

Prof. Dr. Muhammad Abid, T.I.

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PERSONAL STATEMENT

A highly experienced professional with over 24 years of experience of academia and research and 10 years' experience of industry. A productive researcher with completed international and national projects funded by EU, USAID, NSF, HEC, IDB, PSF, NCSF, Tubitak, defense sector and industry with contributions to Defense, Health, Water, Energy, Petrochemical, Climate Change, Water sectors and National Industrial needs with reasonable socio-economic impact. A widely published author with Impact Factor above 300. Having worked in administrative roles as Head, Chair, Dean, Director research and Director Campus. Effectively worked for internationalization and have signed MoUs with international universities of China, UK, US, Italy, Ukraine, Kazakhstan and others for joint research and exchanges and Campus development for new infrastructure and have visited many institutions as visiting professor, expert or collaborator around the globe. Developed and implemented several undergraduate and graduate curriculum and programs and established new engineering and non-engineering departments of international repute. Widely recognized for services and contributions in the field of Mechanical Engineering and awarded the Civil Award Tamgha-i-Imtiaz, Pakistan Engineering Excellence Award – 2023 by Pakistan Engineering Council (for Lifetime Achievement for Distinguished National Service), Pakistan Academy of Sciences Gold Medal Award, HEC Outstanding Research Award, HEC Best University Teacher Award, MOSS Prize from IMechE UK, Special Contribution Award from HEU, honorarium, merit certificates, cash awards and others.

RESEARCH INTERESTS

- *Artificial Intelligence, Machine Learning and Deep Learning applications to handle big data of real-world industrial problems for;*
 - Bolt tightening procedures for non-gasketed and gasketed bolted flanged pipe joints
 - Welding procedure for Pipe Flange joints
 - Stationary Gas Tungsten Arc Welding process
 - Optimized geometry of 3D lattice structures and impact resistant hybrid structures
 - ALE Moving Mesh Generation and High-Performance Implementation using Open MP and MPI Libraries for FSI and Darcy Flow problems.
 - Deep calibrated tomographic learning for 3d reconstruction modelling from sparse projections specifically to human spine.
 - Overhead cranes and trusses
 - Energy efficient buildings such as Environment Controlled Poultry Sheds
 - Prediction of the amount of Sediment Deposition and Sediment load forecasting in Reservoirs
 - Micro-Siting of Wind Turbines using Teaching–Learning-Based Technique
- *Design and Development of Innovative Impact Resistant Hybrid Structures based on Super Elastic Shape Memory Alloys and Light Weight Lattice using numerical and experimental techniques.*
- *Material characterizations using High Strain Equipment (SHPB) and Low Strain Equipment (DWIT)*
- *Performance studies of Gasketed and Non-gasketed Flanged Pipe Joints to determine the Joint Load Capacity for Improved Sealing Capability using numerical, analytical and experimental techniques.*
- *Surface sensitivity and reliability analysis studies of non-gasketed joints using experimental techniques.*
- *Life prediction studies of reservoirs, channels, barrages against sedimentation issues using Computational Fluid Dynamics Analysis and sediments movement studies using related software.*

- *Water Issues: Trans boundary Water Issues specific to Kabul River Basin to address: Climate Change impacts on Snowmelt, Rainfall, Floods, Droughts, Surface and Ground water quality using RS, GIS, statistical tools.*
- *Energy Issues: Renewable systems: PV Solar power plants, Biogas plants, Micro hydro power plant for clean and green energy production.*
- *Disaster risk reduction studies for Metropolitan projects.*

KEY ACHIEVEMENTS

- Awarded prestigious Pakistan Civil Award, Tamgha-i-Imtiaz 2021, by Government of Pakistan.
- Awarded prestigious PEC Engineers Excellence Awards – 2023 (Lifetime Achievement for Distinguished National Service)
- Awarded Pakistan Academy of Sciences Gold Medal 2006 in Engineering and Technology.
- Awarded HEC Outstanding Research Award 2005-06, by Higher Education Commission of Pakistan.
- Awarded Best University Teacher Award 2011, by Higher Education Commission of Pakistan.
- Awarded MOSS Prize 2008 by Process Industry Division of IMechE UK.
- Awarded Special Contribution Award by Harbin Engineering University China 2023
- Supervised Pakistan's first Mechanical Engineering PhD Student under HEC's Indigenous PhD Scheme during 2001-2005.
- First National Coordinator (2006-2014) under STEM HEC Pakistan for Design, Build and Fly Contests
- Chartered Engineer UK since 2006 and Fellow IMechE UK since 2012.
- Represented Pakistan and Asia at numerous national and international delegations (2001-2023)
- Member Pannel of Judges: International Design Competitions organized by IMechE (2013) and AIT Thailand (2016)
- Vice president and Executive Committee Member of IMechE Pakistan Chapter

