

## **FULL CV**

### **A S Md Abdul HASEEB**

Professor, Department of Nanomaterials and Ceramic Engineering  
Bangladesh University of Engineering and Technology (BUET), Dhaka

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## 1. Education

- **PhD in Metallurgy and Materials Engineering (1992)**  
Topic: Synthesis and Characterization of Electrolytic Compositionally Modulated Multilayers  
Catholic University of Leuven, Belgium
- **Master of Science in Engineering (Metallurgical) (1986)**  
Thesis Title: Gas Nitriding of Some Locally Available Steels  
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
- **Bachelor of Science in Engineering (Metallurgical) (1984) [First Class Securing First Position in the Class]**  
Thesis Title: Study of Precipitation Hardening in Aluminium Alloys  
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

## 2. Employment

### Present Positions:

- **Professor and Head**, Department of Nanomaterials and Ceramic Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka

### Employment History:

Sept 2023 - date	Head, Department of Nanomaterials and Ceramic Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka
Jul 2022 - date	Professor, Department of Nanomaterials and Ceramic Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka
Apr 2013 – Jun 2022	Dean, Innovative Industry and Sustainability Science Research Cluster, Institute of Research Management and Services, University of Malaya, Kuala Lumpur, Malaysia [former names of the Research Cluster: Innovative Technology Research Cluster; Advanced Engineering Research Cluster]
Dec 2006 – Jun 2022	Professor, Department of Mechanical Engineering, University of Malaya, Kuala Lumpur, Malaysia
May 2021 – Dec 2021	Acting Associate Vice Chancellor (Industry and Community Engagement), University of Malaya, Kuala Lumpur, Malaysia
Mar 2012 - Feb 2013	Head, Department of Mechanical Engineering, University of Malaya, Kuala Lumpur, Malaysia
Oct 2007 - Sept 2009	Coordinator, Materials Engineering Programme, Department of Mechanical Engineering, University of Malaya
Jun 2000 - Dec 2006	Professor, Department of Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
Aug 2000 - Dec 2002	Head, Department of Materials and Metallurgical Engineering, BUET
Jan 1996 - Jun 2000	Associate Professor, Department of Materials and Metallurgical Engineering, BUET
Apr 1987 - Jan 1996	Assistant Professor, Department of Metallurgical Engineering, BUET
Oct 1984 - Apr 1987	Lecturer, Department of Metallurgical Engineering, BUET

## 3. Honours, Awards etc.

### 3.1 Academic/Professional Awards and Recognition

- **World's Top 2% Scientists Based on Career-Long Citation Impact**, 2021, 2022, 2023 report by Elsevier B.V  
< <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6>>
- **Certificate of Service Excellence 2016**, University of Malaya
- **Visiting Fellow**, Department of Metallurgy and Materials Engineering, Catholic University of Leuven (KU Leuven), 16-20 March 2014
- **Excellence Award for Outstanding Service**, Faculty of Engineering, University of Malaya, 2012

- **Visiting Professor**, Graduate School of Science and Technology, Kumamoto University, Japan, March 2010
- **European Research Fellow**, at the Department of Materials, Oxford University, UK, May 2006 – June 2006
- **Alexander von Humboldt Fellow**, Alexander von Humboldt Foundation at the Institute of Microtechnology, Karlsruhe Institute of Technology, Germany, 2005
- **UGC Award for Fundamental Research in Engineering**, 2002, University Grants Commission (UGC), Bangladesh
- **Visiting Professor**, Electronic Packaging and Assembly (EPA) Centre, City University of Hong Kong, Sept. 2001
- **JSPS Invitation Fellow**, awarded by Ministry of Education, Culture, Sports, Science and Technology, Japan at the Thin Film and Surface Science Laboratory, Department of Materials Science and Engineering, Kyushu University, Sept. 1999-July 2000
- **Visiting Research Fellow**, awarded by the National Research Council of Argentina, at The University of La Plata, Argentina, March 1998-April 1998
- **BAS Gold Medal** in Physical Sciences, awarded by the Bangladesh Academy of Sciences (BAS), 1996
- **TWAS-UNESCO Associateship Award**, jointly awarded by The Third World Academy of Sciences (TWAS), The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy, UNESCO and the Government of Italy, 1996
- **SRG Award** of the American Electroplaters' and Surface Finishers' Society, USA, 1991
- **PhD Scholarship** awarded by the Catholic University of Leuven, Belgium, 1987-1992
- **Vice-Chancellor's Award** of Distinguished Young Researcher, BUET, Dhaka, 1987
- **Chancellor's Award** for securing first class first position in B.Sc. Engineering examination in 1984

### 3.2 Teaching Excellence Award

- **Teaching Excellence Award, 2014**, Faculty of Engineering, University of Malaya, Session 2013-2014, Semester 2 (Course: KMEB 4352 Materials and Processes in Semiconductor Manufacturing)
- **Teaching Excellence Award, 2014**, Faculty of Engineering, University of Malaya, Session 2013-2014, Semester 2 (Course: KMEB 1108 Crystal Structure and Defects)
- **Teaching Excellence Award, 2013**, Faculty of Engineering, University of Malaya, Session 2012-2013, Semester 2 (Course: KMEB 1108 Crystal Structure and Defects)
- **Teaching Excellence Award, 2011**, Faculty of Engineering, University of Malaya, Session 2010-2011, Semester 2 (Course: KMEB 2115 Electronic Materials and Devices)
- **Teaching Excellence Award, 2011**, Faculty of Engineering, University of Malaya, Session 2010-2011, Semester 1 (Course: KMEB 3107 Engineering Alloys)
- **Teaching Excellence Award, 2011**, Faculty of Engineering, University of Malaya, Session 2010-2011, Semester 1 (Course: KMEB 4352 Materials and Processes in Semiconductor Manufacturing)

### 3.3 Recognition of Publications

- **Certificate for Highly Cited Research in Intermetallics, Elsevier, Awarded in December, 2016**  
*In recognition of the following paper being one of the 5 most highly cited papers published in Intermetallics:*  
S.L.Tay, A.S.M.A. Haseeb, Mohd Rafie Johan, P.R. Munroe, M.Z. Quadir, 'Influence of Ni nanoparticle on the Morphology and Growth of Interfacial Intermetallic Compounds between Sn-3.8Ag-0.7Cu Lead-Free Solder and Copper Substrate', *Intermetallics*, Vol. 33, pp. 8-15, 2013.
- **Outstanding Paper of 2013 in Soldering & Surface Mount Technology**  
Goh Yingxin A.S.M.A. Haseeb, Mohd Faizul Mohd Sabri, 'Electrodeposition of Lead-Free Solder Alloys' *Soldering & Surface Mount Technology*, Vol. 25(2), pp. 76-90, 2013
- **Best ASQED2012 Paper Award**  
Lee Xin Wei, A.S.M.A. Haseeb, Goh Yingxin, *Effects of Thiourea and Gelatin on the Electrodeposition of Sn-Ag Solder Alloy*, The 4th Asia Symposium on Quality Electronic Design (ASQED 2012), July 10-11 July 2012, Penang, Malaysia
- **Top 25 Hottest Articles in Fuel (Energy Category), January to March 2011 as Ranked by ScienceDirect**  
A.S.M.A. Haseeb, M.A. Fazal, M.I. Jahirul, H.H.Masjuki, Compatibility of automotive materials in biodiesel: A review, *Fuel*, Volume 90, Issue 3, March 2011, Pages 922-931
- **Top 25 Hottest Articles in Intermetallics (Materials Science Category), April to June 2011 as Ranked by ScienceDirect**  
A.S.M.A.; Haseeb, T.S. Leng, Effects of Co nanoparticle addition to Sn-3.8Ag-0.7Cu solder on interfacial structure after reflow and ageing *Intermetallics*, Volume 19, Issue 5, May 2011, Pages 707-712
- **Top 25 Hottest Articles in Renewable and Sustainable Energy Reviews (Energy Category), January to March 2011 as Ranked by ScienceDirect**  
M.A. Fazal, A.S.M.A. Haseeb, H.H.Masjuki, Biodiesel feasibility study: An evaluation of material compatibility; performance; emission and engine durability, *Renewable and Sustainable Energy Reviews*, Volume 15, Issue 2, February 2011, Pages 1314-1324
- **Best Student Paper Award, IEMT 2010**  
A. Haque, Y. S. Won, B. H. Lim, A. S. M. A. Haseeb, and H. H. Masjuki, 'Effect of Ni Metallization on

*Interfacial Reactions and Die Attach Properties of Zn-Al-Mg-Ga High Temperature Lead-free Solder*, 34th International Electronics Manufacturing Technology Conference (IEMT 2010), 30 November-2 December 2010, Melaka, Malaysia.

- **Top 25 Hottest Articles in Optical Materials ( Physics and Astronomy Category), April to June 2010 as Ranked by ScienceDirect**  
M.M. Hasan, A.S.M.A. Haseeb, R. Saidur, H.H. Masjuki, M., Hamdi, Influence of Substrate and Annealing Temperatures on Optical Properties of RF-Sputtered TiO<sub>2</sub> Thin Films, *Optical Materials*, Vol. 32(6), Pages 690-695, 2010
- **Top 25 Hottest Articles in Wear (Engineering Category) October-December 2008 as Ranked by ScienceDirect**  
A.S.M.A. Haseeb, U. Albers, K. Bade, Friction and Wear Characteristics of Electrodeposited Nanocrystalline Nickel-Tungsten Alloy Films, *Wear*, Volume 264, Issue 1-2, January 2008, Pages 106-112
- **Top 25 Hottest Articles in Wear (Engineering Category), July-September 2004 as Ranked by ScienceDirect**  
K. M. Shorowordi, A. S. M. A. Haseeb, a and J. P. Celis , Velocity Effects on the Wear, Friction and Tribochemistry of Aluminum MMC Sliding against Phenolic Brake Pad, *Wear*, Volume 256, Issues 11-12, June 2004, Pages 1176-1181

### **3.4 Exhibition/Exposition/Intellectual Property Related Awards**

- **Silver Medal, PECIPTA 2013**, International Exposition of Research and Invention of Institutions of Higher Learning, 7– 9 November, 2013, Kuala Lumpur Covention Centre for the project  
**“A Method of In-Situ Targeted Interfacial Alloying of Lead-free Solder Joints”**
- **National Intellectual Property Award, 2012**  
Awarded by the Intellectual Property Corporation of Malaysia (MyIPO), Ministry of Domestic Trade, Co-operatives and Consumerism, Kuala Lumpur
- **Gold Medal, ITEX 2012**, International Invention, Innovation and Technology Exhibition, ITEX 2012, 17-19 May 2012 Kuala Lumpur Covention Centre for the project  
**“A Method of Modifying Morphology and Types of Produced Nanoparticles (via Pulsed Wire Explosion)”**  
by A. S. M. A. Haseeb, Shutesh Krishnan, Rafie Johan
- **Silver Medal, ITEX 2011**, International Invention, Innovation and Technology Exhibition, ITEX 2011, 20-22 May 2011 Kuala Lumpur Covention Centre for the project  
**“Development of Corrosion Inhibitor for Automotive Materials in Palm Biodiesel”**  
by A. S. M. A. Haseeb, M. A. Fazal, Masjuki Hj. Hassan
- **Gold Medal, ITEX 2010**, International Invention, Innovation and Technology Exhibition, ITEX 2010, 14-16 May 2010 Kuala Lumpur Covention Centre for the project  
**“Development of Nanocomposite Based Eco-friendly Solder”**  
by A. S. M. A. Haseeb, Md. Arafat Mahmood, Tay See Leng, Mohd Rafie Johan
- **Silver Medal, PECIPTA 2009**, International Exposition of Research and Invention of Institutions of Higher Learning 2009, 8-10 October 2009, Kuala Lumpur Covention Centre for the project  
**“Development of Nanocrystalline Alloys for Micro Electro Mechanical Systems”**  
by A. S. M. A. Haseeb
- **Bronze Medal, UM Research, Invention & Innovation EXPO 2009**, 13-15 January 2009, University of Malaya for the project  
**“Fits All Sizes Optical Chip - Driving towards Monolithic Integration: Rare-Earth Doped Waveguide via Solution Doping”**  
by S.T. Kow, Y. Yap, C.H. Pua, W.Y. Chong, A.W.P. Law, F.R. Mahamd Adikan,, A.S.M.A. Haseeb and H. Ahmad

## **4. Professional Membership**

- Fellow, Institution of Mechanical Engineers, UK
- Chartered Engineer, Engineering Council, UK
- Member, Minerals, Metals and Materials Society (TMS), USA
- Member, Institute of Electrical and Electronics Engineers (IEEE), USA
- Member, Materials Research Society (MRS), USA
- Member, Institute of Materials, Minerals and Mining, UK
- Member, Executive Committee, Malaysian Tribology Society (MYTRIBOS)
- Member, Institution of Engineers, Bangladesh

## **5. Editorial Activities**

- Editor-in-Chief, *Encyclopedia of Materials: Electronics*, Elsevier, 2023
- Member, International Advisory Board, Journal of Research management and Governance, University of Malaya, Oct 2022 - Oct 2024

- Editor-in-Chief, *Journal of Research Management and Governance*, University of Malaya, 2018- 2022
- Editor, *Reference Module on Materials Science and Materials Engineering*, *Electronic Materials Section*, Elsevier, 2015-2019
- Regional Editor – Indian Sub-Continent, *Advances in Materials and Processing Technologies*, Taylor & Francis Publishing House, 2014 - date
- Editor, University of Malaya Research Bulletin, 2021- 2022
- Member, Editorial Board, *ASEAN Engineering Journal*, published by AUN/SEED-Net Programme, JICA, Japan, Oct 2013 – Mar 2020
- Member, Editorial Board, *International Journal of Mechanical Engineering and Materials Sciences*, Serials Publications, ISSN: 0974-584X., 2012-2015
- Editor, *Journal of Mechanical Engineering*, The Institution of Engineers, Bangladesh, 1993-2001

## **6. International Experience**

### **6.1 International Research Visits**

- *Joining and Welding Research Institute, Osaka University, Japan, 04-15 February, 2019*
  - Invited lecture, workshop, discussions, laboratory visits
- *Visiting Professor, Graduate School of Science and Technology, Kumamoto University, Japan, March 2010*
  - Invited lecture, discussions, laboratory visits
- *European Research Fellow, Department of Materials, Oxford University, UK, May – June 2006*
  - Research worked involved fracture behaviour of microbeams nanocrystalline Ni-W fabricated by LIGA and FIB machining, Nanoindentation measurements, Guided PhD student
- *Alexander von Humboldt Fellow, Institute of Microtechnology, Forschungszentrum Karlsruhe, Germany, Aug 2005 – July 2006*
  - Research work involved development of new materials (Ni-W alloys) and process for components for micro electro mechanical systems (MEMS), Characterization of the alloys by SEM, EDX, TEM, XPS etc., UV lithography and LIGA fabrication of MEMS components
- *Invited Research Fellow, Surface and Thin Film Laboratory, Department of Materials Science and Engineering, Kyushu University, Japan (08/1999 to 06/2000)*
  - Developed an electrochemical deposition technique for the room temperature deposition of nano-structured, hard Fe-C and Fe-Ni-C alloys and investigated their magnetic and structural characteristics using vibrating sample magnetometer, TEM, thermal analysis, EPMA, XPS, Mössbauer spectroscopy, AFM etc. These coatings may provide an interesting combination of soft magnetic and better tribological properties.
  - Carried out research on the giant magneto resistance effect in Cu/Co multilayer.
- *Visiting Research Fellow, Institute of Theoretical and Applied Physical Chemistry (INIFTA), University of La Plata, Argentina (03/1998 - 05/1998)*
  - Worked on the development of an in-situ observation and characterization technique for the electro-dissolution and degradation of metal surface in the presence of organic additives.
- *Visiting/Trainee Engineer, Nagoya International Training Center, JICA, Japan (09/1993 - 03/1994)*
  - Received an extensive industrial training on Advanced Foundry Engineering. The training covered various modern moulding and casting processes, cast metals, casting design and quality control. These include electric arc and induction melting, automatic sand moulding processes, synthetic resin bonded sand process, shell moulding, V-process, precision casting and centrifugal casting. Among cast metals, gray-, spheroidal graphite- and alloy-cast irons, steels, copper base alloys, and aluminium alloys were covered.
- *Research and Teaching Assistant, Department of Metallurgy and Materials Engineering, Catholic University of Leuven, Belgium (09/1987- 10/1992)*
  - Designed, developed and constructed a novel dual bath electrochemical deposition set up for the synthesis of metallic multilayers with a few nanometer thick sublayers, Characterized nanometric multilayers by SEM-EDS, conventional and high resolution TEM, XRD, AES, crystallographic texture measurements, nanoindentation etc., Carried out fretting wear tests on films and coatings, Taught practical course to undergraduate students

### **6.2 International Scientific Links /International Exposure**

Has been maintaining/has maintained professional and scientific links with international researchers and organizations including:

- City, University of London
- Welding and Joining Research Institute, Osaka University, Japan
- Curtin University, Australia

- King's College London
- National Cheng Kung University, Taiwan
- National Taiwan University
- The Ohio State University, USA
- University of New South Wales, Australia
- Forschungszentrum Karlsruhe, Karlsruhe University, Germany
- University Oxford, UK
- Third World Academy of Sciences, c/o The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy
- Catholic University of Leuven, Belgium
- Forschungszentrum Karlsruhe, Germany
- Kyushu University, Kyushu, Japan
- University of La Plata, Argentina
- Saha Institute of Nuclear Physics, India
- CSIRO Minerals, Clayton, Victoria, Australia
- Electronic Packaging and Assembly Centre, City University of Hong Kong, Hong Kong

## **7. Teaching Experience**

### **7.1 Teaching Philosophy**

Developed teaching philosophy based on the saying “*If the student has not learned, then the teacher has not taught*”. Firmly believe in student centered learning and outcome based education. Committed to continuous improvement of his teaching quality.

