shahzad, Hammad Omer ; "Under-Sampled Golden-Angle Radial Data Reconstruction using Convolutional Neural Network", ESMRMB 2020 Online Meeting, September 30 – October 2, 2020 |
| 91 | Rahima Rani, Fariha Amir, Ibtisam Aslam, Hammad Omer ; "Improved GROG based Sparse-SENSE Reconstruction using Iterative Estimation of Receiver Coils Sensitivity Maps", ESMRMB 2020 Online Meeting, September 30 – October 2, 2020 |
| 90 | Madeeha Arshad, Omair Inam, Mehmood Qureshi, Hammad Omer ; "Channel Compression for Multiple Receiver Coil data in MRI", ESMRMB 2020 Online Meeting, September 30 – October 2, 2020 |
| 89 | Abdul Basit, Omair Inam, Hammad Omer ; "FPGA-based Coprocessor for Real-time GRAPPA Reconstruction (GR-co-RECON)", ISMRM 28 th Annual Meeting & Exhibition, 18-23 April 2020, Sydney, Australia |
| 88 | M. Haseeb Hassan, Rida Zainab, Omair Inam, Ibtisam Aslam, Hammad Omer ; "MR Image Reconstruction using GRAPPA with Total Generalized Variation", ISMRM 28 th Annual Meeting & Exhibition, 18-23 April 2020, Sydney, Australia |
| 87 | Husnain Javid Bhatti, Fariha Aamir, Ibtisam Aslam, Khan Afsar, Hammad Omer ; "Calibration-less pMRI for the reconstruction of radially encoded data using GROG based CS", ISMRM 28 th Annual Meeting & Exhibition, 18-23 April 2020, Sydney, Australia |
| 86 | Madiha Arshad, Mehmood Qureshi, Hammad Omer ; "Deep Learning based Accelerated MR Image Reconstruction via Transfer Learning", ISMRM 28 th Annual Meeting & Exhibition, 18-23 April 2020, Sydney, Australia |
| 85 | Taqwa Aslam, Hassan Shahzad, Hammad Omer ; "Reconstruction of Under sampled Cartesian Data Using Deep Learning", GPU Technology Conference, March 23-26 2020, Silicon Valley, USA |
| 84 | Hashim Jaral, Omair Inam, Mehmood Qureshi, Hammad Omer ; "Adaptive Noise Reduction in Parallel Magnetic Resonance Imaging using SVD based Filtering in Wavelet Domain" 36 th Annual Scientific Meeting of ESMRMB 2019, October 3-5, 2019, Rotterdam/NL |
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