EDUCATION

PhD Mechanical Engineering; University of Strathclyde, Glasgow, Scotland, UK (2000)

University of Strathclyde is ranked 276 in QS WUR. (<https://strath.ac.uk>)

Individual Thesis: Experimental and analytical studies of conventional (gasketed) and unconventional (non-gasketed) flanged pipe joints (with special emphasis on the engineering of 'joint strength' and 'sealing'). PhD Thesis, University of Strathclyde, Glasgow, UK, 2000.

BSc Mechanical Engineering: University of Engineering & Technology (UET), Lahore, Pakistan (1992)

UET Lahore is one of the top universities in Pakistan and is ranked #791-800 in QS WUR 2024

(<https://uet.edu.pk>)

Group Thesis: Automatic Feedback Control Systems

CAREER HISTORY

COMSATS University Islamabad (CUI), Pakistan – Tenured Professor (2014- Present)

COMSATS University Islamabad (CUI) is a top ranked public sector fast-growing research-based university in Pakistan and is ranked #651-660 in QS World University Rankings 2024. (<https://comsats.edu.pk>)

- **Director CUI Wah Campus (March 15, 2021 – Present)**

Responsible for all administrative, financial, academic, strategic and development functions of the Campus and for ensuring that the provisions of the Act, Statutes, Regulations and Rules are faithfully observed in order to promote the general efficiency and good order of the Campus.

- **Director Interdisciplinary Research, CUI Wah Campus (August 18, 2014 – Present)**

Responsible for all administrative and multi and interdisciplinary research activities by engaging faculty and researchers of CUI and other national and international institutions and organizations to provide real world solutions and high-end research with focus on themes i.e. Water, Health, Energy and Defence.

- **Focal Person UNESCO Water Chair on Knowledge Systems for Integrated Water Resource Management, CUI Wah Campus (December 29, 2020 – Present)**

UNESCO Chair on Knowledge Systems for Integrated Water Resources Management was established at CUI Wah Campus in 2014 with the scope to work on Sustainable Goals SDG5 and SDG6.

Responsible for all administration and work to develop skills, networks and potential of leaders and prospective water managers and policy makers, through a co-ordinated suite of Transboundary IWRM modules addressing key issues in integrated water resource management.

- **Dean Faculty of Engineering (September 06, 2019 – March 03, 2021)**

Responsible for making proposals for the development plans for introducing all new engineering disciplines and improvement of facilities in each engineering department in consultation with the concerned faculty members at all CUI campuses.

Presided over the meetings of respective Board of Faculty and worked as ex-officio member of the Syndicate, Academic Council, Board of Advanced Studies, Research and University Affiliation Committee, Selection board and others.

- **Chairman Mechanical Engineering, CUI Wah Campus (Dec 23, 2014 – Feb 28, 2021)**

Responsible for planning, organization, and supervision of the work of the mechanical engineering department operative simultaneously at different CUI Campuses.

Developing proposals for the development plans for introducing new disciplines and improvement of facilities in mechanical department in consultation with HoDs.

Presided over the meetings of respective Board of Studies and Industrial advisory boards and worked as ex-officio member of Screening committee for selection board.

- **Head of Department Mechanical Engineering, CUI Wah Campus (September 01, 2016 – August 01, 2022)**

Responsible for planning, organization, and supervision of administrative and academic work of the mechanical engineering department at CUI Wah Campus.

Developing proposals for the development plans for introducing new program in consultation with the concerned faculty members.

Ghulam Ishaq Khan Institute of Engineering Sciences & Technology (GIKI) Topi, Pakistan (Feb 01, 2001– July 31, 2014)

GIKI is one of the top private universities in Pakistan and is ranked #451-500 in QS WUR by Subject 2023 (<https://giki.edu.pk>)

- **Dean Faculty of Mechanical Engineering (Aug 2011 – July 2014)**

Responsible for planning, organization, and supervision of administrative and academic work. Making proposals for the development plans for introducing new program in consultation with the concerned faculty members.