### **7.2 Teaching Strategy**

Teaching strategy involves motivating students from the very first class about the relevance of the course to the programme outcomes and to their profession in the long run. Expose students to the bigger picture, links the course to a wider economic and societal context. Communicate to students of high expectation from them. Recognize the existence of wide variety of learning style among the students, and apply modern pedagogic principles to ensure effective teaching and learning. Get continuous feedback from the students as well as from stakeholders, and uses it as a tool for further improvement. Keeps on updating on modern methods of teaching and learning by attending relevant workshops/short courses regularly. Believe that pre-class preparation by the teacher is probably the single most important factor in quality teaching and learning, and take extensive preparation for course delivery.

### **7.3 Innovative Teaching**

Believe that course delivery in the form of just traditional lectures cannot be the most effective method of teaching and learning. Adopt active learning, cooperative learning experiential learning techniques, in addition to lectures, in each course. Use Problem Based Learning (problem) in each course where students learn how to learn themselves and have the opportunity to practice their newly earned engineering skills.

Developed and taught an innovative project-based design courses where students are exposed comprehensively in a single course to micro- as well as macro-aspects of materials engineering practice, combining both technical and business issues. The course starts with the identification of a product and ends with the preparation of a project proposal suitable for submission to a financial institution for financing. This course was highly appreciated by international peers, as evidenced by the invitation from the International Union of Materials Research Societies (IUMRS) to present the experience from this course as an Invited Lecture in the IUMRS-ICEM 2008, International Conference on Electronic Materials 2008, Symposium S: Materials Education, 28 July - 01 August 2008, Sydney, Australia (*Invited Paper Title: Integration of Technical and Business Issues in a Single Course in a Materials Engineering Curriculum*).

### **7.4 Accreditation and Quality Assurance Experience**

As Head of the Department of Mechanical Engineering, Coordinator of Materials Engineering Programme, played a leadership role to develop undergraduate curricula of mechanical engineering as well as materials engineering programmes as per Washington Accord (in line with ABET). Led the department through accreditation cycle and accreditation visits.

### **7.5 Postgraduate Courses Taught/Teaching**

- Electronic Packaging Materials and Reliability
- Research Methodology
- Recent Advances in Metallurgy and Materials
- Processing of Electronic Materials

- Advanced Surface Engineering
- Advanced Characterization of Glass and Ceramics

### **7.6 Undergraduate Courses Taught/Teaching**

- Materials and Processes in Semiconductor Manufacturing
- Electronic Materials and Devices
- Principles of Materials Characterisation
- Physical (Electronic) Properties of Materials
- Engineering Materials (polymers, ceramics and composites)
- Surface Engineering
- Corrosion of Metals
- Materials Thermodynamics
- Introduction to Metallurgy and Materials
- Materials Processing Plant Design
- Crystal Structure and Defects
- Basic Materials for Mechanical Engineers
- Nanotechnology in Green and Sustainable Energy
- Welding Technology
- Engineering Alloys
- Engineering Polymers
- Chemical Metallurgy
- Ferrous Production Metallurgy
- Metallic Alloys
- Shipbuilding Materials
- Metallography
- Foundry Engineering
- Failure Analysis and Artefact Study
- Communication Techniques
- Materials Selection
- Materials Science Fundamentals

### **7.7 Development of Undergraduate and Postgraduate Courses**

- Contributed to the design of undergraduate courses for Nanomaterials and Ceramic Engineering following the framework of outcome based education at BUET
- Designed courses at master/PhD level, e.g., Research Methodology, Electronic Packaging Materials and Reliability etc. at the University of Malaya
- Designed courses at undergraduate level, e.g., Materials Selection and Design, Materials and Processes in Semiconductor Manufacturing, Crystal Structure and Defects, etc. at the University of Malaya
- Updated and modified the Materials Engineering curriculum at the University of Malaya as per Engineering Accreditation Council of Malaysia which is full member of the Washington Accord
- Designed an undergraduate curriculum for the Materials and Metallurgical Engineering Programme at the Bangladesh University of Engineering and Technology (BUET), Dhaka
- Designed a postgraduate curriculum for the Materials and Metallurgical Engineering Programme at Bangladesh University of Engineering and Technology (BUET), Dhaka

### **7.8 Development of Laboratories**

- In charge of Nanomaterials Synthesis Laboratory at BUET
- Developed and was in-charge of Electronic Packaging Materials Laboratory and Nanoindenter Laboratory, University of Malaya
- In-charge of corrosion laboratory, University of Malaya
- In-charge of electronic materials laboratory, University of Malaya
- Developed and was in-charge of advanced materials characterisation laboratory, Bangladesh University of Engineering and Technology (BUET), Dhaka
- Developed and was in-charge of surface technology and tribology laboratory, Bangladesh University of Engineering and Technology (BUET), Dhaka
- Involved in the purchase of modern equipment including nanoindenter, field emission scanning electron microscope (FESEM), focussed ion beam machine (FIB), electron back scatter diffraction (EBSD) equipment, scanning electron microscope, energy dispersive x-ray microanalyser, fourier transform infrared spectrometer, differential scanning calorimeter, thermogravimetric analyzer, atomic emission spectroscopy, sputtering coating unit, electrochemical equipment like potentiostat/ galvanostat, sensors, load cells, metallographic equipment, furnaces, plastic extruder and mechanical testing equipment
- Also developed in-house various equipment including gas sensor testing set-up, oxide nanostructure growth set-up, solder testing rig, electrodeposition set-up, tribometer, electrochemical flow cell, nanoscale multilayer deposition set-up etc.

## **8. Research Experience**

### **8.1 Current Research Interest**

- Functional Nanomaterials
- Materials Degradation and Reliability

### **8.2 Current Research Themes**

Current research themes mainly centre around:

- **Functional Nanomaterials:** Particular interest is in advanced interconnects for electronic packages, semiconducting oxide based materials for hazardous gas sensing and gate oxide for MOSFET devices.
- **Materials Degradation and Reliability:** Degradation of materials under detrimental external factors, including environmental, stress and high current density. Examples include degradation of electronic interconnects under thermal loading, stress and high current density; automotive materials in biodiesel; tissue engineering scaffold materials in body fluid etc.

### **8.3 Past Research**

- Synthesis and characterization of nanostructured materials by electrodeposition
- Fabrication of components for micro electro mechanical systems (MEMS) by LIGA process and their characterization
- Surface interactions and tribological behaviour of aluminium matrix composite, phenolics based composites, titanium alloys, aluminium-lithium alloys spheroidal graphite cast iron, etc.
- Electrochemical preparation of conducting polymers (polyaniline) and their structural and electrical characterization
- Development of aluminium based metal matrix composites
- Design and construction of a flow cell for the synthesis of nanolayered materials
- Electrodeposition and corrosion of Ni-P, Zn-Ni alloy coatings
- Development of polyester based natural fiber reinforced composites
- Characterization and upgrading of beach sand minerals, like ilmenite and zircon
- Synthesis and characterization of nanolayered materials
- Surface modification of ferrous materials for improved tribological properties
- Development of an alternative liquid nitriding process based on non-cyanide raw materials
- Gas nitriding of steels

## **9. Administrative Experience**

- Have extensive administrative experience while serving in different capacities, e.g., dean, head of the department, programme coordinator, project director, assistant provost, industrial coordinator, member/chairman of various committees, faculty coordinator of internationalization activities. As a dean of research cluster, currently leading implementation of impact oriented research programmes at the University of Malaya.
- As programme coordinator for materials engineering programme and head of the department, led accreditation related activities for materials engineering programme and mechanical engineering programme. Developed curriculum for materials engineering programme at undergraduate and master levels.
- As a research dean at the central administration of the university, administered multimillion dollar research programmes every year in the university. Developed and administered innovative research grants programmes, such as Impact Oriented Interdisciplinary Research Programme, Grand Challenge Research Programme, Industry Driven Innovative Grant Programme etc. Developed strategic research plan for university in 2013 and 2018. Developed fruitful research engagements between academic researchers and industry and external stakeholders.
- Some recent experiences are outlined below:

### ***Dean, Innovative Industry and Sustainability Science Research Cluster, Institute of Research Management and Monitoring (2013 - 2022):***

This is a senior leadership position at the central management of the University of Malaya (UM) reporting to Deputy Vice Chancellor (Research and Innovation). As a research dean at the central level my responsibility included:

**Strategic planning:** Contributing to strategic planning of UM, e.g., UM strategic plan for research 2013 and 2018, working in different committees to review existing policies, devise new policies, manage changes etc.

**Research grant management and monitoring:** Managing a few hundred research projects granted to academics at the university, established innovative research programmes e.g., Grand Challenges Research Grant Programme, Impact Oriented Interdisciplinary Research Grant programme, Industry Driven Innovation grant programme etc.

**Administration and human resources management:** Overseeing the administration of the research clusters and manage human resources.

**Researcher capacity building and training:** Planning and executing researcher training programme across the university, research impact, interdisciplinary research, research communication, stakeholder engagement, grant proposal writing etc.

**Overseeing and monitoring of research centres:** Overseas and monitors four research centers under the



Cluster, namely, Advanced Manufacturing and Materials Processing Center, Center for Energy Sciences, Center for Transportation Research, Center for Industry 4.0

**Engaging with stakeholders including government and private sectors:** e.g., Malaysia Petroleum Resources Corporation (MPRC), Malaysia Investment Development Authority (MIDA), Collaborative Research in Engineering, Science and Technology (CREST), Malaysian Industry-Government Group for High Technology (MIGHT), Academy Science Malaysia (ASM), multinational and local companies etc.

**Finance and budget:** Managing a yearly budget of about ten million Malaysian Ringgit

**Quality and audit:** Overseeing quality audits e.g., ISO, Malaysia Research Assessment (MyRA)

**Representing university senior management at national and international forum:** e.g., 4th Regional conference for Presidents, Vice Presidents and Technology Transfer Officers of Universities and Research Institutions on Creating and Enabling Intellectual Property Environment, Technology Management and Commercialization, World Intellectual Property Organization, 25-27 Nov 2019, Osaka, Japan; APRU Vice Presidents for Research Meeting 2018, Association of Pacific Rim Universities (APRU), 17-19 Oct 2018, University of California at San Diego, USA; European Study Group with Industry (ESGI) Meeting, ESGI-13, 8-16 – 20 July 2018, University of Bath, UK; The ASEAN European Academic University Network (ASEA-UNINET) Plenary Meeting, 17-20 July 2017, University of Music and Performing Arts, Graz, Austria; Houston Technology Center, 28 January 2016, Houston, Texas, USA

### ***Head of the Department, Mechanical Engineering Department, University of Malaya, Kuala Lumpur, Malaysia March 2012 – February 2013:***

**Managing academic programmes:** As Head, I run two undergraduate programmes (about eight hundred students) and six postgraduate programmes (about seven hundred postgraduate students) in mechanical engineering and in materials engineering.

**Accreditation and quality assurance:** Managed the accreditation processes for undergraduate programmes as administered by the Engineering Accreditation Council (EAC), Malaysia; and the Malaysian Qualification Agency (MQA). While in office handled one accreditation visit by the EAC.

**Budget and finance:** Managed a departmental yearly operational budget of about five hundred thousand Malaysian Ringgit and a research budget of about 6 million Malaysian Ringgit.

**Human resources:** Managed thirty academic staff and twenty technical and support staff. Set and oversaw the achievement of the key performance indicators set for the department and each academic staff.

**Safety:** Headed the health and safety committees at the department level and worked with university level health and safety authority.

## **10. Publications**

### **Summary**

- Journal Publications: 201
- Conference Papers: 163
- Edited Books/Proceedings/Book Chapters: 19
- Other Academic Publications (including newspaper articles, popular scientific articles etc): 39
- h-Index (Google Scholar): 52
- Total Citation (Google Scholar): 11101

### **Full List**

*Please see Appendix A for the publication list.*

## **11. Patents**

- **A. S. M. A. Haseeb**, Sujan Kumer Ghosh & Amalina Binti Muhammad Afifi, *A Method of In-Situ Targeted Interfacial Alloying of Lead-Free Solder Joints*, Granted Malaysian Patent MY-175657-A, 03 July 2020 (Application No. PI 2013000584, 22 February 2013)
- **A. S. M. A. Haseeb**, Tharsika Thabothanayakam, Mohd Faizul Mohd Sabri, *Method of Fabricating Hybrid Zinc Oxide and Tin Oxide Nanostructures*, Granted Malaysian Patent MY-172-187-A, 15 November 2019, (Application No. PI2014700833, 04 April 2014)
- **A. S. M. A. Haseeb**, Shutesh Krishnan, *A Method of Bonding Nanodimensional Interface for Fine Pitch Interconnect*, Granted Malaysian Patent MY-150446-A, 23 Jan 2014 (Application filed: No. PI 2012700391, 19 June 2012)
- **A. S. M. A. Haseeb**, Shutesh Krishnan, Rafie Johan, *A Method of Coating Nanoparticles*, Granted Malaysian Patent MY-155474-A, 16 Oct 2015 (Application filed: Application No. PI 2012 700039, 28 Feb 2012)

- A. S. M. A. Haseeb, Goh Yingxin, Mohd Faizul Mohd Sabri, *Electrodeposition Bath and Method of Electrodepositing Tin-Bismuth Alloy*, Malaysian Patent Application No. PI 2013700972, 11 June 2013
- A. S. M. A. Haseeb, Shutesh Krishnan, Rafie Johan, *A Method of Modifying Morphology and Types of Produced Nanoparticles*, Malaysian Patent Application No. PI 2011 002544, 06 June 2011

## 12. Supervision of Graduate Research

### 12.1 Ongoing

(External supervisor at University of Malaya)

- Ph. D.            Synthesis of WO<sub>3</sub>-polypyrrole nanocomposites for gas sensing application, Wong Yung Cheng  
 Ph. D.            Study of Electrochemical Migration in Tin and Tin-based Solders and Mitigation by Adding Alloying Elements, Goh Yi Sing  
 Ph. D.            Electrochemical migration in fine pitch lead free solders, Lee Ee Lynn  
 Ph. D.            Multiple modalities of nuclear techniques to study and imaging of corrosion under insulation (CUI) in industrial plant, Mohd Khoushaini Naim

M. Eng. Sci.    Nanostructured Oxides for Environmental Gas Sensing, Shady Fouad Ahmad Saber

### 12.2 Completed

#### **Postdocs:**

- Post Doc        Dr. Golnoush Zamiri: 3D graphene-conducting polymers chemiresistive gas sensors  
 Post Doc        Dr. Muhamad Nasir: Electromigration in electronic packaging materials  
 Post Doc        Dr. Goh Ying Xin: Electrochemical synthesis of low temperature solder interconnects  
 Post Doc        Dr. Sadeem Fadhil: Porous aluminium composites  
 Post Doc        Dr. Zaid Rahman: Evaluation of solder interconnects by nanoindentation  
 Post Doc        Dr. Abdul Faheem Khan: Multilayer electrodeposition of interconnect materials

#### **PhD:**

- Ph. D.            Microstructural characteristics and mechanical performance of Bi-Sb-Ni added Sn-3.0Ag-0.5Cu multicomponent lead-free solder alloy, Zhou Ding (2024)  
 Ph. D.            Synthesis and characterization of poly(propylene fumarate) and poly[(R)-3-hydroxybutyrate-based polyurethane scaffolds for tissue engineering, Bushra Naureen (2023)  
 Ph. D.            Zinc oxide-based composite for acetone chemiresistive gas sensor, Aainaa Aqilah Baharuddin (2023)  
 Ph. D.            Effect of heating on bonding characteristics for copper wire bond technology, Gurbinder Singh (2021)  
 Ph. D.            Performance evaluation of porous copper brazing using amorphous copper-tin-nickel-phosphorous filler, Nur Amirah Mohd Zahri (2021)  
 Ph. D.            Microstructural Characteristics and Mechanical Properties of Sn-Ag-Cu solders with minor additions of Al and Zn, Leong Yee Mei (2020)  
 Ph. D.            Electromigration damage in lead-free solder joints prepared using metallic nanoparticle doped flux, Muhammad Nasir (2017)  
 Ph. D.            Growth, characterization and gas sensing properties of one dimensional oxide nanostructures on Ti and Ti-6Al-4V alloy substrates synthesized by thermal oxidation, Md. Arafat Mahmood (2016)  
 Ph. D.            Development of wear resistant metal matrix composite coatings based on laser surface engineering technique, M. M. Quazi (2016)  
 Ph. D.            Investigation of samarium oxide on Si-based metal-oxide-semiconductor structure for power drive applications, Goh Kian Heng (2016)  
 Ph. D.            Retardation of corrosion and tribological degradation of automotive materials in palm biodiesel, Sazzad Bin Sharif (2016)  
 Ph. D.            Electrodeposition and Characterization of Sn-Bi Lead-free Solder Alloys, Goh Ying Xin (2015)  
 Ph. D.            Synthesis and characterization of zinc oxide and tin oxide based nanostructures for gas sensing applications, Tharsika Thabothanayakam (2015)  
 Ph. D.            Synthesis and functional characterization of copper based nanoparticles by wire exploration method, Shutesh Krishnan (2014)  
 Ph. D.            Corrosion of automotive materials in palm biodiesel, Mohammad Abul Fazal (2011)

Ph. D. Tribological behaviour of aluminium based metal matrix composites as brake disc/drum materials, K. M. Shorowordy (2005)

### Masters

- M. Eng. Sci. Mechanical Properties of Polyurethane based Tissue Engineering Scaffold, Khairunnisa Rahime  
M. Eng. Sc. Comparison of performance of no-clean and water-soluble fluxes in fine-pitch flip-chip package, Saif Wakeel (2022)
- M. Eng. Effects of Zn additions on the electrochemical migration behaviour of SAC 305 solder alloy, Loh Hwei Ling (2020)
- M. Eng. Sc. Inhibition of corrosion for different metals in palm biodiesel, Nur Suhaila Rosli (2019)  
M. Eng. Sc. Effects of Zn and Al on corrosion characteristics of Sn-1.0Ag-0.5Ag alloys, Nurul Liyana Kamaruzaman (2018)
- M. Eng. Sc. Effect of alloying elements on the corrosion behaviour of tin-silver solder alloys, Fayeka Mansura (2018)
- M. Eng. Sc. Compositional instability of palm biodiesel upon exposure to automotive materials and remedial measures, Mohd. Rafiuddin Jakeria (2015)
- M. Eng. Sc. Effects of metallic nanoparticle doped flux on morphology and growth of interfacial intermetallic compounds between Sn-Ag-Cu solder and copper substrate, GK Sujan (2014)
- M. Eng. Effects of Mo nanoparticles on the interface between lead-free solder and nickel substrate, Mohammad Hossein Mahdavi (2013)
- M. Eng. Sc. Comparison of corrosion of aluminium and magnesium in palm biodiesel, Chew King Vee (2013)  
M. Eng. Sc. Wear and degradation of polymers used in orthopedic applications, Shahira Liza Kamis (2011)  
M. Eng. Sc. Effect of Nickel and Cobalt Nanoparticle Additions to Sn-Sg-Cu Solder, Tay See Leng (2011)  
M. Eng. Sc. Effect of molybdenum nanoparticles on lead-free tin-based solder, Md Arafat Mahmood (2011)  
M. Eng. Sc. Performance of Ni-W alloys as barrier film between lead free solder and copper substrate, Chew Chee Sean (2011)
- M. Eng. Sc. The effect of copper particle addition into Sn-3.5Ag Solder, Aemi Nadia Ahmad Saufi (2011)  
M. Eng. Sc. Development of high temperature lead free solder for semiconductor chip attachment, A. Haque (2011)
- M. Eng. Sc. Energy efficient nano-coating to control solar radiation through window, M.M. Hasan (2010)  
M. Phil. Electrodeposition of metallic films on conducting polymers, SM Helal Uddin (2005)  
M. Phil. Studies on electrochemically synthesised conducting polymers, S. Nahar (2001)  
M. Sc. Eng. Chemical and structural characterization of Bangladesh zircon and its applications, S. Nahar (1999).  
M. Sc Eng. Tribological performance of some locally available phenolics based brake shoe lining materials, M. Morshed (1999)
- M. Phil. Physico-chemical studies on conducting polymers, Md Golam Haider (1998)  
M. Phil. Study of the electroplated coating of Zn-Ni alloy on locally manufactured mild steel plates, Md. Mokarram (1998)
- M. Sc. Eng. Electroplating of crystalline and amorphous nickel-phosphorous coatings and study of their wear behaviour, I. Ahmed (1995)
- M. Sc. Eng. Study on the mechanical properties of electroplated iron-iron carbon alloy coating, A. Yasmin (1995)  
M. Sc. Eng. Study on the mechanical properties of zinc-nickel alloy coating, M. Moniruzzaman (1995)

## **13. Selected Research Funding**

- RM 80,000 project on Development of Acetone Sensor Based On Hybrid Polypyrrole-zinc Oxide, 2019, Impact Oriented Interdisciplinary Research Grant, University of Malaya, funded by Ministry of Education, 2019-2020
- RM 57212.12 GCRF project on Transient Liquid Phase (TLP) Bonding as an Alternative to Solder Bump for High Temperature Applications, 2019, Global Challenges Research Fund (GCRF), UK
- RM 193,500.00 project on Mechanism of Chemical and Structural Degradation of Polyurethane in Simulated Body Fluid, UMRG Research Grant funded by Ministry of Higher Education (MOHE), 2017-2018
- RM 156,000 research project on 'Packaging and Process Development of Low Cost Universal Substrate' together with industrial partner, NXP Semiconductors Malaysia Sdn Bhd., Jointly funded by Collaborative Research in Engineering, Science & Technology (CREST), Penang. Malaysia and NXP Semiconductor, 2017-2020
- RM 160,380 research project on 'Embedded Ball Grid Array Package' together with industrial partner, NXP Semiconductors Malaysia Sdn Bhd. Jointly funded by Collaborative Research in Engineering, Science & Technology (CREST), Penang. Malaysia and NXP Semiconductor, 2017- 2020
- RM 75,000 research project on 'Interactions between Catalyst Nanoparticles Loaded Binary ZnO/SnO<sub>2</sub> Nanowires and Reducing Gases' under Fundamental Research Grant Scheme funded by Ministry of Higher Education, Government of Malaysia, 02/11/2015 - 01/11/2017

- RM 225,000.00 research project on “Partnership Grant on Hybrid High Density Lead Frame Package”, University of Malaya, 2016 - 2018
- RM 446,842.11 research project on ‘Hybrid - High Density Lead Frame Package’ together with industrial partner, Freescale Semiconductor Inc. Jointly funded by Collaborative Research in Engineering, Science & Technology (CREST), Penang. Malaysia and Freescale Semiconductor, 2015- 2018
- RM 372,000 research project on ‘Corrosion Characteristics of Lead-Free Solder Alloys for Microelectronics’, UMRG Research Grant funded by Ministry of Higher Education (MOHE), 2013-2015
- RM 125,000 research project on Fabrication, ‘Characterization, Mechanical and Tribological Tests of Aluminium Matrix Composites for Automotive Applications’, RAKAN Research Grant, IPPP, 2013-2015
- RM300,000 research project on ‘Development of Nanoparticle Loaded TiO<sub>2</sub> Nanowires for Hazardous Gas Sensing Application, UMRG Research Grant, 2012-
- RM2,683,000 research project on ‘Nano-mechanical Properties of Advanced Lead Free Solder for Microelectronic Packaging’, High Impact Research Grant Scheme, funded by Ministry of Higher Education (MOHE), Government of Malaysia, 2012-2016
- RM 86,000 research project on ‘Electrodeposition of Sn-Ag-Bi Lead-Free Solder’, Exploratory Research Grant Scheme (ERGS), funded by Ministry of Higher Education, Government of Malaysia, 2011 - 2013
- RM 325,000 research project on ‘Growth of TiO<sub>2</sub> nanowires in Ti Alloy Particles Toward Fabrication of Novel Gas Sensors’, High Impact Research Grant Scheme, funded by Government of Malaysia under Research University scheme, 2010-2013
- RM 47,300 research project on ‘Study on the Interactions between Nanoparticles and Metallic Matrix, funded by the Ministry of Higher Education (MOHE), Government of Malaysia, 2010 under Fundamental Research Grant Scheme (FRGS)
- Research project on ‘Development of High Temperature Solder for High Power Die Attach Applications’ in cooperation with On Semiconductor, Seremban, Malaysia, 2009-2011.
- RM 185,000 research project on ‘Development of Robust Diffusion Barrier Films for Microelectronic Packaging Applications’, UMRG Grant, 2009-2013
- RM 247,000 research project on ‘Study of Corrosion and Tribo-Corrosion of Automotive Components and Their Durability in Palm Oil Based Biofuel’ funded by MOSTI, Government of Malaysia, 2008.
- RM 236,000 research project on ‘Nanocomposite based Eco-Friendly Solder for Microelectronic Packaging Applications’, funded by MOSTI, Government of Malaysia, 2007.
- RM 10,000.00 research project on Characterization of LIGA Fabricated Nanocrystalline Ni-W Alloys for High Temperature MEMS Applications, funded by PJP, UM, 2006.
- US\$ 0.4 million R&D project on composite materials funded by the Belgian Agency for Development Co-operation, 2004
- US\$ 0.4 million R&D project on surface engineering and materials characterisation funded by the Belgian Agency for Development Co-operation and Government of Bangladesh, 1998

#### 14. Selected Invited Lectures/Presentations

- **‘Semiconductor Manufacturing Demystified: Potential Opportunities for Bangladesh’**  
Keynote Presentation at the Seminar on “Unleashing the Potential of Semiconductor Industry in Bangladesh”, 15 May 2024, Dhaka Chamber of Commerce & Industry (DCCI),
- **‘Ceramic and Glass Technology Education in the Era of Industrial Revolution 4.0’**  
Keynote Presentation, Technical and Vocational Education Week 2024, 02 May 2024, Bangladesh Institute of Glass and Ceramics, Dhaka
- **‘Smart Materials and Chemical Sensors based on Nanostructured Smart Materials’**  
Invited Lecture, Workshop on Smart Materials, 11 January 2024, Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka
- **‘Chemically Induced Failure of Semiconductor Packages: Impact of Miniaturization’**  
Plenary Lecture, 5th International Conference on the Science and Engineering of Materials, SPPM 2023, 21 November 2023, Kuala Lumpur, Malaysia
- **‘Nanostructured Semiconducting Metal Oxides for Highly Sensitive Gas Sensors’**  
Keynote Lecture, 1st International conference on Mechanical, Materials and Production Engineering (IUT-ICMMPE) on 21-22 July 2023. Islamic University of Technology (IUT), Gazipur, Bangladesh
- **‘Capstone Project: Necessity, Nature and Implementation’**  
Industrial and Production Engineering Dept., BUET, Dhaka, 16 July 2023
- **‘Project Based Learning and Capstone Project’**  
Materials and Metallurgical Eng Dept., Dept., BUET, Dhaka, 18 Jan 2023
- **‘Electronic Packaging: Materials and Reliability Enhancement through Nanoparticle Reinforcement’**  
Keynote Lecture, BCSIR Congress-2022, Bangladesh Council of Scientific and Industrial Research (BCSIR), Technical Session: TS-2B (Materials and Metallurgy), 02 December 2022 (Friday)
- **‘Ceramics: Consumer of Energy and Enabler of New Energy Technologies’**  
Keynote Lecture, Seminar 1, CERAMIC EXPO Bangladesh, Bangladesh Ceramic Manufacturers & Exporters

- Association (BCMEA), 24 November 2022, International Convention City Bashundhara, Dhaka
- **‘Constructive Alignment and Assessment in Outcome Based Education’**  
Physics Department, BUET, Dhaka, 02 Nov 2022
  - **‘OBE implementation at course level: Practices in the Malaysian Universities’**  
Institutional Quality Assurance Cell (IQC), BUET, 04 September. 2022
  - **‘Template for Designing Outcome Based Education’**  
Workshop-2: OBA, Self-Assessment Committee (SAC), Department of Mathematics, BUET, Dhaka, August 23, 2022
  - **‘Chemistry of Commercial No-Clean Fluxes and Their Effects on Reliability of Fine Pitch Flip Chip Package’**  
Invited Talk, IEEE, IEEE Electronic Packaging Society (EPS) Webinar Series 2022, 22 March 2022
  - **‘Outcome Based Education for Engineering Programs’**  
Invited Lecture, Daffodil International University, 23 Jan 2022
  - **‘Challenges of Fourth Industrial Revolution and Impact on Employment’**  
Invited Lecture, North-West Power Generation Company Limited, Dhaka, 12 December 2021
  - **‘Converting Thesis Literature Review into Review Paper’**  
Invited Lecture, Islamic University of Technology, Gazipur, Dhaka, 21 Nov 2021
  - **‘Chemically Induced Reliability Issues in Electronic Packages in the Presence of Contaminants’**  
Invited Paper at 2021 Materials Research Society-Taiwan International Conference (2021 MRSTIC), 13 – 17 Nov. 2021 [Virtual Conference]
  - **‘Higher Education in the Era of Industrial Revolution 4.0’**  
Invited Lecture, Webinar, Bangladesh Accreditation Council, Dhaka, 26 Sept 2021
  - **‘Metallic Nanoparticle Enhanced Lead-free Solder’**  
Invited Lecture, Webinar, Materials Science and Engineering, National Cheng Kung University, Taiwan, 22 Sept 2021.
  - **‘Higher Education in the Era of Industrial Revolution 4.0’**  
Invited Lecture, Webinar, Ahsanullah University of Science and Technology, Dhaka, 04 Sept 2021
  - **‘Creating Impact Out of University Research beyond Academia’**  
Invited Lecture, Islamic Institute of Technology, Gazipur, Dhaka, 28 August 2021
  - **‘Engineering Education in the Era of Industrial Revolution 4.0’**  
Invited Speaker, Webinar, Department of Mechanical Engineering and Aeronautics, City University London, UK, 25 Feb 2021
  - **‘Higher Education in the Era of Industrial Revolution 4.0’**  
Invited Speaker, Webinar, Institutional Quality Assurance Cell (IQAC), Bangladesh University of Engineering and Technology (BUET), Dhaka, 27 Dec 2020
  - **‘Nanostructured Semiconducting Metal Oxides for Highly Sensitive Gas Sensors’**  
Invited Lecture, Webinar, Faculty of Engineering, International Islamic University Malaysia (IIUM), 02 Sept 2020
  - **‘Achieving Research Impact’**  
Invited Lecture, UM Academia-Community Engagement Conference, University of Malaya Centre for Community Engagement and Sustainability (UMCares), 01 Oct 2019, Kuala Lumpur
  - **‘Gas Sensors Based on Nanostructured Metal Oxides Semiconductors’**  
Plenary Talk, 4th International Conference on the Science and Engineering of Materials (ICoSEM 2019), 26-28 August 2019, Kuala Lumpur, Malaysia
  - **‘Quality Assurance in Higher Education and Accreditation’**  
Invited talk at the University of Information Technology and Sciences (UITS), Dhaka, Bangladesh, 18 April 2019
  - **‘Internationalization of Universities’**  
Invited panel speaker at *Think KENT: Global Showcase Malaysia*, organized by the University of Kent, UK, 30 March 2019
  - **‘Introduction to Research Impact’**  
Invited talk at Research Capacity Development Workshop, under Erasmus+ CBHE project on Building Social Research Capacities in Higher Education Institutions in Lao PDR and Malaysia (BRECIL) Project, 27 March 2019, Kuala Lumpur
  - **‘Reactive Dissolution of Metallic Nanoparticles during Reflow and its Effects on Microstructure and Properties of Lead Free Solder Joints’**,  
Invited Paper presented at TMS 2019 Annual Meeting, The Minerals, Metals and Materials Society (TMS), USA, Symposium on Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XVIII, 10-14 March, 2019, San Antonio, TX, USA.
  - **‘Effects of Reactive Nanoparticle-Doped Flux on Structure and Properties of Lead Free Solder Joints for Electronic Packaging’**  
Invited lecture at Welding and Joining Research Institute, Osaka University, 8 February 2019, Osaka, Japan
  - **‘Improved Electronic Solder Micro-Joints through the Use of Reactive Nanoparticle-Doped Flux’**  
Plenary Paper at 21st International Conference on Advances in Material & Processing Technologies, 4-7 September 2018, Dublin, Ireland.

- ***'Reactive Nanoparticle Doped Flux for High Reliability Electronic Micro-joints'***  
Keynote Paper presented at 4th International Conference on Structure, Processing and Properties of Materials, SPPM 2018, 1-3 March 2018, Dhaka, Bangladesh
- ***'One Dimensional Metal Oxide Nanostructures as Gas Sensing Materials'***  
Invited Lecture at the City University London, 20 Apr 2018
- ***'Industrial Revolution 4.0 and Its Impact on Higher Education'***  
Invited talk given at the Institutional Quality Assurance Cell, Bangladesh University of Engineering and Technology (BUET), Dhaka, 03 February 2018
- ***'Nanoparticle Enhanced Lead Free Solders for Microelectronic Packaging'***  
Invited talk given at the Department of Mechanical Engineering & Aeronautics, City University London, 07 Apr 2017
- ***'Research at University of Malaya'***  
Houston Technology Center, Houston, Texas, USA, 28 January 2016
- ***'Nanometer Sized Metallic Additions to Lead-Free Interconnects: Effects on Microstructure and Properties'***  
Invited paper presented at the joint 37th International Electronics Manufacturing Technology (IEMT) and 18th Electronics Materials and Packaging Conference (EMAP), IEMT EMAP 2016, 20-22 Sept, 2016, Penang, Malaysia
- ***'Nanoparticle Doped Tin Based Solders: Interfacial Intermetallic Characteristics and Fracture Behaviour'***  
Invited lecture given at the International Symposium on Globalization in Joining Technology and Materials Science -Enhancing Collaboration Network in Greater Asia Region, Joining and Welding Research Institute, Osaka University, 14 October 2015
- ***'Metallic Nanoparticle Additions to Lead Free Solders: Influence on Interfacial Characteristics and Fracture Properties'***  
Invited talk given at the Department of Physics, King's College London, 01 Apr 2015
- ***'Interfacial Reactions Between Lead Free Solder and Copper Substrate in the Presence of Metallic Nanoparticles'***  
Invited lecture given at the Department of Metallurgy and Materials Engineering, Catholic University of Leuven (KU Leuven), 19 March 2014
- ***'Nanoparticle Reinforced Lead Free Green Solders for Microelectronic Packaging'***  
Invited paper, Symposium on Green and Sustainable Materials. 3rd International Conference on the Advancement of Materials and Nanotechnology, 19-22 November 2013, Penang, Malaysia
- ***'Processing and Structure of Metallic Nanoparticle Reinforced Lead Free Solder for Microelectronic Packaging'***  
Invited Paper, Presented at the 15th International Conference on Advances in Materials and Processing Technologies (AMPT 2012), 23 - 26 September 2012, University of Wollongong, NSW, Australia
- ***'Effects of Nanoparticle Addition on Interfacial Intermetallic Compound between Lead Free Solder and Copper Substrate'***  
Invited seminar given at the Materials Science and Engineering Department, Ohio State University, Columbus, Ohio, 21 October, 2011
- ***'Characterization of Tribo-Surface on Aluminium Metal Matrix Composites at Nanometre and Micrometre Length Scales'***  
Invited lecture presented at the United Kingdom - Malaysia - Ireland Engineering Science Conference 2011 12-13 July 2011, University of Malaya, Kuala Lumpur, Malaysia
- ***'Development of High Temperature Lead Free Solder for Die Attach Applications'***  
Invited lecture given at The Electronic Packaging Laboratory (IAVT), Center for Microtechnical Manufacturing, Technical University of Dresden, Germany, 17 September 2010
- ***'Scientific Writing: Title, Abstract, Keywords, Introduction'***  
Invited lecture in Scientific Writing Workshop for Engineering and Technology Research Cluster, Scholarly Publication Support Unit (Unit Sokongan Penerbitan Ilmiah, USPI), 7 April 2010
- ***'Nanocrystalline Nickel-Tungsten Alloys for LIGA Based Micro Electro Mechanical Systems (MEMS)'***  
Invited Lecture, Presented at the Graduate School of Science and Technology, Kumamoto University, 18 March, 2010
- ***'Frictional Surface Characteristics of Composite Based Automotive Brake Materials'***  
Invited Lecture, The 3rd International Conference on Structure, Processing and Properties of Materials, SPPM2010, 24-26 February 2010, Dhaka, Bangladesh
- ***'Tribo-Surface Chemistry of Braking'***  
Keynote lecture, National Tribology Conference 2009, 4-5 May 2009, Malaysian Tribology Society (MYTRIBOS) and Department of Mechanical Engineering, University of Malaya, Kuala Lumpur, Malaysia
- ***'Nanocrystalline Nickel-Tungsten Alloys for LIGA Fabricated MEMS Components'***  
Invited Paper, International Conference on Processing and Manufacturing of Advanced Materials: Processing, Fabrication, Properties, Applications, THERMEC'2009, August 25-29, 2009, Berlin, Germany
- ***'Integration of Technical and Business Issues in a Single Course in a Materials Engineering Curriculum'***  
Invited lecture, IUMRS-ICEM 2008, International Conference on Electronic Materials 2008, Symposium S: Materials Education, 28 July - 01 August 2008, Sydney, Australia