Presided over the meetings of respective Board of Faculty and worked as ex-officio member of different forum as per statutes.

- **Assistant/ Associate/ Full Professor (Feb 2001 – July 2014)**

Teaching, research, and other departmental responsibilities.

Visiting Professor in KSA Universities (KAUST Thuwal, KAAU Jeddah, IU & Taibah Medina (2015 – Present)

Deliver lectures, keynotes, attend academic and research meetings, joint supervisions and proposals writing.

University of Strathclyde Glasgow, UK – Teaching Assistant (Jan 1998 – Dec 2000)

University of Strathclyde is ranked 276 in QS World University Rankings. (<https://strath.ac.uk>)

Worked as Teaching assistant to related teacher for tutorials, assignments and conducting labs.

Shell Expro Limited UK – Research Consultant (Jan 1999 – Dec 2000)

Shell is an international energy company that has been present in the UK since 1897.

(<https://www.shell.co.uk>)

Developed bolt tightening procedures using detailed numerical simulations for all ranges of gasketed bolted flanged pipe joints to be implemented in Shell Ltd globally.

Heavy Mechanical Complex Limited, Taxila, Pakistan – Design Engineer (Jan 1993 – Dec 2000)

Heavy Mechanical Complex Limited is a leading engineering goods manufacturing enterprise in Pakistan. (<https://www.hmc.com.pk>)

Tender preparations and participations, Cost estimation, Bill of quantities, designing, detail drawing preparations of industrial structures, overhead cranes, and pressure vessels.

Rupali Polyester Pvt. Ltd, Lahore, Pakistan – Maintenance Engineer (July 1992 – Dec 1992)

The Rupali Group is an established leading corporation in the Petrochemical industry, responsible for producing the primary raw materials for the downstream Textile industry of Pakistan.

(<https://www.rupaligroup.com>)

Maintenance and operation of polyester machinery.

PROFESSIONAL MEMBERSHIPS/ FELLOWSHIPS

- Fellow Institution of Mechanical Engineers (FIMechE) UK (80060433)
- UK Chartered Engr. (CEng), Engineering Council UK since 2006
- Lifetime Member Pakistan Engineering Council (PEC) since 1992 (Mech-10058)

RESEARCH FELLOWSHIPS

- University of Strathclyde, Glasgow, UK (8 weeks in 2002)
- University of Illinois at Chicago and Urbana Champaign, USA (8 weeks in 2007 and 2009)
- National University of Taiwan, Taiwan (3 Weeks in 2011)
- UK Universities under Exploratory and Knowledge Exchange Grant British Council (Dec 2012)
- LYAKHOV School on Computational Materials Science. Guilin Univ of Electronics Tech, China and Stony Brook Univ USA. (1 Week in 2013)
- 4th Summer School on “Methods and Tools for the Assessment and Monitoring of the Central Asian Water and Land Resources”. German-Kazakh Univ Almaty Kazakhstan. (2 weeks in 2017)
- 6 Weeks fellowship at Cranfield University UK funded by HEC; Jan-Feb 2018

PATENTS AND PUBLICATIONS

- Patents = 2; Issued by Republic of Tajikistan; (1) Patent #: TJ 1014, Fresnel Concentrator; Issue date, 27.09.2019; (2) Patent #: TJ 995, Solar thermoelectric generator, Issue date, 17.05.2019
- Peer-reviewed international journal papers = **142**; Cumulative **Impact Factor >310**
Cumulative citation: **3257**; h-index: **30**; i10-index: **98** [Prof. Dr. Muhammad Abid - Google Scholar](#)
- Books: 12
- Book Chapters = 8

- International Conference Papers >165
- Technical Reports > 55
- **PhD supervised** = 06, **MS supervised** >55