- ***'Metallic Nanocomposites and Nanostructures by an Inexpensive Method: Electrochemical Synthesis'***  
Invited lecture delivered at the International and INCCOM-6 Conference on Future Trends in Composite Materials and Processing, December 13, 2007, Indian Institute of Technology (IIT), Kanpur, India
- ***'Electrodeposited Nanocrystalline Alloys for LIGA MEMS Applications'***  
Seminar given at the Department of Metallurgy and Materials Engineering, Catholic University of Leuven, Belgium, 17 July, 2006
- ***'Nanocrystalline Ni-W Alloy: A Candidate Material in LIGA MEMS Technology'***  
Seminar given at the Department of Materials, University of Oxford, 29 June, 2006
- ***'Sponge Iron as a Raw Material for Steel Production: A Techno-Economic Overview'***  
Keynote presentation at the Seminar on the Prospects of Coal/Gas Based Sponge Iron Production in Bangladesh, 12 October, 2004, BUET, Dhaka
- ***'Materials Science and Engineering: Global and Local Perspectives'***  
Keynote Lecture Delivered at the Inaugural Session of the International Conference on Structure, Processing and Properties of Materials, SPPM 2004, 25 February, 2004, Dhaka
- ***'Characterization and Application of Bangladesh Zircon'***  
Delivered at National Roundtable on "Potential Opportunities in Beach Sand Mineral Deposits in Bangladesh", 28 October, 2003, Dhaka
- ***'Behaviour of Materials in Extremely Corrosive Environments'***  
Delivered at The Institution of Engineers Bangladesh, Rangadia Centre, Chittagong, 21 June, 2003
- ***'Materials Technology for the Light Engineering Industries of Bangladesh: Need for Training and Technical Support Services'***  
Delivered at Tech Transfer 2002: Bangladesh, 18 February, 2002, Dhaka
- ***'Synthesis of Advanced Materials by Electrodeposition'***  
Delivered at the Electronic Packaging and Assembly Centre, City University of Hong Kong, Hong Kong, 11-19 September, 2001
- ***'Electrodeposition of Thin Films'***  
A series of two invited lectures delivered at the SERC (Science and Engineering Research Council, Govt. of India) School on Surfaces, Interfaces and Clusters, Saha Institute of Nuclear Physics, Calcutta, India, 18 and 19 January, 2001
- ***'Chemical and Structural Nature of Electrochemically Synthesized Hard Iron-Carbon Based Alloys'***  
Delivered at the Environmental Materials Chemistry Laboratory, Kyushu School of Engineering, Kinki University, Japan, 08 June, 2000
- ***'Materials Aspects of Tribology'***  
Delivered at the Surface Science and Thin Film Laboratory, Department of Materials Science and Engineering, Kyushu University, Japan, 31 January, 2000
- ***'Improvement of Tribological Properties of Ductile Iron through Thermal Processing'***  
Delivered at the Mechanical Engineering Department, University Malaya, Kuala Lumpur, Malaysia, 23 July, 1999
- ***'Characterization and Upgrading of Bangladesh Ilmenite'***  
Delivered at the Materials Science and Engineering Department, Ohio State University, USA, 15 May, 1998
- ***'Novel Microstructures by Electrochemical Deposition'***  
Delivered at the:
  - i) Nuclear Science Centre, New Delhi, India, 5 March, 1998
  - ii) Lucent Technologies, AT & T Bell Laboratories, New Jersey, USA, 11 March, 1998
  - iii) Research Institute of Theoretical and Applied Physical Chemistry (INIFTA), University of La Plata, Argentina, 10 April, 1998
- ***'Wonder World of Materials'***  
Delivered at the National Science and Technology Museum, Dhaka, 5 June, 1996

## **15. Consultancy / Industrial Experience**

### **15.1 General Areas**

Has been providing expert services to various industries including manufacturing, engineering, chemical, fertilizer etc. Has the experience of acting as departmental coordinator for testing and consultation, and of liaising with government and private industries. Worked as consultant on engineering industries of Bangladesh for the World Bank, SouthAsia Enterprise Development Facility (SEDF). Has rendered research consultancy services, training, knowledge transfer to different industries including NXP, On Semiconductor; ST Microelectronics, Nexperia, Motorola, SPANSION, etc. Generic areas of consultancy/research expertise rendered include:

- Development of lead free solder for electronic packaging
- Development of research manpower in materials engineering
- Analysis of industrial sector, e.g., engineering industries

- Evaluation of materials processing plants/projects including ceramics, steel, fabrication
- Failure analysis of industrial components and plants e.g., power plants, chemical industries, plastics processing etc.
- Materials selection
- Process selection e.g., welding, tube making, casting, wire drawing etc.
- Metallography
- Different materials testing services

### **15.2 Some Selected Consultancy Work**

- *Consultant.* Advisory service provided to Shahjalal International Airport (HSIA) Expansion Project, Terminal 3 on the quality assurance and quality control of glass glazing in external façade, internal glazing and skylight, 2023.
- Estimation of damage of raw materials of Nasir Glassware & Tube Industries Limited (NGTIL) caused by fire, 2022.
- *Consultant.* Estimation of damage of raw materials of Nasir Glassware & Tube Industries Limited (NGTIL) caused by fire, 2022.
- *Consultant.* Knowledge transfer to semiconductor packaging company, Nexperia Malaysia Sdn. Bhd. Seremban through training workshop for engineers and managers on failure analysis of electronic devices, Apr-May 2022
- *Consultant.* External Peer Review service to Institutional Quality Assurance Cell (IQAC), Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, to assess Bachelor of Science in Industrial and Production Engineering Programme, 10-12 June 2018
- *Consultant.* External Peer Review service to Institutional Quality Assurance Cell (IQAC), University of Asia Pacific (UAP) Dhaka, Bangladesh, to assess Bachelor of Science in Civil Engineering Programme, 24-26 January 2018
- *Consultant.* Knowledge transfer to semiconductor packaging industry viz. Nexperia, Seremban, ST Microelectronics, Johor; On Semiconductor, Seremban during (2016-2022) by offering different course on materials issues, corrosion and, failure analysis, reliability of semiconductor devices.
- *Consultant on Outcome Based Engineering Education.* Under a World Bank Project on Higher Education Enhancement Programme (HEQEP) in Bangladesh, Department of Naval Architecture and Marine Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka Bangladesh, 2012-2013.
- *Consultant, Design and Conduct of Training for the Development of Research Man Power in Nanomaterials.* Department of Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka Bangladesh, 2012.
- *Expert Services Related to Patent Infringement Issues of Semiconductor Testing Apparatus.* JF Technology, Kuala Lumpur, 2010-12.
- *Consultant, Design and Conduct of Training for the Development of Research Man Power in Materials Engineering.* The Institute of Mining, Mineralogy and Metallurgy, Bangladesh Council for Scientific and Industrial Research, Joypurhat, Bangladesh, November 2008.
- *Characterization of Deposits in a Failed Amine Pump in a Petrochemical Industry.* Quadrant 2 Technologies Sdn. Bhd., Kuala Lumpur, 2007
- *Failure Analysis of Primary Superheater Tube of Boiler No. 2 of Karnaphuli Fertilizer Company Ltd.* Karnaphuli Fertilizer Company Ltd., Chittagong, 2005
- *Investigations into Corrosion of Roof Panels of Gulshan Spinning Mills Ltd. At Sherpur,* Gulshan Spinning Mills Ltd., Dhaka, 2004
- *Forensic Investigations on Five Taka Coin,* Bangladesh Bank, Dhaka, 2004
- *Study on Engineering and Light Engineering Sector in Bangladesh,* The World Bank Group, SouthAsia Enterprise Development Facility (SEDF), Dhaka, 2004
- *Metallographic Examination of Manhole Cover Material,* Water and Sewerage Authority (WASA), Dhaka, 2003
- *Tests on Stained Aluminium Sheets,* Allied Inspection Company Limited, Chittagong, 2002
- *Investigation in to Wear Failure of Leaded Bronze Bearing of a Plastic Calendaring Industry*
- Bolta, Dhaka, 2002
- *Investigations on Corrugated Iron Sheets,* Directorate of Relief and Rehabilitation, Government of Bangladesh, Dhaka, 2002



- *Estimation of Acid Requirements during the Manufacture of Wire Nail and G. I. Wire*, Bijoy Wire Nail Industries, Dhaka, 2001
- *Failure Analysis of Superheater Tube Supports of the Primary Reformer in Zia Fertilizer Factory*, Zia Fertilizer Factory, Ashuganj, Bangladesh, 2001
- *Evaluation of Corrosion Damage of Galvanised Coating on Steel Angles*, Hyundai Engineering and Construction Co. Ltd., Megnaghat 450 MW CCPP Project, Dhaka, 2001

### ***15.3 Industrial Research Collaboration (Selected)***

<b><u>Company</u></b>	<b><u>Area</u></b>	<b><u>Activities</u></b>	<b><u>Year</u></b>
NXP Semiconductors Malaysia Sdn Bhd	Packaging and Process Development of Low Cost Universal Substrate	- Research collaboration (joint development) - Joint publication	2017 - 2021
NXP Semiconductors Malaysia Sdn Bhd	Embedded Ball Grid Array Package	- Research collaboration (joint development) - Joint publication	2017 - 2021
On Semiconductor, Seremban	Transient Liquid Phase (TLP) soldering for high temperature die attach	- Research collaboration (joint development) - Joint publication	2015 – 2017
Freescale –NXP Semiconductor, Kuala Lumpur	Hybrid High Density Lead Frame Package	- Joint research and development project funded by CREST and NXP, Malaysia	2014 – 2020
On Semiconductor, Seremban	Development of High Temperature Die Attach materials	- Research project collaboration (joint development) - Joint publication - Patents	2009 – 2012
JF Technology, Kuala Lumpur	Selection and Performance of Contact Materials	- Consultancy - Undergraduate thesis	2011-2012
Spansion, Kuala Lumpur	Optimization of copper wire bonding	- Undergraduate thesis	2010-2011
Motorola, Penang	Failure analysis of liquid crystal display, Stress induced degradation of plastic, Factography of speaker voice coil	- Undergraduate / postgraduate thesis	2007-2010
Freescale Semiconductor, Selangor	Lead free solder, wire bonding	- MOSTI research project collaboration - Joint publications - Undergraduate / postgraduate thesis	2007-2009

## **16. Peer Reviewer of International Journal/Conference**

Has been serving as peer reviewer in the area of electronic materials, nanomaterials, tribology etc. for international journals/conferences/research projects including the following:

### ***Partial List***

- Journal of Electronic Materials, 2020
- Journal of Materials Research and Technology, 2020
- Materials Letter, 2020
- Sensors and Actuators B, 2020
- Journal of Alloys and Compounds, 2019
- Materials Research Bulletin, 2020
- Ceramic International, 2019
- Journal of Materials, 2019
- Journal of Materials Science, 2018
- Journal of Electronic Materials, 2018
- Journal of Materials Science: Materials in Electronics, 2018
- Journal of Materials Science: Materials in Electronics, 2017

- Journal of Electronic, 2017
- Sensors and Actuators B, 2017
- Journal of Materials Science: Materials in Electronics, 2016
- ACS Applied Materials and Interfaces, 2016, 2015
- Journal of Alloys and Compounds, 2016, 2014
- Reviewer, Journal of the Institute of Chemical Engineers Taiwan, Elsevier, July 2015
- Vacuum, June 2015
- Journal of Electronic Materials, 2015
- Journal Sains Malaysiana, 2013
- Sensors and Actuators B: Chemical, 2016, 2013
- International Journal of Corrosion, 2013
- Materials Research Bulletin, 2013
- Fuel, 2013
- Journal of Materials Science, 2012, 2013
- 5th BSME International Conference on Thermal Engineering, 21-23 Dec 2012, Dhaka, Bangladesh
- Advances in Condensed Matter Physics, 2012
- International Conference on Advances in Manufacturing and Materials Engineering (ICAMME), 3-5 July 2012 in Kuala Lumpur.
- Corrosion, Elsevier, 2012
- Medical and Engineering Physics, Elsevier, 2011
- 5th Kuala Lumpur International Conference on Biomedical Engineering, Kuala Lumpur, 20-23 June 2011.
- Energy & Fuels, Elsevier, 2011
- United Kingdom – Malaysia – Ireland Engineering Science Conference, UMIES 2011, 12-14 July, Kuala Lumpur, Malaysia
- Electrochemistry Communications, Elsevier Science
- Microelectronic Engineering, Elsevier Science
- Journal of Oil Palm Research
- Rubber Chemistry and Technology, American Chemical Society
- Tribology International, Elsevier Science
- Journal of Nanoscience and Nanotechnology, American Scientific Publishers
- Materials Science and Engineering: A, Elsevier Science
- 14th International Conference on Wear of Materials WOM 2003, 30 March-3 April, 2003, Washington DC, USA (Elsevier Science)
- Wear, Elsevier
- Materials Letter, Elsevier
- 16th International Conference on Wear of Materials, WOM 2007, April 15-19, 2007, Montreal, Canada (Elsevier Science)
- 17th International Conference on Wear of Materials, WOM 2009, April 19 – 23, 2009, Las Vegas, USA (Elsevier Science)

## 17. External Examiner of Some Graduate Theses

PhD	Microstructure and Mechanical Properties of Compound and High Entropy Alloy Coatings, University of New South Wales, Australia, January 2020
PhD	Evaluation of Thermal and Optical Performance of Low- and High-Power Light Emitting Diodes, University Sains Malaysia, December 2019
PhD	Investigation of Adhesion Between Microwave Plasma Treated Epoxy Resins and Silicone, University Sains Malaysia, November 2019
PhD	The Effect of Calcium Phosphate Coating Pre-Treated with Sodium Hydroxide and Polydopamine on Properties of Biodegradable Magnesium, University Technology Malaysia, 2015
PhD	Influence of Alloying Elements and Aging Treatment on the Phase Transformation Behaviour of Copper based Shape Memory Alloys, University Technology Malaysia, 2014
PhD	Investigation of Physical, Electrical, Thermal and Mechanical Properties of Silver-Copper Nanopaste as Die-Attach Material for High Temperature Applications, University Sains Malaysia, 2014
PhD	Damage based models for fatigue of solder interconnects, Norhashimah binti Mohd Shaffiar, University Technology Malaysia, 2012
PhD	Fabrication and Mechanical Characterization of Al <sub>2</sub> O <sub>3</sub> Layered Composite with Graded Metal Matrix Composites, H. P. Thirtha Prasada, Visvesvaraya Technological University, India, 2012
PhD	Investigation on the Illumination Property of MgO Protective Layer for Alternating Current Plasma Display Panel, Jufri Adi, International Islamic University, Malaysia, 2011
PhD	Tribological Behaviour of Titanium Alloys in Cryogenic Environment, Yap Tze Chuen, Multimedia University, 2011