RESEARCH CONTRIBUTION - INTERNATIONAL AND NATIONAL PROJECTS

- Asia Link: (2006-2008) as Project Manager worth Euro 1019000; *A Framework Approach to Strengthening Asian Higher Education in Advanced Design and Manufacture Project Manager*
- Pak US: (2006-2008) as PI worth US\$ 512000: *Development of computational mechanics infrastructure and human resources for advancing engineering design practices in Pakistani Industry*
- IDB Technical Grant (2007-2008) as Project Team Member, worth US\$146600: *Proposal for purchase Research Equipment*
- EPSRC fast Track Award: (1998-2000) as Project Team Member, worth GBP 57000: *Design and analysis of bolted joints*
- PEER USA: (2006-2009) as PI, worth US\$300000: *Satellite Enhanced Snowmelt Flood and Drought Predictions for the Kabul River Basin (KRB) with surface and groundwater modeling*
- NSFC and PSF: (2015-2018) as PI, worth Yuan 2 mill + PKR 7.4 mill: *Design and Development of Innovative Impact Resistant Hybrid Structures based on Super Elastic Shape Memory Alloys and Light Weight Lattice*
- Pakistan Science Foundation: (2004-2007) as PI, worth PKR 1.25 mill: *Experimental and Analytical Studies of Gasketed and Non-gasketed Flanged Pipe Joints to Determine the Joint Load Capacity for Improved Sealing Capability and their Implementation.*
- Pakistan Science Foundation: (2007-2009) as PI, worth PKR 0.75 mill: *Design, Fabrication, and Installation of Photovoltaic System*
- Pakistan Science Foundation: (2009-2010) as PI, worth PKR 0.6 mill: *Battery Based Micro-Hydro Power Plant on Catamaran for Free Water Flow Operation*
- Industry: (2011-2012) as PI worth PKR 0.5 mill: *Optimization of bolted pipe joints for compact systems*
- Industry + Pakistan Science Foundation: (2017-2019), as Co-PI, worth PKR 40 mill: *Digitization of engine test bed, Fuel Injection pump, low speed high torque engine performance evaluation and enhancement*
- Hamdard University and Agha Khan Medical College: (2017-2018) as Co-PI, worth PKR 1 mill: *A Novel Transform-Domain Fuzzy Data Fusion Technique for Medical Image Enhancement.*

PHD (6) and MS (>55) RESEARCH SUPERVISIONS

Supervised PhD titles include:

- Experimental and Finite Element Investigation of Residual Stresses and Distortions in Welded Pipe Flange Joints
- Fracture analysis of thick cylinders under high fatigue cycle loading
- Strength and sealing performance of gasketed bolted flange joint under combined thermal and internal pressure loading.
- ALE Moving Mesh Generation and High-Performance Implementation using Open MP and MPI Libraries for FSI and Darcy Flow problem.
- Three-dimensional numerical simulation of stationary Gas Tungsten Arc Welding process
- Deep calibrated tomographic learning for 3d reconstruction modelling from sparse projections.

ACADEMIC AND ADMINISTRATIVE CONTRIBUTIONS

Establishment of Centers

- Interdisciplinary Research Center Fall 2014

Establishment of New Departments at CUI Wah Campus

- Department of Mechanical Engineering (with BS, MS, PhD) from Fall 2018
- Department of Humanities from Fall 2023 (MS English program offering will be from Spring 2024)
- Department of Art and Design at CUI Wah Campus, Program will be offered from Fall 2024

Development and Initiation of New Programs at CUI Wah and GIKI

- BS programs: BS Artificial Intelligence, BS Computer Engineering, BS Mechanical Engineering | BS Industrial Engineering, BS Mechatronics Engineering, BS Automotive Engineering
- MS programs: MS Advanced Design and Manufacture (with EU and Asian Partners), MS Computational Mechanics (with US Partners) at GIKI | MS Computational Engineering, MS Mechanical Engineering, MS Underwater Communications (with HEU China), MS English at CUI Wah
- PhD: Mechanical Engineering at GIKI and CUI Wah | Civil Engineering and Mathematics at CUI Wah

Courses taught and labs supervision at GIKI and CUI

- Undergraduate: Mechanical Engineering Design, Stress Analysis, Dynamics, CAD/CAM, Finite Element Methods.
- Postgraduate: Advanced Stress Analysis, Applied Finite Element Analysis, Product Design, CAD/CAM, Pressurized Systems, Thin-Walled Structures, Design Optimization and Analysis Techniques, Design Management and Prediction, Modeling, Simulation and Visualization, Case Studies in Advanced Heat Transfer

Joint supervisions and research with national and international partners

Campus Development works

- Transfer of CUI Wah Campus Land from Sanofi Aventis Ltd | Master Plan approval of Existing (90 Kanal) and New City (160 kanal) CUI Wah Campuses (consultant NESPAK) and approval of Budget (>PKR 1600 million) and Construction of 126,000 sqft of Academic Block at CUI Wah existing campus
- Submission of PC1 of PKR1674 million for year 2024-25 (CDWP is awaited)
- Faculty offices, Lecture Halls and Labs: Management Sci, Electrical Engg, Civil Engg and Mathematics
- Auditorium, library, PC Labs, Conference rooms, cafeteria, IT Center, Project rooms and student spaces, Transport office and parking.

NATIONAL AND INTERNATIONAL DELEGATIONS

- *Led Pakistan delegate* in International Speak out for Engineering and International Design Competitions organized by IMechE in South Asia and Asia Pacific Regions in 2013, 2015, 2016.
- *National delegate*: International Institute of Welding Congress IIW2006 in South Africa | Maldives for academic and research collaborations with Maldives universities | Auto show in Hannover Germany | 5th edition of Maritime Security Workshop “Secure Seas – Prosperous Pakistan” 2022.
- *Mentor* for United National Industrial Development (UNIDO) Pakistan since 2013
- *Expert* for PEC, HEC, HED accreditation councils | Member National Curriculum Review Committee (NCRC) of (HEC) of Pakistan (2001-2023)
- Presented Asia as expert on PED Requirements and ASME Code: 2013 in Genova Italy | ASME Turkey Section as expert on Bolted flanged pipe joints, 2013
- MoUs with international universities of China, UK, US, Italy, Ukraine, Kazakhstan, Turkey (2001-2023)

NATIONAL AND INTERNATIONAL COMMITTEES

- Member Panel of Judge for International Design Competitions by IMechE for Visually Impaired People, 13-17 Sep 2013, Hong Kong and Hearing Disordered People, 14-17 July 2016, Colombo,

Sri Lanka | Innovation for Collaborations Competition by Asian Institute of Technology, Thailand, 12-13 May 2016

- Coordinator DICE Automotive and DICE IET Chapter in Pakistan (2009)
- National expert to review project proposals by HEC, PSF, HED (2001-Till to date)
- Chair Impartiality Committee of Certification Services of Pakistan (CeSP) Islamabad

INTERNATIONAL CONFERENCES, WORKSHOPS AND ENGINEERING FAIRS ORGANIZED

International Engineering Fair with VERAX Ltd. at Stockholm Sweden 2000 | ICADAM2008, Sanya China 2008 | APSENA2009, UIUC USA 2009 | ISFCS2010 & 2012, Pakistan 2010 & 2012 | ICPVT13, UK 2013 | IEOM2014, Indonesia 2014 | PGSRET2015, Pakistan 2015 | ISWANS2015, Pakistan 2015 | Do Engineering, CUI Islamabad Pakistan 2017 | FIT 2021-2023, Pakistan 2021-2023 | CPMI 2019-2023; China and Pakistan 2019 to 2024 | COA 2024 Harbin, China.

INTERNATIONAL AND NATIONAL WORKSHOPS, SEMINARS, SHORT COURSES CONDUCTED AND COORDINATED (2001 – 2023)

Sponsored by Islamic Development Bank for participants from Islamic countries: Computer-Integrated Product Design and Manufacturing | CAD/CAM for Mechanical Component Design and Manufacturing

In collaboration with UIUC USA Experts under Pak US funded project: High Performance Computing | Advanced Non Linear FEM in different years | Collaborative research with large system codes on the web | A New Class of Multiscale Finite Element Methods: Application to Fluid and Solid Mechanics | Variational Multiscale Stabilized Formulation for the incompressible Navier-Stokes Equations

In collaboration with EU and Asian Partners under Asia Link project: Design, Management and Prediction | Modeling, Simulation and Visualization | Materials Design and Materials Processing | Advanced Stress Analysis | Design Optimization and Analysis Techniques | Advanced Heat Transfer and CFD.

In collaboration with Industries, academia and research organizations: Introduction to Pro-Mechanica | Heat Exchanger Installation, Operation and Maintenance | Introduction to FEA/FEM using ANSYS Basic and Advance | Introduction to CFD using ANSYS CFX | Introduction to Turbo Machinery using ANSYS CFX | Introduction to Dynamic Analysis using ANSYS LSDYNA and AutoDyne | Die and Mold Design in collaboration with Industry | Coaching Dynamics for Academia and Industry personnel