PhD	Allotropic Phase Transformation and Mechanical Alloying of Cobalt and Al <sub>2</sub> O <sub>3</sub> -Cobalt Nanocomposite, Yeo Wee Sing, University of Malaya, 2010
PhD	Effects of Deformation and Recrystallization on Mechanical Properties of 7075 Aluminum Alloy, Mohammad Tajally, University of Malaya, Dec 2009
PhD	Sintering Behaviour and Mechanical Properties of Synthesized Hydroxyapatite Bioceramics, T C Yong, University of Malaya, 2008
PhD	Tribological Study of Palm Oil Methyl Ester Added Lubricant for Automotive Tribo-Materials Under Boundary Lubrication, University of Malaya, 2001
M.Sc. Eng.	Fabrication of Copper-Silicon Carbide Composite using Powder Metallurgy Route, Fatimah Azreen binti Ahmad Razi, International Islamic University, Malaysia, 2011
M. Eng.	Incorporating Microstructure Evolution in Constitutive Model for Pb-free Solder, Amir Aizad Mohd Farith, University Technology Malaysia, June 2011
M. Eng.	Microstructure and Mechanical Properties of Beta-Tri-calcium Phosphate/Hydroxyapatite Composite Prepared by Gel Casting, Saeid Baradaran, University of Malaya, April 2011.
M. Eng.	Preparation of Mullite-Zirconia Composite by Using Electrophoretic Deposition, Ahmad S. Mahdi, 2010
M. Eng.	Thermal Shock Behavior of Mullite Zirconia Obtain by Electrophoretic Deposition, Zaid A. Sabre, University of Malaya, 2010
M. Eng.	Effects of Temperature & Baking Duration on Intermetallic Compound Formation for Lead vs. lead Free Solders, University of Malaya, July 2008
M. Eng.	Combustion Synthesis (SHS) of Composite Materials based on Boride/Aluminide System 2008 (Dept. of Engineering Design and Manufacture, UM)
M. Eng.	Effects of Chromium Addition on Fatigue Crack Growth Behaviour of Titanium Aluminides 2007 (Faculty of Mechanical Engineering, University of Technology, Malaysia)
M. Eng. Sc.	Fabrication of Calcium Phosphate Coating Using Radio-Frequency Magnetron Sputtering, 2007 (Dept. of Engineering Design and Manufacture, UM)
M. Sc. Eng.	Effect of Humidity and Vibration on the Friction and Wear of Mild Steel, 2002 (Dept. of Mechanical Eng., BUET, Dhaka)
M. Sc. Eng.	Modelling of Reactive Sputtering, 2001 (Dept. of Electrical and Electronic Eng., BUET, Dhaka)
M. Sc. Eng.	Elastic -Plastic Behaviour of a Circular Rod under Combined Tension and Torque, 2001 (Dept. of Mechanical Eng., BUET, Dhaka)

## 18. Conferences, Short Courses, Workshops Organised/Offered/Contributed

- Resource Person, ‘Leadership for Academics: An Introduction’ Teachers’ Appreciation Workshop, Directorate of Continuing Education (DCE), Bangladesh University of Engineering and Technology (BUET), 19 March, 2024, Dhaka
- Resource Person, Workshop on ‘Introduction to Outcome-Based Education: Teaching-learning and Assessment’, Institutional Quality Assurance Cell (IQAC), Bangladesh University of Engineering and Technology (BUET), Dhaka, March 03, 2024, BUET, Dhaka
- Resource Person, ‘Complex Engineering Problems and Complex Engineering Activities’, Workshop on Hands-on Orientation on Outcomes-based Education, Board of Accreditation for Engineering and Technical Education (BAETE), 11-12 February 2024, Council Hall, 1st Floor, Institution of Engineers (IEB) Head Quarters, Ramana Dhaka,
- Resource Person, Workshop on *Hands-on Orientation on Outcomes-based Education*, Board of Accreditation for Engineering and Technical Education (BAETE), 3-4 February 2024 Council Hall, 1st Floor, Institution of Engineers (IEB) Head Quarters, Ramana Dhaka,
- Resource Person, Workshop on ‘Introduction to Outcome-Based Education: Teaching-learning and Assessment’, Institutional Quality Assurance Cell (IQAC), Bangladesh University of Engineering and Technology (BUET), Dhaka, January 18, 2024, BUET, Dhaka
- Resource Person, ‘Attainment of Program Outcomes in Engineering Education’, Workshop on ‘Outcome Based Education’, Computer Science and Engineering Dept, Bangladesh University of Engineering and Technology (BUET), 16 Sept 2023, Dhaka
- Resource Person, Workshop on ‘Research Skill Development’, Directorate of Continuing Education (DCE), Bangladesh University of Engineering and Technology (BUET), 01-02 August 2023, Dhaka
- Resource Person, ‘Capstone Project: Necessity, Nature and Implementation’, Workshop on Outcome Based Education, Industrial and Production Engineering Dept., BUET, Dhaka, 16 July 2023
- Resource Person, Workshop on ‘Project Based Learning and Capstone Project in Outcome based Education’ Organized by Department of Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, 17 Jan 2023
- Resource Person, ‘Constructive Alignment and Assessment in Outcome Based Education’, Workshop on ‘Outcome Based Education’, Organized by Department of Physics, Bangladesh University of Engineering and Technology (BUET), Dhaka, 02 Nov 2022

- Resource Person, ‘*OBE Implementation at Course Level: Practices in the Malaysian Universities*’, delivered at Experience Sharing Workshop on Outcome Based Assessment, Institutional Quality Assurance Unit (IQAC), BUET, 04 September 2022
- Resource Person, ‘*Workshop-2: Outcome Based Education*’ Organized by Department of Mathematics, Bangladesh University of Engineering and Technology (BUET), Dhaka, 23 August 2022
- Resource Person, Workshop on ‘*Failure Analysis of Electronic Devices*’, for engineers and managers of Nexperia Malaysia Sdn. Bhd. Seremban, Malaysia, 20 Apr, 27 Apr, 19 May 2022
- Resource Person and Organizer, ‘*Research Impact Planning Workshop*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 25 May 2022
- Chair, Technical Session #2, *International OBE Symposium 2021*, 27 Nov 2021, Ahsanullah University of Science and Technology, Dhaka
- Moderator and Organizer, ‘*Networking Session on Smart Agriculture*’, Innovative Industry and Sustainability Science Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 22 October 2021
- Resource Person and Organizer, Workshop on ‘*Impact Case Study Writing*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya 12 October 2021
- Resource Person and Organizer, ‘*Impact Development Workshop*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 26 July 2021
- Member of the Jury, *Falling Walls Lab Malaysia*, DAAD Information Centre Kuala Lumpur, 22 Sept 2021
- Resource Person and Organizer, Workshop on ‘*Towards Achieving Research Impact*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 26 July 2021
- Moderator, Webinar on ‘*Making Sense of Research Impact*’, The Malaysian Association of Research Managers and Administrators (MyRMA), 07 December 2021
- Panelist, ‘*UM Journey on the Road to Impact*’, in Webinar on Planning for Research Impact, Organised by Social Innovation Movement, 01 Dec 2020
- Resource Person, Workshop on ‘*Scientific Paper Writing for High Impact Journals*’, 01 Nov 2020, Organized by Department of Research, Extension, Advisory Services and Publications (REASP), Islamic Institute of Technology (IUT), Gazipur, Bangladesh.
- Resource Person and Organizer, ‘*Research Grant Proposal Writing: Attaining Essential Quality for Success*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 11 Nov 2020
- Resource Person, *Workshop on Scientific Paper Writing for High Impact Journals*, Research, Extension, Advisory Services and Publications (REASP), Islamic University of Technology, Dhaka, 01 Nov 2020
- Resource Person and Organizer, ‘*Impact Development Workshop*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 13 Sept 2020
- Resource Person and Organizer, ‘*Impact Development Workshop*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 14 and 15 July 2020
- Resource Person and Organizer, *Fundamental Research Grant Workshop*, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 21 Jan 2020
- Resource Person and Organizer, ‘*Research Grant Proposal Writing: Attaining Essential Quality for Success*’, Research Clusters, Institute of Research Management and Monitoring, University of Malaya, 06 Nov 2019
- Resource Person, ‘*Workshop on Quality Assurance and Accreditation in Engineering Education*’, University of Information Technology and Sciences, Dhaka, 17 April 2019
- Resource Person, *Introduction to Design of Experiments, Undergraduate Research Fellowship Bootcamp: Nurturing Research Passion*, 16-17 February 2019, MaGIC, Cyberjaya, Malaysia
- Resource Person, *Workshop on Scientific Paper Writing for High Impact Journals*, Institutional Quality Assurance Unit (IQAC), Bangladesh University of Engineering and Technology (BUET), Dhaka, 16 April 2019
- Resource Person, *Workshop on Scientific Paper Writing for High Impact Journals*, Joining and Welding Research Institute, Osaka University, Japan, 13 February 2019
- Organizer, *Journal Article Writing Workshop: Preparation for Publication*, 26 Jun 2018, IPPP, University of Malaya
- Resource Person, *Crystallographic Study Using X-Ray Diffraction: Fundamentals and Applications*, Material Characterization Workshop, Nano Kebangsaan 2017, Technology Park Malaysia, Bukit Jalil, Kuala Lumpur
- Chairman, *International Conference on the Science and Engineering of Materials, ICoSEM 2017*, 24-25 October, 2017, Armada Hotel, Kuala Lumpur
- Short Course on *Interconnect Reliability from Material Science Perspective*, 11, 25 July, 07 August 2017, delivered at On Semiconductors, Seremban, Negeri Sembilan (Resource person)
- Panelist, *Roundtable with Malaysia Recipients of European Research Grants: Tips and Advice, Workshop on Advancing Your Research career in Europe: Funding and Fellowship Opportunities for Researchers in Malaysia*, EURAXESS ASEAN and Asia-Europe Institute, University of Malaya, 13 June 2017
- Short Course on *Interconnect Reliability from Material Science Perspective*, 16, 23, 29 May 2017, delivered at On Semiconductors, Seremban, Negeri Sembilan (Resource person)
- Short Course on *Interconnect Reliability from Material Science Perspective*, 27-28 March, 25 April, 2017, delivered at On Semiconductors, Seremban, Negeri Sembilan (Resource person)

- Workshop on *Quality Assurance and Self Assessment of Engineering Programmes*, delivered at the Institutional Quality Assurance Cell, Bangladesh University of Engineering and Technology (BUET), Dhaka, 09 February 2017 (Resource person)
- Short Course on *Corrosion of Semiconductor Devices*, 16, 23-24 January 2017 delivered at NXP Semiconductors, Seremban, Negeri Sembilan (Resource person)
- Short Course on *Corrosion of Semiconductor Devices*, 7-9 December 2016, delivered at ST Microelectronics, Muar, Johor (Resource person)
- *Chairman, International Conference on Advances in Materials and Processing Technologies (AMPT)*, AMPT 2016, November, 2016, Pullman Bungsar Hotel, Kuala Lumpur
- Workshop on *Quality Assurance and Self Assessment of Engineering Programmes*, delivered at the Institutional Quality Assurance Cell, Bangladesh University of Engineering and Technology (BUET), Dhaka, 18 August 2016 (Resource person)
- Workshop on *Quality Assurance and Self Assessment of Engineering Programmes*, delivered at the Institutional Quality Assurance Cell, Bangladesh University of Engineering and Technology (BUET), Dhaka, 17 February 2016 (Resource person)
- *Member, Organizing Committee and Scientific Committee, Kuala Lumpur Symposium on Human Security Development, ASEAN University Network-Kyoto University, Themes: Energy Security, Water & Food Security, Public Health*, 23-24 November 2015, University Malaya, Kuala Lumpur
- *Chairman, 2nd International Conference on the Science and Engineering of Materials (ICOSEM2015)*, 16-18 November 2015, Kuala Lumpur, Malaysia
- *Co-Chair, International Symposium on Metallurgy and Welding Technology 2014 (ISMWT2014)*, 13th - 16th May 2014, Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia, Organized by the Institute of Materials Malaysia
- *Chairman, 1st International Conference on the Science and Engineering of Materials (ICOSEM2013)*, 13-14 November 2013, Kuala Lumpur, Malaysia
- Training Workshop on *Quality Assurance in Engineering Education*, 21 August 2013, Dept. of Naval Architecture and Marine Engineering (NAME), Bangladesh University of Engineering and Technology (BUET), Dhaka (Consultant, Resource Person)
- Training on *Self-Assessment of Engineering Programme*, 26-28 August 2012, Department of Naval Architecture and Marine Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh (Consultant, Resource Person)
- *Program Chair, 35th International Electronics Manufacturing Technology Conference*, 6- 8 Nov, 2012 at Kinta River Front Hotel, Ipoh, Perak, Malaysia, IEEE Malaysia
- *Workshop on Materials Characterization*, 17 July 2012, Faculty of Engineering, University of Malaya (Resource Person)
- Workshop on *Nanomaterials*, 27 June - 10 July, 2012, Department of Mechanical Engineering, University of Malaya (Coordinator, Resource Person)
- Forum on *Effective Teaching*, 19 July 2012, Department of Mechanical Engineering, University of Malaya (Chair, Resource Person)
- *Workshop on Smarter Science with Materials Studio – A Modeling and Simulation Package in Materials Engineering*, 28 June 2011, Faculty of Engineering, University of Malaya (Coordinator)
- Symposium on *Recent Advances in Biofuel Research*, 10 November 2010, Faculty of Engineering, University of Malaya (Chairman)
- Short Course on *Introduction to Nanometric Characterization of Materials by Transmission Electron Microscopy*, 23-24 June 2009, Department of Mechanical Engineering, University of Malaya (Coordinator)
- *Forum on Tribology – The Way Forward*, Malaysian Tribology Society (MYTRIBOS) and Department of Mechanical Engineering, University of Malaya, 5 May 2009 (Panel member)
- *Training on Advanced Materials Engineering*, Department of Mechanical Engineering, UM (in cooperation with University Sains Malaysia and International Islamic University of Malaysia, 17-30 November, 2008 (Coordinator and resource person)
- *Forum on University-Industry Partnership*, Department of Mechanical Engineering, Faculty of Engineering, University of Malaya, 05 March 2008 (Organizer and Moderator)
- *Short Course on Nanomaterials Synthesis and Applications*, Organised by the Department of Mechanical Engineering, UM, 10-12 July 2007 (Organiser and Resource Person)
- *Short Course on Science and Technology of Steelmaking*, Organised by the Department of Materials and Metallurgical Engineering, BUET, 07-08 July, 2005 (Organiser and Resource Person)
- *Short Course on Metal Casting Technology*, Organised by the Department of Materials and Metallurgical Engineering, BUET, 02-03 June, 2005 (Resource Person)
- *Seminar on the Prospects of Coal/Gas Based Sponge Iron Production in Bangladesh*, Organised by the Department of Materials and Metallurgical Engineering, BUET, 12 October, 2004 (seminar organiser and keynote presenter)
- *Short Course on Welding Technology*, Organised by the Department of Materials and Metallurgical Engineering, BUET, 02– 03 September, 2004 (Resource Person)
- *Advanced Training Programme on Ceramics Technology for the Instructors of Bangladesh Glass and Ceramic*

*Institute*, Directorate of Technical Education, Ministry of Education, Government of Bangladesh, Organised by the Department of Materials and Metallurgical Engineering, BUET, 05 June – 18 June 2004 (Resource Person on Characterisation of Ceramics)

- *Second International Conference on Structure, Processing and Properties of Materials, SPPM2004*, 25-27 February 2004, Dhaka, Bangladesh (Member, International Advisory Committee; Chairman, Academic and Review Committee and also involved in the organising the conference)
- *National Roundtable on “Potential Opportunities in Beach Sand Mineral Deposits in Bangladesh”*, Jointly Organized by Junior Chamber Bangladesh, and the Weekly Shaptahik 2000, 28 October, 2003, Dhaka (Moderator and involved in organising the roundtable)
- *Training Workshop on Reverse Engineering*, Bangladesh Institute of Technology, Three workshops held during May - June, 2003 (Member, Organizing Committee and Resource Person)
- *Workshop on Selection of Materials and Heat Treatment*, Department of Materials and Metallurgical Engineering, BUET April, 2003, Dhaka (Member, Organising Committee and Resource Person)
- *Workshop on Quality Assurance of Engineering and Technological Education: A Step towards Self-Reliance*, November 3, 2002 organised in observance of the National Education Week 2003 Member, (Organizing Committee and Rapporteur)
- *Workshop on Metallurgical and Quality of Welding*, Department of Materials and Metallurgical Engineering, BUET, October, 2002, Dhaka (contributed as a resource person and involved in organising the workshop)
- *Workshop on Metallurgical Quality of Structural Steel*, Department of Materials and Metallurgical Engineering, BUET, March, 2002, Dhaka (involved in the organising the workshop)
- *Short Course on Corrosion Protection for Industry*, Centre for Continuing Education, BUET, Dhaka, 6-9 January, 2002 (contributed as a resource person)
- *Seminar on Advances in Beach Sand Minerals Research in Bangladesh*, Department of Materials and Metallurgical Engineering, BUET, Dhaka, January, 2002, (involved in the organisation of the workshop)
- *BSME-ASME Short Course on Composite Materials*, Bangladesh Society of Mechanical Engineers (BSME), 29-30 December, 2001, Dhaka (contributed as a resource person)
- *Short Course on Reverse Engineering*, Bangladesh Institute of Technology, Khulna, Apr. 2001 (contributed as a resource person)
- *Short Course on Reverse Engineering*, Institute of Appropriate Technology, BUET, Dhaka, 27-31 January, 2001 (contributed as a resource person)
- *Training Course on Foundry Engineering*, Bangladesh Small and Cottage Industries Corporation, 11-12 June, 2000, Bogra (contributed as a resource person)
- *Short Course on Reverse Engineering*, Institute of Appropriate Technology, BUET, Dhaka, 1999 (contributed as a resource person)
- *Short Course on Reverse Engineering*, Institute of Appropriate Technology, BUET, Dhaka, 1998 (contributed as a resource person)
- *International Conference on Structure, Processing and Properties of Materials, SPPM97*, 15-17 November, 1997, Dhaka (organized as the Organizing Secretary)
- *The Third Annual Paper Meet APM '96*, Mechanical Engineering Division, Institution of Engineers, Bangladesh, 31 October - 02 November, 1996, Chittagong (organized as the Organizing Secretary)
- *The Second Annual Paper Meet APM '95*, Mechanical Engineering Division, Institution of Engineers, Bangladesh, 28-30 September, 1995, Rajshahi (organized as the Organizing Secretary)
- *The First Annual Paper Meet APM '94*, Mechanical Engineering Division, The Institution of Engineers, Bangladesh, 26-29 October, 1994, Khulna (organized as the Organizing Secretary)

## 19. Workshop/Short Course/Meetings/Training Attended

- *Diversity, Creativity, Innovation and Organisational Performance: New Strategy Implications on Managed Diversity for Leaders of High Performance Organisations*, University of Malaya, 9 Jun 2022
- *4th Regional conference for Presidents, Vice Presidents and Technology Transfer Officers of Universities and Research Institutions on Creating and Enabling Intellectual Property (IP) Environment, Technology Management and Commercialization*, World Intellectual Property Organization, 25-27 November 2019, Osaka, Japan
- *4<sup>th</sup> Higher Education Leadership & Governance Conference 2018: Humanising Higher Education*, 18-19 December 2018, Higher Education Leadership Academy, Ministry of Higher Education, Kuala Lumpur
- *APRU Vice Presidents for Research Meeting 2018*, Association of Pacific Rim Universities (APRU), 17-19 October 2018, University of California at San Diego, USA
- *ESGI-138 - European Study Group with Industry (ESGI)*, 16 – 20 July 2018, University of Bath, UK
- *Coaching and Mentoring for Academic and Institutional Leaders: Part 2*, 5 June 2018, Academic Development Centre, University of Malaya
- *The ASEAN European Academic University Network (ASEA-UNINET) Plenary Meeting*, 17-20 July 2017, University of Music and Performing Arts, Graz, Austria
- *Qalb-Guided Leadership: Leading with Heart*, 15 June 2017, Academic Development Centre, University of

Malaya

- *Global Innovation Index Conference: Its Contribution to the National Innovation Policy*, 3-4 May 2017, Kuala Lumpur
- *Workshop on Teaching with Neuro-Semantic NLP*, 30 November – 01 December 2016, Academic Development Centre, University of Malaya
- *Workshop on Scholarship of Teaching and Learning*, 22-23 December 2015, Academic Development Centre, University of Malaya
- *Workshop on R&D and Commercialization*, University of Nottingham Malaysia Campus, 13 September 2013, Mines Wellness Hotel, Seri Kembangan
- *Trends, Manufacturing Readiness, Supply Chain for Fan-Out and Fan-In WLP, TSV, LED Packaging IEEE Component*, Packaging and Manufacturing Technology Society, Malaysia Chapter, IOI Resort, Putrajaya, 24 September 2013
- *Power Devices and Packaging Technologies: Trends and Challenges of Future Power Electronic System Development*, IEEE Component, Packaging and Manufacturing Technology Society, Malaysia Chapter IOI Resort, Putrajaya, 24 September 2013
- *Building High Performance Team*, 28 November 2012, TACK International Plc., University of Malaya
- *Leadership and Leading Change*, 21 November 2012, TACK International Plc., University of Malaya
- *Workshop on What You Teach is What You Assess*, 12 June 2012, Academic Development Centre, University of Malaya
- *Workshop on Semiconductor Advanced Packaging Workshop*, 20 September, 2011, IEEE/CPMT Malaysia Chapter, Subang Jaya, Malaysia
- *Workshop on Postgraduate Studies and Research*, 17-19 December, 2010, Faculty of Engineering, University of Malaya, Kuantan, Malaysia
- *Postgraduate Supervision*, 22 June 2010, Academic Development Centre, University of Malaya
- *Designing a Course of Study and Assessment of Student Learning*, 21 June 2010, Academic Development Centre, University of Malaya
- *Curriculum Development and Assessment of Learners*, 26 April 2010, Academic Development Centre, University of Malaya
- *Dealing with Assessment Workshop*, 12 Nov 2009, Academic Development Centre, University of Malaya
- *Workshop on An Introduction to Designing Inquiry Courses*, 6 November 2009, Academic Development Centre, University of Malaya
- *Coaching for Learning Workshop: Winning with People*, 21 Apr 2009, Academic Development Centre, University of Malaya
- *Workshop on Socratic Questioning for Critical Thinking*, University of Malaya, 24 April 2008
- *Workshop on Planning Effective Instruction*, 29 April 2008, Academic Development Centre, University of Malaya
- *Workshop on Malaysian Qualification Framework*, 05 May 2008, Faculty of Engineering, University of Malaya
- *INTEL Packaging Technology Curriculum Workshop*, 2008, INTEL, Penang, Malaysia
- *Workshop on Problem Based Learning*, 23 Nov 2007, Department of Educational Psychology and Counselling, University of Malaya
- *Fourth ANKA Synchrotron Radiation Users' Meeting*, 6-7 October 2005, Institute of Synchrotron Radiation, Forschungszentrum Karlsruhe, Karlsruhe, Germany
- *International Nathiagali Summer College on Physics and Contemporary Needs, 2-7 July, 2001*, Organized by the National Centre for Physics and Pakistan Atomic Energy Commission at Nathiagali, Pakistan
- *International Nathiagali Summer College on Physics and Contemporary Needs, 27 June-11 July, 1996*, Organised by the Pakistan Atomic Energy Commission at Nathiagali, Pakistan
- *Course on Engineering Management*, Organised Jointly by Bangladesh University of Engineering and Technology, and University of Alberta, Canada, 18-20 March, 1995, Dhaka
- *SAARC (South Asian Association for Regional Co-operation) Regional Course on Technology Assessment and Technology Transfer*, Organised by the Ministry of Science and Technology, Govt. of Bangladesh and Institute of Appropriate Technology, Bangladesh University of Engineering and Technology, 18-24 December 1994, Dhaka
- *Workshop on Science and Technology of Thin Films*, Organised by the International Centre for Theoretical Physics, 7-21 March, 1994, Trieste, Italy
- *Advanced Training Course on Qualified Metal Casting Technology (Advanced Foundry Engineering)*, Sept. 1993 - Mar. 1994, Organized by Japan International Co-operation Agency at National Industrial Research Institute, Nagoya, Japan

## 20. University Services and Committee Activities, and Professional Activities

Please see Appendix B

# APPENDIX A

## Full Publication List

### A.1 Journal Publications

- (201) AA Baharuddin, BC Ang, A Haseeb, YH Wong, "Low Operating Temperature N-ZnO/PANI Chemiresistive Acetone Gas Sensor", J Mater Sci: Mat in Electronics, 35 (2024) 87
- (200) Lina Syazwana binti Kamaruzzaman; Yingxin Goh; Zi Ming Chang; A S Md Abdul Haseeb, "Interfacial Reactions in Electrodeposited Cu-Bi-Sn Multilayers", J Mater Sci: Mat in Electronics, , 34 (2023) 1767 [WoS-indexed]
- (199) Muhammad Nasir Bashir, ASMA Haseeb, Sumsun Naher, Muhammad Mahmood Ali, Mohamed Bashir Ali Bashir, Asad A Zaidi, Muhammad Jamshaid, Iqra Javed, "Effects of Cobalt Nanoparticle on Microstructure of Sn58Bi Solder Joint", Journal of Materials Science: Materials in Electronics, 34(4) (2023) 248 [WoS-indexed]
- (198) B Naureen, BC Ang, F Muhamad, A Haseeb, WJ Basirun, "Kappa-Carrageenan Modified Polyurethane Foam Scaffolds for Skeletal Muscle Tissue Engineering", Journal of Polymers and the Environment, 31 (2023) 2653–2667 [WoS-indexed]
- (197) YC Wong, YH Wong, BC Ang, AA Baharuddin, A Haseeb, "Effects of Polymerization Oxidants on the Fabrication of Electrospun PPy/WO<sub>3</sub> Composites", Journal of Materials Science: Materials in Electronics, 34(1) (2023) 33 [WoS-indexed]
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- (162) M. M. Arafat, A. S. M. A. Haseeb, S. Rozali, D. Brabazon, B. M. A. Rahman, K. T. V. Grattan, S. Naher, '*Synthesis of n-type ZnO and p-type CuO Nanowires by Thermal Oxidation on Metallic Substrates for Various Applications*', 25th International Conference on Material Forming, ESAFORM 2022, Braga, Portugal, 27-29 April, 2022
- (161) M. M. Arafat, A. S. M. A. Haseeb, D. Brabazon, B. M. A. Rahman, K. Grattan, S. Naher, '*Metal Oxide Based Chemiresistive Breath Sensors for Detection and Management of Diabetes*', Breath Biopsy Conference 2021, Digital, Owlstone Medical, UK, 12-13 Oct 2021
- (160) A.S.M.A. Haseeb, Yi Sing Goh, Ee Lynn Lee, Saif Wakeel, '*Chemically Induced Reliability Issues in Electronic Packages in the Presence of Contaminants*', Invited paper at 2021 Materials Research Society-Taiwan International Conference (2021 MRSTIC), 13 – 17 Nov. 2021 [Virtual Conference]
- (159) A. S. M. A. Haseeb, Ee Lynn Lee, Yi Sing Goh, Y. H. Wong, M. F. M. Sabri, B. Y. Low, '*Effects of Bromide and Adipic Acid on Electrochemical Migration of Tin*', Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XX, 2021 TMS Annual Meeting & Exhibition, 15-18 Mar 2021 [Virtual Conference]
- (158) M. M. Arafat, A. S. M. A. Haseeb, S. Naher, '*Novel Environmental Gas Sensors using TiO<sub>2</sub> Based Nanostructures*', Virtual conference, The City and Complexity – Life, Design and Commerce in the Built Environment, 17th - 19th June 2020, City University London, UK
- (157) B Naureen, A. S. M. A. Haseeb, WJ Basirun, FB Muhamad, '*Synthesis, Characterization and Antioxidant Potential of Biodegradable Polyurethane Based on Polypropylene Fumarate as Polyol*', 4th Asian Conference in Pharmaceutical Sciences (Asia PharmIV) 13 (09) (2019) 12
- (156) M. A. M. Akhbar, S. A. Rezan, K. Mohamed, M. M. Arafat, A. S. M. A. Haseeb, H.L. Lee, '*Synthesis of SnO<sub>2</sub> Nanoparticles via Hydrothermal Method and Their Gas Sensing Applications for Ethylene Detection*', *Materials Today: Proceedings* 17 (2019) 810–819
- (155) Yi Sing Goh, A. S. M. A. Haseeb, Y. H. Wong, M. F. M. Sabri, B. Y. Low, '*Effect of Varying Voltage and Concentration of Adipic Acid on Electrochemical Migration of Tin*', 4th International Conference on the Science and Engineering of Materials (ICoSEM2019), Kuala Lumpur, Malaysia, 26 - 28 August 2019
- (154) Ee Lynn Lee, A. S. M. A. Haseeb, Y. H. Wong, M. F. M. Sabri, B. Y. Low, '*In-Situ Study of Electrochemical Migration of Tin in Presence of Bromide Ion*', 4th International Conference on the Science and Engineering of Materials (ICoSEM2019), Kuala Lumpur, Malaysia, 26 - 28 August 2019
- (153) A. S. M. A. Haseeb, M. Nasir Bashir, G. K. Sujun, M. M. Arafat, S. L. Tay, Y. M. Leong, '*Reactive Dissolution of Metallic Nanoparticles during Reflow and Its Effects on Microstructure and Properties of Lead Free Solder Joints*', Invited Paper presented at TMS 2019 Annual Meeting, The Minerals, Metals and



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- (152) Gurbinder Sing and A. S. M. A. Haseeb, '*Copper Wire Bonding Strength and Grain Structure Improvement with Laser Assisted Heating*', International Microsystem Packaging, Assembly and Circuits Technology Conference, IMPACT 2018, 24-26, Taipei, Taiwan
- (151) A. S. M. A. Haseeb, M. Nasir Bashir, G. K. Sujan, '*Improved Electronic Solder Micro-Joints through the Use of Reactive Nanoparticle-Doped Flux*', Plenary Paper presented at 21st International Conference on Advances in Materials & Processing Technologies, 4-7 September 2018, Dublin, Ireland
- (150) A. S. M. A. Haseeb, M. Nasir Bashir, G. K. Sujan, '*Reactive Nanoparticle Doped Flux for High Reliability Electronic Micro-joints*', Keynote Paper presented at 4th International Conference on Structure, Processing and Properties of Materials, SPPM 2018, 1-3 March 2018, Dhaka, Bangladesh
- (149) D. Zhou, A.S.M.A. Haseeb, A. Andriyana, Y.H. Wong, M.F.M. Sabri, B. Y. Low, X. S. Pang, P.L. Eu, L.C. Tan, '*Thermal Stress Analysis of Leads in Quad Flat Package: A Parametric Study*', 38th International Electronics Manufacturing Technology Conference (IEMT 2018), IEEE Component, Packaging and Manufacturing Technology Society, 4-6 September, 2018, Ramada Plaza, Malacca, Malaysia
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- (145) Maisara A. M. Akhir, Khairudin Mohamed, Sheikh A. Rezan, M. M. Arafat, A. S. M. A. Haseeb, M. N. A. Uda and M. A. Nuradibah, '*Ethylene Gas Sensing Properties of Tin Oxide Nanowires Synthesized via CVD Method*', IOP Conf. Series: Materials Science and Engineering, Vol. 318 (2018), pp. 012038 (1-6 pages) [WoS-indexed]
- (144) M. N. Bashir, A.S.M.A. Haseeb, '*Effect of Ni and Co Nanoparticle Doped Flux on Microstructure of SAC305 Solder Matrix*', 3rd International Conference on the Science & Engineering of Materials 2017 (ICoSEM 2017), 24-25 October 2017, Kuala Lumpur, Malaysia
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- (138) P.Y. Chia and A. S. M. A. Haseeb, '*Reactions in Nanolayered Cu/Sn and Cu/Ni/Sn systems for ultra-small interconnects in electronic packages*', The International Symposium on Visualization in Joining & Welding Science through Advanced Measurements and Simulation, 26th-28th Nov, 2014, Osaka, Japan.
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- (132) A. Z. M. S. Rahman, P. Y. Chia, A. S. M. A. Haseeb, '*Nanomechanical Properties of Intermetallic Compounds formed in Electrodeposited Cu/Sn and Cu/Ni/Sn Multilayer Interconnects*', 36th International Electronics Manufacturing Technology Conference (IEMT 2014), 11th – 13th November, 2014, Johor Bahru, Johor, Malaysia
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- (130) P. Y. Chia, A. S. M. A. Haseeb, '*Liquid Solid Reactions in Electrodeposited Cu-Sn and Cu-Ni-Sn Multilayer Interconnects and their Mechanical Properties*', International Union of Materials Research Societies – International Conference on Electronic Materials 2014 (IUMRS-ICEM 2014), 10th – 14th June, 2014, Taipei, Taiwan
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- (127) Y. Goh, A. S. M. A. Haseeb, H. L. Liew, M. F. M. Sabri, '*Deformation and Fracture Behaviour of Electroplated Sn-Bi/Cu Solder Joints*', 15th International Conference on Electronic Materials and Packaging (EMAP 2013), 6-9 October, Seoul, Korea
- (126) M. H. Mahdavi, A. S. M. A. Haseeb, M. M. Arafat, '*Reflow of Sn-3.8Ag-0.7Cu Solder on Ni Substrate in Presence of Mo Nanoparticles*', 1st International Conference on the Science & Engineering of Materials (ICoSEM 2013), 13-14 November, 2013, University of Malaya, Kuala Lumpur
- (125) S. K., Ghosh, A. S. M. A. Haseeb, Amalina Afifi, '*Effects of Metallic Nanoparticle Doped Flux on Interfacial Intermetallic Compounds between Sn-3.0Ag-0.5Cu and Copper Substrate*', 15th Electronics Packaging Technology Conference (EPTC), Singapore, 11-13 December, 2013
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- (123) A.S.M.A. Haseeb, M. M. Arafat, Tay See Leng, Aemi Nadia, Y M Leong, Selina, '*Nanoparticle Reinforced Lead Free Green Solders for Microelectronic Packaging*' Invited Paper, Symposium on Green and Sustainable Materials. 3rd International Conference on the Advancement of Materials and Nanotechnology, 19-22 November 2013, Penang, Malaysia
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- (121) Shutesh Krishnan, A.S.M.A Haseeb, Mohd. Rafie, '*Fabrication of One-dimensional CuO Nanocrystals via Pulsed Wire Explosion: Structural, Optical and Electronic Characterizations*', 14th International Conference on Electronic Materials and Packaging (EMAP), 13 Dec - 16 Dec 2012, Hong Kong
- (120) A.S. M. A Haseeb, C. S. Chew, M. R. Johan, '*Interfacial Reactions between Sn-3.8Ag-0.7Cu Solder and Ni-W Alloy Films*' 35th IEEE CPMT International Electronics Manufacturing Technology Conference, 6 – 8 November, 2012, Kinta Riverfront Hotel, Ipoh, Perak, Malaysia
- (119) P. Y. Chia, A. S. M. A. Haseeb, '*Interfacial Reaction Between Ni-Zn Alloy Films and Lead-free Solders*', 35th IEEE CPMT International Electronics Manufacturing Technology Conference, 6-8 November, 2012, Kinta Riverfront Hotel, Ipoh, Perak, Malaysia
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- (113) Chiew Ying Heong, A.S.M.A. Haseeb, Goh Yingxin, S. F. Lee, 'Effects of Sn Concentration and Current Density on SnBi Electrodeposition without Additives', The 4th Asia Symposium on Quality Electronic Design (ASQED 2012), July 10-11 July 2012, Penang, Malaysia, 286 - 290. doi: 10.1109/ACQED.2012.6320517
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  - (5) A. Haseeb, B. Blanpain, G. Wouters, J. P. Celis, J. R. Roos, '*Electrochemical Deposition – A Method for the Deposition of Artificially Structured Materials*', Symp. On Nanophase Materials, E-MRS Fall Meeting, European Materials Research Society, 03-06 Nov. 1992, Strasbourg, France
  - (4) J. P. Celis, J. R. Roos and A. S. M. A. Haseeb, '*Electrodeposition of Cu/Ni Compositionally Modulated Multilayers by the Dual-Plating Bath Technique*', Presented at the 59th Int. Conf. Surface Finish., Apr. 24-26, 1991, Torquay, UK
  - (3) J. P. Celis, J. R. Roos and A. S. M. A. Haseeb, '*Electrolytic Composite Coatings by Multilayer Deposition*', Proceedings International Congress for Surface Technology, 11-13 Oct., 1989, Berlin, Germany.(also Presented at the above conference)
  - (2) A. S. M. A. Haseeb and Shahjahan Mridha, '*Nitriding of AISI 304 Stainless Steel in Ammonia*', Presented at 31st Ann. Conv. of the Inst. of Engrs., Bangladesh, Jan. 3-7, 1987, Khulna
  - (1) Q. Ahsan, M. E. Haque, A. S. M. A. Haseeb and A. S. W. Kurny, '*A Study on the Mechanical Properties of Mild Steel Liquid-Nitrided in Urea-Soda Baths*', Presented at the 11th Ann. Bangladesh Sci. Conf., Bangladesh Association for the Advancement of Science, March 2-6, 1986, Rajshahi