INTERNATIONAL RESEARCH COLLABORATIVE VISITS

EPERC meeting on Technical Task Force 4 for metal-to-metal flange joints, Amsterdam, 1998 | VERAX Ltd. Sweden, for joint research and experiments on Non-gasketed Flange Joints, 1999 | ABB Stahl. Sweden, for joint research on the use and application of flange joints, 1999 | Pakistan and Saudi Arabia industries for research surveys on non-gasketed flange joints, 1998 | UoS Glasgow UK for continued research, 2001 | UIC Chicago and UIUC Urbana Champaign, USA under Pak US funded research project, 2007-9 | SANYA China under Asia Link project for meetings, conference, research collaborations, 2008 | SANYA China under HEU-CUI MoU for meeting, workshop and research collaborations, 2023 | Huaz Hong Univ of S&T, Wuhan China under Asia Link project for meeting and course, 2008 | NTU, Taiwan under Bio sensing & Bio actuation program funded by NSF SA & NSC Taiwan, 2009 | UK Universities under Exploratory and Knowledge Exchange Grant funded by BC, 2012 | Guilin Univ China, Lyakhov School on Computational Materials Science funded by US & China | Northwestern Polytechnic Univ and Guilin Univ China for research collaboration, 2013 | Yeditepe and ITU Turkish Universities for joint research work and lectures, 2014 | KAUST, KAAU, IU & TU Medina KSA for joint research and lectures, 2016 | Asian Institute of Technology, Bangkok, Thailand, 2016 | Maldives National University, Maldives, 2016 | School of Engineering, Nazarbayev University, Kazakhstan, 2016 | German Kazakh University, Almaty, Kazakhstan, 2017 | East University of Science and Technology, China, 2017 | Cranfield University, UK funded by HEC,

2018 | Harbin Engineering University, China, 2018 | Northwestern Polytechnic University, China, 2018 | Kick off meeting under PEER USAID project at Nazarbayev University, Kazakhstan, 2016 | Indus Basin Knowledge Forum by ICIMOD and World Bank, Sri Lanka, 2017 | Progress meeting under PEER USAID project, Colombo, Sri Lanka, 2017 | Intl Conf on Water Resources in Central Asia, by Intl Science and Technology Centre and German Kazakh University in Almaty, Kazakhstan, 2017 and 2018 | Regional Knowledge Forum Drought: Earth Observation and Climate Services for Food Security and Agricultural Decision Making in South & Southeast Asia. ICIMOD Kathmandu, Nepal, 2018 | Central Asia PEER Forum, Almaty, Kazakhstan, 2018 | Collaborative research visit to NPU and Harbin Engineering University China; 2019 | Consultation on Integrated Basin Wide Approach for Kabul River Basin forum, Dubai, 2019 | Pak-Afghan Stakeholder Consultation on Kabul River Basin. Dubai, 2019 | China Pakistan Marine Information Workshop and meeting under BRI, HEU China, 2019 | China Pakistan Marine Information Workshop and meeting under BRI, HEU China, 2023 | President forum at HEU China under BRI and CPEC, 2023 | Cranfield University UK under Pak UK Mobility Grant funded by British Council, 2023. | China Pakistan Marine Information Workshop 2024 and meeting under BRI, HEU China, 2024 | 3rd China Ocean Acoustic Conference, HEU China 2024.

CONTINUING EDUCATION/ SPECIALIZED COURSES ATTENDED (1998 – 2023)

- Pressure Vessel Design - Concepts and Principles by IMechE UK 1998
- Composite materials - GRP Saddle Supports & Vessels - Concepts and Principles by IMechE UK 1998
- Introduction to Piping Design and Analysis' by IMechE UK 1999
- Intro to the Commercialization the Technology' by UoS, Glasgow UK equivalent to 6 CHs 2000
- Project Management by SHEFC UK by UoS Glasgow UK 2000
- High Performance Computing offered by expert from UIUC, USA 2007
- Advanced Non-Linear FEM offered by expert from UIUC, USA 2009
- Design, Management and Prediction offered by expert from UK 2008
- Modeling, Simulation and Visualization offered by expert from UK 2008
- Materials Design and Materials Processing offered by expert from NPU China 2008
- Bio Inspired Sensing and Bio Inspired Actuators. NTU, Taiwan 2011
- Evolutionary Structure Prediction Using the USPEX Code. Guilin Univ China 2013
- Collaboration for Innovation - AIT Thailand 2016
- Introduction to Academic Practice - Enhancing teaching and learning in higher education. Cranfield University UK 2023.
- Core skills development for researchers. Cranfield University UK 2023.

LANGUAGES

English (Fluent), Urdu (Native) and Punjabi (Fluent).