### **A.3 Edited Books/Proceedings/Book Chapters:**

- (19) A. S. M. A. Haseeb, Editor-in-Chief, *Encyclopedia of Materials: Electronics*, Elsevier, 2023
- (18) A. S. M. A. Haseeb, '*Nano-/ Micro Composites by Electrodeposition*', in: Composite Materials: Processing, Applications, Characterizations, Kamal K. Kar, Ed., Springer-Verlag: Berlin Heidelberg, 2017, pp 169-198. ISBN:978-3-662-49512-4 (Print) 978-3-662-49514-8 (Online)
- (17) A. S. M. A. Haseeb, Editor, *Reference Module on Materials Science and Materials Engineering, Electronic Materials Section*, Elsevier, 2015-2019
- (16) S. Ismail, Q. Ahsan and A. S. M. A. Haseeb, '*Recent Advances in Mechanical Surface Treatment*', in: Comprehensive Materials Finishing, Vol. 2: Surface and Heat Treatment Processes, M. S. J. Hashmi, Chief Ed., S. Mridha, Vol. Ed., 2017, pp. 171-179. Elsevier
- (15) M. M. Arafat, A. S. M. A. Haseeb, S. A. Akbar, '*Synthesis of one dimensional nanostructures of TiO<sub>2</sub> by thermal oxidation*', in: Reference Module in Materials Science and Materials Engineering (MATS), Saleem Hashmi (editor-in-chief), Oxford: Elsevier, (2016) 1-13, ISBN: 978-0-12-803581-8 <http://www.sciencedirect.com/science/referenceworks/9780128035818>
- (14) A. S. M. A. Haseeb, '*Electronic Materials*', Lead article in Electronic Materials Section (Section Editor: A. S. M. A. Haseeb) in: Saleem Hashmi (editor-in-chief), Reference Module in Materials Science and Materials Engineering. Oxford: Elsevier; 2016. pp. 1-2. ISBN: 978-0-12-803581-8
- (13) M. M. Arafat, A. S. M. A. Haseeb, S. A. Akbar, '*Developments in Semiconducting Oxide-Based Gas-Sensing Materials*', in: Comprehensive Materials Processing, S. Hashmi, Ed.; Elsevier Ltd., 2014; Vol. 13, pp 205–219. ISBN: 9780080965321
- (12) Q. Ahsan, A. S. M. A. Haseeb, N. I. Syahriah Binti Hussein, S. Y. Chang, '*9% Nickel Steels and Their Welding*



- Behavior*', in: Comprehensive Materials Processing, E. Bayraktar, Ed.; Elsevier Ltd., 2014; Vol. 6, pp 135–149. ISBN: 9780080965321
- (11) I. C. Gebeshuber and A. S. M. A. Haseeb, '*Nanotechnology Institute (ASME)*', in: Encyclopedia of Nanoscience and Society, (Eds. Guston D. and Golson J.G.), 1st edition (July 14, 2010), Sage Publications, CA, USA, ISBN-10: 1412969875, ISBN-13: 978-1412969871
  - (10) E. Haque, A. S. M. A. Haseeb, AKMB Rashid, M. F. Islam and M. Moniruzzaman, Editors, '*Proceedings of the 2nd International Conference on Structure, Processing and Properties of Materials SPPM 2004*', Dept. of Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology, 25-27 February 2004, Dhaka
  - (9) A. S. M. A. Haseeb, Editor, '*Basic Stoichiometry*', Bangladesh Technical Education Board, Dhaka, October, 2001
  - (8) A. S. M. A. Haseeb, '*Colouring of Metals*', Reverse Engineering Training Manual, Institute of Appropriate Technology, BUET, Dhaka, 2001, pp.144-148. [in Bengali]
  - (7) A. S. M. A. Haseeb, '*Surface Treatment*', Reverse Engineering Training Manual, Institute of Appropriate Technology, BUET, Dhaka, 2001, pp.132-143. [in Bengali]
  - (6) A. S. M. A. Haseeb, Editor, '*Refractories-2*', Bangladesh Technical Education Board, Dhaka, June, 2000
  - (5) Ehsanul Haque and A. S. M. A. Haseeb, Editors, '*Proceedings of the International Conference on Structure, Processing and Properties of Materials, SPPM '97*' Dept. of Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology, BUET, 15-17 November, 1997, Dhaka
  - (4) A. S. M. A. Haseeb and M. R. H. Khondaker, Editors, '*Proceedings of the Fourth Annual Paper Meet*', Mechanical Engineering Division, The Institution of Engineers, Bangladesh, 23-25 October, 1997, Khulna
  - (3) A. S. M. A. Haseeb, Editor, '*Proceedings of the Third Annual Paper Meet*', Mechanical Engineering Division, The Institution of Engineers, Bangladesh, 31 Oct.- 02 November, 1996, Chittagong
  - (2) A. S. M. A. Haseeb, Editor, '*Proceedings of the Second Annual Paper Meet*', Mechanical Engineering Division, The Institution of Engineers, Bangladesh, 28-30 September, 1995, Rajshahi
  - (1) A. S. M. A. Haseeb, Editor, '*Proceedings of the First Annual Paper Meet*', Mechanical Engineering Division, The Institution of Engineers, Bangladesh, 26-29 October, 1994, Khulna

#### **A.4 Other Academic Publications** (including newspaper articles, popular scientific articles etc):

- (39) A. S. M. A. Haseeb, 'Bangladesh in the Age of Nanotechnology', The Daily Star, Dhaka, 20 March 2024
- (38) A. S. M. A. Haseeb, '*BUET Launches New Undergraduate Program in Nanomaterials and Ceramic Engineering*', The Daily Star, Dhaka, 25 June 2023
- (37) A. S. M. A. Haseeb, '*Bangladesh can Become a Semiconductor Packaging Hub*', The Daily Star, Dhaka, 18 May 2023
- (36) A. S. M. A. Haseeb, '*What Role Should Universities Play in Innovation and Start-up Culture?*' (News Paper Editorial), The Daily Star, Dhaka, 01 September 2022
- (35) A. S. M. A. Haseeb, '*How University Research Can Create an Impact*', New Straits Times, Kuala Lumpur, 03 July 2020 (shorter version)
- (34) A.S.M.A. Haseeb, '*How University Research Can Create Impact*', Journal of Research Management & Governance, Vol. 3, Issue 1, pp. 42-44
- (33) A. S. M. A. Haseeb, '*How Bangladeshi Universities Can Make It to the World University Ranking*', The Daily Star, Dhaka, 02 July 2019
- (32) A. S. M. A. Haseeb, '*Can Our Universities Rely on Philanthropy*' New Straits Times, Kuala Lumpur, 21 June 2019
- (31) A. S. M. A. Haseeb, '*Philanthropic Fundraising for Higher Education*', Journal of Research Management and Governance, Vol 1, 2018, pp. 44-50
- (30) A. S. M. A. Haseeb, '*Higher Education in the Era of IR 4.0*' (News Paper Article), New Straits Times, Kuala Lumpur, 10 Jan 2018, also in The Financial Express, Dhaka, 04 April, 2018
- (29) A. S. M. A. Haseeb, '*Research Requires Resources*', ERGON – Bulletin for the UM Academic Community, Vol. 3 No. 1, Issue 4, April 2011, University of Malaya (ISSN 2180-2122)
- (28) A. S. M. A. Haseeb, '*Report on Proposed Curriculum Structure for Materials Engineering Programme at UM*', Submitted to the Department of Mechanical Engineering, University of Malaya, June 2008.
- (27) A. S. M. A. Haseeb, '*Upgrading Higher Education: Malaysian Experience*' (News Paper Editorial), The Financial Express, Dhaka, 02 February, 2008
- (26) M.A. Rahman and A.S.M.A. Haseeb, '*Challenges of Research and Graduate Studies in Engineering at BUET*', Proceedings, National Symposium on Engineering and Technical Education, Dhaka, 29 December, 2007
- (25) A. S. M. A. Haseeb, '*Problematic Power Sector*' (News Paper Editorial), The Daily Star, Dhaka, 30 November, 2006
- (24) A. S. M. A. Haseeb, '*For Science to Serve Society*', The Daily Star, Dhaka, 18 June, 2006
- (23) A. S. M. A. Haseeb, '*Opportunities in the Metal Casting Sector*', The Financial Express, Dhaka, 09 May, 2005
- (22) A. S. M. A. Haseeb, '*Achieving Excellence in Classroom Teaching in Our Universities*', The Daily Star, Dhaka, 05 April, 2005
- (21) A. S. M. A. Haseeb, '*Our Steel Sector and Tata's Investment Proposal*', The Daily Star, Dhaka, 25 November, 2004; Engineering News, vol. 31(3), pp. 4-5, 2005; also in Convocation Souvenir 2005, BUET, pp. 49-52; UGC Bulletin, vol. 5(1), pp.14-16

- (20) A. S. M. A. Haseeb, '*Ensuring Quality of Engineering Education*', The Daily Star, Dhaka, 26 September, 2004
- (19) A. S. M. A. Haseeb, '*The State of Steel Making in Bangladesh*', The Holiday, Dhaka, 23 April, 2004 (News Paper Editorial); Encouraging Steel Producers, The Financial Express, Dhaka, 16 April, 2004 (News Paper Editorial); also in Engineering News, Vol. 30(3), May-June, 2004
- (18) A. S. M. A. Haseeb, '*Materials Science and Engineering: Global and Local Perspectives*', Keynote Lecture, Inaugural Session of the International Conference on Structure, Processing and Properties of Materials, SPPM 2004, 25 February, 2004, Dhaka, Published in the Souvenir of SPPM 2004, pp. 13-19
- (17) A. S. M. A. Haseeb, '*The Saga of Beach Sand Minerals*', The Financial Express, Dhaka, 11 January, 2004 (News Paper Editorial)
- (16) A. S. M. A. Haseeb, M. Nurul Islam M. Kamal Uddin, '*Report on the Study of Engineering and Light Engineering Sectors in Bangladesh*', The World Bank Group, Southasia Enterprise Development Facility (SEDF), Dhaka, 2004
- (15) A. S. M. A. Haseeb, '*National Wealth Lying Neglected in the Sands*', The Financial Express, 10 January, 2004 (News Paper Editorial); '*Valuable Minerals Lying in the Beach Sand*', The Daily Star, Dhaka, 23 December, 2003
- (14) A. S. M. A. Haseeb, '*Optical Fiber*', Young Scientist, National Science and Technology Meuseum, Vol. 12, No. 3, 2003 [in Bengali]
- (13) A. S. M. A. Haseeb, '*Mineral Resources Need Research for Commercial Exploitation*', The Holiday, Dhaka, 12 September, 2003 (News Paper Editorial); The Prova, Vol. 7, 2002, pp. 16-20. [in Bengali]
- (12) A. S. M. A. Haseeb, '*Contributions of People in Light Engineering Sector towards Industrialisation of the Country*', The Financial Express, December 23, 2002 (News Paper Editorial); The Daily Ittefaq, December 01, 2002. [in Bengali] (News Paper Editorial); The Guardian, August, 2001
- (11) A. S. M. A. Haseeb, '*Stainless Steel*', Young Scientist, National Science and Technology Meuseum, Vol. 11, No. 2, 2002 [in Bengali]
- (10) A. S. M. A. Haseeb, '*Materials and Techniques for Information Storage in Hard Discs*', The Daily Sangbad, August 14, 2001 [in Bengali]
- (9) A. S. M. A. Haseeb, '*Wonder World of Materials*', Young Scientist, National Science and Technology Meuseum, Vol. 8, No. 4, 1998. [in Bengali]
- (8) A. S. M. A. Haseeb, '*The Engineering of Materials: Past, Present and Directions into the Future*', Proc. Int. Conf. on Engineering Profession in the 21st Century, The Institution of Engineers, Bangladesh, Dhaka, 5-7 November, 1997, pp. 97-106
- (7) A. S. M. A. Haseeb, '*Diamond Coating*', The Daily Sangbad, January 8, 1996 [in Bengali]
- (6) A. S. M. A. Haseeb, '*Intelligent Materials*', The Daily Sangbad, September 20, 1994 [in Bengali]
- (5) A. S. M. A. Haseeb, '*Memory of Metals*', Bigyan Shamoiky, Vol. 19(10), February, 1987 [in Bengali]
- (4) A. S. M. A. Haseeb, '*Physical Techniques in Metallurgy*', The Physicist, Bulletin of the Bangladesh Physical Society, Vol. 10(1), December, 1987
- (3) A. S. M. A. Haseeb, '*Duralumin*', Ajker Bigyan, Science and Technology Division, Ministry of Education, Govt. of Bangladesh, Vol. 4(1), July, 1986 [in Bengali]
- (2) A. S. M. A. Haseeb, '*Tin Plague*', Ajker Bigyan, Science and Technology Division, Ministry of Education, Govt. of Bangladesh, Vol. 3(4), February, 1986 [in Bengali]
- (1) A. S. M. A. Haseeb, '*Aluminium*', Ajker Bigyan, Science and Technology Division, Ministry of Education, Govt. of Bangladesh, Vol. 2(7), October, 1985 [in Bengali]

## APPENDIX B

### University Services & Committee Activities, and Professional Activities

#### B.1 University Services and Committee Activities

- Head, Department of Nanomaterials and Ceramic Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Sept 2023 - date
- Dean, Innovative Technology Research Cluster, University of Malaya, Kuala Lumpur, Malaysia, Apr 2013 – June 2022
- Member, Screening Committee for the appointment of Professor and Associate Professor, Faculty of Engineering, University of Malaya, 2022 - 2024
- Acting Associate Vice Chancellor (Industry and Community Relations), University of Malaya, May 2021- Dec 2021
- Coordinating Dean of four research clusters of UM, Innovative Industry and Sustainability Science, Health and Wellbeing, Frontiers of the Natural World, and Social Advancement and Happiness, 2017-2022
- Member, Task Force on Univertiti Malaya Tobacco Control Policy, Nov 2021
- Leader, Action Lab for Research Ecosystem (Theme: Excel in Research Eminence), University of Malaya Transformation Plan, 2021-2030
- Leader Task Force #10, Research Ecosystem, University of Malaya Strategic Plan 2021-2025
- Member, InnovateUM Committee, Office of the Deputy Vice Chancellor (Research and Innovation), University of Malaya, 02 March 2020 -
- Member, Coordinating Committee, Undergraduate Research Funding, Faculty of Engineering, University of Malaya June 2018 – June 2022
- Member, Selection Committee for University of Malaya Excellence Award (ACUM) 2018
- Member, Selection Committee for Postdoctoral Fellows, Institute of Research management and Monitoring, University of Malaya, 2019-
- Member, Committee for Evaluation of Application for Appointment as Associate Professor and Professor Grade C under Deputy Vice Chancellor (Research and Innovation), 19 June 2017 to 16 June 2020
- Member, Selection Committee for University of Malaya Excellence Award (ACUM) 2017
- Member, Evaluation Committee on Commercialization, University of Malaya, 2016-2018
- Member, High Impact Research Committee, University of Malaya, 1 Mar 2016 to 31 Dec 2018
- Member, Task Force on Maker Space, Innovation Incubator, University of Malaya, October 2016
- Member, Committee for organising SEnergy@UM programme, 2016
- Member, Committee for MyRA (Malaysia Research Assessment), 2016
- Member, Selection Committee for the appointment of professor (VK07), associate professor and senior lecturer, Faculty of Engineering, University of Malaya, 2015-
- Chairman, Finance Committee, University of Malaya Research Carnival 2015, 08-10 Oct 2015.
- Member, Organizing Committee, University of Malaya Research Carnival 2015, 08-10 Oct 2015.
- Member, Committee on Website for UMRResearch, 2015-2016
- Member, Committee for Rimba Ilmu Revitalization Project, University of Malaya, 2014
- Member, Selection Committee, University of Malaya Research Awards 2013.
- Head, Department of Mechanical Engineering, University of Malaya, Kuala Lumpur, Malaysia, Mar 2012 - Feb 2013
- Member, Selection Panel, Bright Spark Programme, Faculty of Engineering, July 2011 – June 2014.
- Member, Central Advanced Research Enabler Facility (CAREF), 2012
- Professor's Representative to Board of Examiners, Masters Programmes, PhD
- Member, Panel of Chairs, Board of Examination for Advanced Studies, Faculty of Engineering
- Member, Working Committee for Central Equipment, Faculty of Engineering, University Malaya, 2013
- Member, Committee for UM Research Bulletin, IPPP, University Malaya, 2013
- Member, Committee for Improvement of Scientific Publications, University Malaya, 2013
- Member, Specification and Technical Committee, Procurement of Axial Torsion Fatigue Testing Machine under High Impact Research Project, Faculty of Engineering, University of Malaya, July, 2012
- Member, Organising Sub-Committee (Mechanical Engineering), Industry-University Day, Post Graduate Month, 30 June, University of Malaya
- Programme Coordinator, Materials Engineering Programme (October 2007 to 2009)
- Reviewer, Proposal for High Impact Research Project, University of Malaya, December 2011.
- Representative of Professors, Postgraduate Thesis Committee, Faculty of Engineering, UM
- Member, Bright Spark Selection Committee, Faculty of Engineering, July 2011-June 2014.
- Member, Departmental Engineering Accreditation Committee, Department of Mechanical Engineering, UM

- Coordinator, Final Year Project, Department of Mechanical Engineering, UM
- Member, Committee for Higher Studies (JIT), Faculty of Engineering, 13 Aug 2010 – 12 Aug 2012
- Head, Internationalization Unit, Faculty of Engineering, University of Malaya, 01 Oct 2009 – 30 Jun 2011.
- External Assessor for candidate for Professorship, University Science Malaysia, 2009
- Chairman, Curriculum Review Committee, Materials Engineering Programme, Department of Mechanical Engineering, 2009-2012
- Programme Coordinator, Materials Engineering Programme, Department of Mechanical Engineering, University of Malaya, 2007- 2009.
- Seminar Coordinator, Department of Mechanical Engineering, University of Malaya, 2007- 2010
- Project Coordinator, Valorisation of Natural Resources in Bangladesh: Polymer Composite Materials Based on Jute Fibre, 2005 - 2006
- Coordinator of Materials and Metallurgical Engineering Department for testing, consultancy and technical support services provided to various industries in the government and private sectors, 2004
- Member, Recruitment Committee for teachers for Engineering University Girls School, BUET, Dhaka, June, 2003
- Chairman, Selection Board for the recruitment of Laboratory Instructor cum Store Keeper, Department of Materials and Metallurgical Engineering, BUET, Dhaka, Aug. 2002
- Member, Committee formed to review the financial administration of the Centre for Continuing Education (DCE), BUET, Dhaka, July, 2002
- Member, Committee formed to review and simplify the procedure for the graduating students to apply for the bachelor's degree at BUET, Dhaka, 2001
- Member, Admission Committee for Post Graduate Diploma in Information Technology, Institute for Information and Communication Technology, BUET, Dhaka, 2001
- Member, Admission Committee for the Undergraduate Programmes, BUET, Dhaka, 2000 – 2002
- Member, Selection Board for Lecturers and Assistant Professors at the Department of Materials and Metallurgical Engineering, BUET, Dhaka, Aug 2000 – Dec 2002
- Chairman, Board of Undergraduate Studies, Department of Materials and Metallurgical Engineering, BUET, Dhaka, Aug 2000 – Dec 2002
- Chairman, Board of Postgraduate Studies, Department of Materials and Metallurgical Engineering, BUET, Dhaka, 2000 - Dec 2002
- Chairman, Examination Committee, Department of Materials and Metallurgical Engineering, BUET, Dhaka, Aug 2000 – Dec 2002
- Chairman, Admission Committee for Post Graduate Studies, Department of Materials and Metallurgical Engineering, BUET, Dhaka, Aug 2000 – Dec 2002
- Project Director, Research project entitled 'Cooperation in the Field of Metallurgy and Materials Engineering', BUET and Catholic University of Leuven, Belgium, 1998-2003
- Member, Committee formed by the Board of Studies to evaluate the testing and consultancy activities offered by the Department of MME, BUET to public and private organisations, 1998
- Member, Committee formed for publications and printing related matters, DAERS, BUET, October, 1997, 2000, 2002, 2004
- Submitted a report following a request by the Secretary, Committee for Advanced Studies and Research on ways to enhance the PhD programme at BUET, 1997
- Member, Selection Board for technical personnel for the welding shop, DAERS, BUET, August, 1997
- Member, Selection Board for Lab Instructor-cum-Store Keeper, Materials and Metallurgical Engineering Department, BUET, October, 1997
- Industrial Coordinator of MME Department for testing, consultancy and technical support services provided to various industries in the government and private sectors, 1996
- Member, Selection Board for Lab Instructor-Cum-Store Keeper, Metallurgical Engineering Department, BUET, September, 1996
- Member, Selection Board for Instructor-cum-Store Keeper, Mechanical Engineering Department, BUET, June, 1996
- Member, Academic Council, BUET, Dhaka, 1996 -2006
- Assistant Provost, Ahsan Ullah Hall, BUET, April 1994 to June 1996
- Secretary, Board of Postgraduate Studies, Dept. of Materials and Metallurgical Engineering, BUET, 1993-1996
- Member, Faculty of Engineering, BUET, Dhaka, 1987 -2006
- Chairman, committee formed to suggest ways to improve existing postgraduate curriculum of materials science and engineering at BUET, 2004
- In charge of Advanced Materials Characterisation Laboratory, BUET, 2000 – 2006
- Member, Committee formed by the Board of Studies to design a post graduate course curriculum, 1998
- Member, Advisory Board, BUET Technical Journal, 1997-98
- Convenor, Committee formed by the Board of Undergraduate Studies to design a complete undergraduate course curriculum, BUET, 1997
- In charge of Surface Engineering and Tribology Laboratory, BUET, 1994 – 2006

## **B.2 Professional Activities**

- Panelist, National Symposium on Transforming Education for the Industry: Engineers' Perspective in Achieving Vision 2041, 20 April, 2024, Board of Accreditation for Engineering and Technical Education, Dhaka
- Organizer, Symposium on Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XXIV, TMS Annual Meeting & Exhibition 2025, March 23-27, 2025: Las Vegas, NV, USA
- Member, International Advisory Board, 6th International Conference on Advances in Manufacturing and Materials Engineering (ICAMME) 2024. 13-14 August 2024, International Islamic University Malaysia (IIUM), Kuala Lumpur, Malaysia.
- Organizer, Symposium on Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XXIII, TMS Annual Meeting & Exhibition 2024, March 03-07, Orlando, Florida, USA
- Independent Director, Usmania Glass Sheet Factory Limited, Bangladesh Chemical Industries Corporation, Dec 2022 –
- Session Chair, Oral Presentation 01, 30 May 2023, BCSIR, Bangladesh – CSIR, India Joint Symposium: Advanced Functional and Smart Materials for Sustainable Development, 30-31 May 2023, BCRIS, Dhaka
- Convenor, Expert Committee, Preparation of Training Module for University Teachers, Topic 5: Education 4.0, Topic 6: Research & Topic 9: Essential Skills, Bangladesh University Grants Commission, Dec 2022-
- Session Chair, Keynote Session-1, 21 Dec 2022, International Conference on Marine Technology (MARTEC 2022), 21-22 December 2022, BUET, Dhaka
- Chairman, External Peer Review Team, Mechanical Engineering Programme, Islamic University of Technology, Gazipur, Sept 2022
- Session Chair, 11 September at 2 pm, International OBE Symposium 2022: Non-Conventional Teaching and Learning in Engineering Education from the OBE Perspective, September 10-11, 2022, Institutional Quality Assurance Cell, Ahsanullah University of Science and Technology, Dhaka, Bangladesh.
- Member, International Advisory Board, 5th International Conference on Advances in Manufacturing and Materials Engineering (ICAMME) 2022, 9 – 10 August 2022, International Islamic University Malaysia, Gombak, Selangor, Malaysia
- Organizer, Symposium on Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XXII, TMS Annual Meeting & Exhibition 2023, March 19-23, San Diego, California, USA
- Member, Steering Committee, 23<sup>rd</sup> International Conference on Advances in Materials & Processing Technologies, AMPT2022, 10-14 October 2022, Portoroz, Slovenia
- Member, Steering Committee, 23<sup>rd</sup> International Conference on Advances in Materials & Processing Technologies, 10-14 October 2022 Grand Hotel Bernardin, Portorož, Slovenia
- Organizer, Symposium on Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XXI, TMS Annual Meeting & Exhibition 2022, February 27 – March 03, Anaheim, California, USA
- Member, Committee for Updating Malaysia Research and Development Classification System (MRDCS), 7th Edition, Materials Science Category, Ministry of Science, Technology and Innovation, Malaysia, March 2021
- External evaluator, Appointment of professors and associate professors, Islamic University of Technology, Gazipur, Bangladesh, 2021
- Organizer, Symposium on Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XX, TMS Annual Meeting & Exhibition 2021, March 14-18, Orlando, Florida, USA
- Evaluator, Prototype Grant scheme, Collaborative Research in Engineering, Science and Technology Center (CREST), 13 Nov 2020
- Member, Evaluation Panel, Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education, Malaysia, 2020
- Member, Evaluation Panel, Transdisciplinary Research Grant Scheme (TRGS), Ministry of Higher Education, Malaysia, 2020
- Member, Evaluation Panel, Long Term Research Grant Scheme (LRGS), Ministry of Higher Education, Malaysia, 2020
- Member, Evaluation Panel, Prototype Development Research Grant Scheme (PRGS) , Ministry of Higher Education, Malaysia, 2020-2022
- Organizer, Symposium on Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials XIX, 149th Annual Meeting & Exhibition of The Minerals Metals & Materials Society (TMS), TMS 2020, 23-27 Feb 2020, San Diego Convention Center, 111 W Harbor Dr, San Diego, California, CA 92101, USA.
- Member, Technical Committee, 2020 IEEE 39th International Electronics Manufacturing Technology Conference (IEMT) Putrajaya, Malaysia, Sep 28-30 Sep, 2020, IEEE Electronic Packaging Society, Malaysia Chapter.
- Chairman, International Conference on the Science and Engineering of Materials, ICoSEM 2019, 26-28 August, 2019, Armada Hotel, Kuala Lumpur
- Chair, Technical Session, Sustainable Materials Processing, 06 September 2018, 21st International Conference on Advances in Materials and Processing Technologies (AMPT 2018), 04-07 September 2018, City University Dublin, Ireland

- Member, External Peer Review Team for Assessment of Bachelor of Science in Industrial and Production Engineering Programme, Bangladesh University of Engineering and Technology (BUET), Dhaka, June 2018
- Leader, External Peer Review Team for Assessment of Bachelor of Science in Civil Engineering Programme, University of Asia Pacific, Dhaka, Bangladesh, January 2018
- Expert Member, Selection Board for appointment of Professor of the Department of Materials and Metallurgical Engineering (MME), Bangladesh University of Engineering and Technology (BUET), Dhaka, May 2018
- Expert Member, Selection Board for appointment of Professor of the Department of Materials and Metallurgical Engineering (MME), Bangladesh University of Engineering and Technology (BUET), Dhaka, June 2017
- Chairman, The International Conference on the Science and Engineering of Materials (ICoSEM), 24-25 October, 2017, Kuala Lumpur
- Chairman, International Conference on Advances in Materials and Processing Technologies (AMPT), AMPT 2016, 8-11 November, 2016, Kuala Lumpur
- Member, International Advisory Committee, 5th International Conference on Composites: Characterization, Fabrication, and Application (CCFA-5) December 20-21, 2016, Tehran, Iran
- Member, External Peer Review Team for Assessment of Bachelor of Science in Materials and Metallurgical Engineering Programme, Bangladesh University of Engineering and Technology (BUET), Dhaka, October 2016
- Expert Member, Selection Board for appointment of Professor of the Department of Materials and Metallurgical Engineering (MME) of this University, Jan 2016
- Expert Member, Selection Board for appointment of Associate Professor of the Department of Materials and Metallurgical Engineering (MME) of this University, Jan 2016
- External Assessor for promotion to Reader, University of Strathclyde, Glasgow, April 2016
- Chairman, 2nd International Conference on the Science and Engineering of Materials (ICOSEM2015), 16-18 November 2015, Kuala Lumpur, Malaysia
- Cluster Lead, Subsurface Cluster, and Member of the Oil and Gas Innovation Technology Collaboration (OGITec) Advisory Committee, Malaysia Petroleum Resources Corporation (MPRC), Prime Minister's Office, Malaysia, 2014-2018
- External Assessor for professorship application, International Islamic University Malaysia, 2014
- Judge, International Research Invention and Innovation Exhibition 2013 (IRIIE 2014), International Islamic University Malaysia, 11th June 2014
- Council Member, The Institute of Materials Malaysia, 2014-2015
- Chairman, AUN/SEED-NET Regional Conference on Materials Engineering, 11-12 November 2014, Kuala Lumpur, Malaysia
- Co-Chair, International Symposium on Metallurgy and Welding Technology 2014 (ISMWT2014), 13th - 16th May 2014, Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia, Organized by the Institute of Materials Malaysia
- Chairman, 1st International Conference on the Science and Engineering of Materials (ICOSEM2013), 13-14 November 2013, Kuala Lumpur, Malaysia
- Member, International Advisory Committee, The second International conference on Advances in Materials Processing and Characterisation, (AMPC2013), 6-8 February 2013, Anna University, Chennai, India
- Reviewer, National Priorities Research Program (NPRP), Qatar National Research Foundation, 2013.
- Judge, IIUM Research, Invention and Innovation Exhibition 2013 (IRIIE 2013), International Islamic University Malaysia, 19 February 2013.
- Chair, Technical Session, Lead Free Technology – I, Pusing Hall, 7 November 2012, 35th IEEE CPMT International Electronics Manufacturing Technology Conference, 6 – 8 November, 2012, Kinta Riverfront Hotel, Ipoh, Perak, Malaysia
- Chair, Technical Session, Materials-5, Keira Room, 25 September 2012, 15th International Conference on Advances in Materials and Processing Technologies (AMPT 2012), 23 - 26 September 2012, University of Wollongong, NSW, Australia
- Program Chair, 35th International Electronics Manufacturing Technology Conference, 6- 8 Nov, 2012 at Kinta River Front Hotel, Ipoh, Perak, Malaysia, IEEE Malaysia
- External Moderator, Mechanical Engineering Department, Faculty of Engineering, Universiti Selangor, Bestari Jaya, Selangor Darul Ehsan, Malaysia, 07 Oct – 07 Nov 2011.
- Member, of Board of Studies for Master of Science Degree Programme in Materials Engineering, International Islamic University Malaysia (June 2011- 2015)
- Assessor for Professorship and Associate Professorship Application at the Multimedia University, Kuala Lumpur, June, 2011
- Assessor for Associate Professorship Application at the Asia Pacific University College of Technology and Innovation, Kuala Lumpur, Feb 2010
- Member, International Advisory Board, International Conference on Carbon Nanotechnology: Potential and Challenges, 15-17th December, 2010, Organized by the Department of Mechanical Engineering, Indian Institute of Technology Kanpur (IITK), Kanpur, (UP) India on the occasion of IIT Kanpur Golden Jubilee Celebration
- Member, Advisory Committee, The 3rd International Conference on Structure, Processing and Properties of Materials, SPPM 2010, 24-26 February 2010, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

- External Assessor, Professorship Application at the School of Mechanical Engineering, University Science Malaysia, 2009.
- Panel Speaker, Forum on Tribology – The Way Forward, Malaysian Tribology Society (MYTRIBOS) and Department of Mechanical Engineering, UM, 5 May 2009
- Member in Editorial Board, International Journal of Mechanical Engineering and Materials Sciences, ISSN: 0974-584X
- Judge, Kuliyyah of Engineering Research and Innovation Exhibition (KERIE '09), International Islamic University of Malaysia, 21 Jan 2009.
- Member, International Advisory Committee, 1st International Conference on Composites: Characterization, Fabrication, and Application, (CCFA-1), December 15-18, 2008, Kish, Iran.
- Expert Member, Committee on Materials Specifications for Natural Gas Pipelines, Bangladesh Oil, Gas & Mineral Corporation (PETROBANGLA), 2006.
- Member, Technical Organising Committee, International Conference on Industrial Tribology (ICIT 2006), Indian Institute of Science (IISc), Bangalore & Tribology Society of India (TSI), 30 November – 2 December, 2006, Bangalore, India.
- Local Consultant, BUET - The University of Alberta Institutional Linkage Project, 2005
- Chairman, Publication and Review Committee, Second International Conference on Structure, Processing and Properties of Materials, SPPM 2004, 25-27 February, 2004, Dhaka
- Member, Committee for Advanced Study and Research, Khulna University of Engineering and Technology, Bangladesh, 2004 –2006
- Examiner, Bangladesh Public Service Commission, Government of Bangladesh, 2004
- Expert Member, Interview Board, Bangladesh Public Service Commission, Government of Bangladesh, 2003
- Member, Technical Review Committee, International Conference on Mechanical Engineering ICME 2003, 26-28 December, 2003, Dhaka
- Member, Panel of Reviewers, 5th International Conference on Mechanical Engineering, ICME 2003, December 26-28, Dhaka
- Moderator and Penalist, National Roundtable on “Potential Opportunities in Beach Sand Mineral Deposits in Bangladesh” 28 October, 2003, Dhaka
- Expert Member, Evaluation of equipment procured under the project “Modernisation of Bangladesh Institute of Glass and Ceramics”, Ministry of Education, Government of Bangladesh, May, 2003
- Member, Editorial Board, Mechanical Engineering Division, The Institution of Engineers, Bangladesh, 2002-2003
- Expert Member, Evaluation of equipment for metrology laboratory procured under the project “Modernisation and Strengthening of Bangladesh Standards and Testing Institute”, Ministry of Industry, Government of Bangladesh, May, 2003
- Consultant on Engineering and Light Engineering Industries of Bangladesh, The World Bank Group, SouthAsia Enterprise Development Facility (SEDF), 2002
- Member, Editorial Board, BSME-ASME International Conference on Thermal Engineering, Bangladesh Society of Mechanical Engineers (BSME), 31 Dec. 2001-2 Jan. 2002, Dhaka Bangladesh
- Member, Editorial Board, BUET NEWS, BUET, Dhaka, 2001- 2005
- Member, Inquiry Committee on the Corrosion Damage of the Decay Tank of the Experimental Nuclear Reactor at Savar, Bangladesh Atomic Energy Commission, Dhaka, 1997
- Chairman, Sub-Committee on Metallic Sheet, Plate, Wire and Allied Products, Bangladesh Standards and Testing Institution, Government of Bangladesh. (Nov. 1996 - 2001)
- Member Executive Committee, Mechanical Engineering Division, The Institution of Engineers, Bangladesh 1995-1997.