CURRICULUM VITAE

KAWSAR AHMED

Scientific Officer

Hydrogen Energy Laboratory

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Bangladesh Council of Scientific and Industrial Research (BCSIR),

Ministry of Science and Technology, Bangladesh.

CONTACT DETAILS

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Personal YouTube Channel: **Research Officials** (Link: https://www.youtube.com/channel/UCqBajjbJ-p2HLrRo4Qnv5lA).

JOB HISTORY

1. **Scientific Officer**, Hydrogen Energy Laboratory, BCSIR, October 21, 2018- Present
2. **Lab Coordinator,** Hydrogen Energy Laboratory, BCSIR, August 1, 2019-January 31, 2020.
3. **Research Chemist**, Hydrogen Energy Laboratory, BCSIR, October 10, 2016- October 20, 2018.
4. **Teaching Assistantship,** Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology (BUET), Bangladesh. Six months.

LANGUAGE PROFICIENCY

IELTS: Overall 7 (L-7.5, R-7, S-7, W-6.5)

M.Sc. Thesis research

"DEVELOPMENT OF BAGASSE PYROLYZED BIOCHAR REINFORCED POLYVINYL ALCOHOL BIOCOMPOSITE FILMS"

Under the supervision of Prof. Dr. Mahbub Hasan, Materials and Metallurgical Engineering, (MME), BUET. Dated on: 28 September 2020.

Google Scholar Citations-151; h-index 3; i10-index 2.

[https://scholar.google.com/citations?user=5HA5HDEAAAAJ&hl=en]

SCHOLASTIC ATTAINMENT

Degree	Institution	Major	Result	Exam Year
M.Sc	Bangladesh University of Engineering and Technology (BUET)	Materials Science	3.08 out of 4	2020
M.Sc	Dhaka College (National University)	Chemistry	First Class *(equivanent to GPA 3.0)*	2012 *(Held in 2015)*
B.Sc	Dhaka College (National University)	Chemistry	First Class *(equivanent to GPA 3.0)*	2011 *(Held in 2014)*

AREA OF RESEARCH INTEREST

- Fuel Cell System and Polymeric composite
- Electrocatalyst: Renewable (Green) hydrogen production and its Storage
- Carbon-free energy system.
- Photocatalytic water splitting
- Gasification and Pyrolysis

NECESSARY TOOLS (AS SOFT SKILLS) USED FOR SCIENTIFIC RESEARCH

Turnitin, Mendeley, Endnote, SPSS, MS Office, MS Visio.

RECORD OF RESEARCH ACTIVITIES

Journal Papers

1. M. Abdus Salam, Tauhidul Islam, **Kawsar Ahmed**, Md. Sahab Uddin, Md. Shehan Habib, Bawadi Abdullah. Potential Feature of Combined AB 5 -Type Metal Hydride Tank and PEMFC as a Safer System for Hydrogen Fueling in Bangladesh. Front. Energy Res., 9:766270. 26 November **2021** | https://doi.org/10.3389/fenrg.2021.766270, ***IF: 3.858***, *Scopus and Web of Science.*
2. **Kawsar Ahmed**, Mahbub Hasan, Julfikar Haider. Electrical and Mechanical Properties of Sugarcane Bagasse Pyrolyzed Biochar Reinforced Polyvinyl Alcohol Biocomposite Films. *J. Compos. Sci.* **2021**, 5(9), 249; https://doi.org/10.3390/jcs5090249. ***CiteScore: 3.6***, *Scopus and Web of Science.*

3. M. Abdus Salam, Tareq Hossain, Nasrin Papri, **Kawsar Ahmed**, Md. Shehan Habib, Md. Sahab Uddin, and Willckens, R. Hydrogen Production Performances via Steam Reforming over Hydrotalcite Derived Catalyst: A Sustainable Energy Production Review. Advances in Chemical Engineering and Science, 10, **2020**, 259-296, 10.4236/aces.2020.104018. *Google-based* ***IF: 1.31***

4. M. Abdus Salam, Md Shehan Habib, Paroma Arefin, **Kawsar Ahmed**, Md Sahab Uddin, Tareq Hossain, Nasrin Papri. Effect of Temperature on the Performance Factors and Durability of Proton Exchange Membrane of Hydrogen Fuel Cell: A Narrative Review, 17(2), 2020, DOI : http://dx.doi.org/10.13005/msri/170210

5. M. Abdus Salam, **Kawsar Ahmed**, Tareq Hossain, Md. Shehan Habib, Md. Sahab Uddin, Nasrin Papri. Prospect of Molecular Sieves Production using Rice Husk in Bangladesh: A Review. *Int j of Chemistry*, Mathematics and Physics (IJCMP), V-3, Issue-6, Nov-Dec, **2019**, https://dx.doi.org/10.22161/ijcmp.3.6.2

6. M. Abdus Salam, **Kawsar Ahmed**, Nazma Akter, Tareq Hossain, Bawadi Abdullah. A review of hydrogen production via biomass gasification and its prospect in Bangladesh. *Int J Hydrogen Energy* 43, **2018**, 14944-14973. https://doi.org/10.1016/j.ijhydene.2018.06.043. ***IF:7.139***, *Scopus and Web of Science.*

AWARDS

1. **"Best Presenter Award**" in "International Conference on Environmental Protection for Sustainable Development", University of Dhaka, September 4, 2022.
2. **"Teaching Assistantship"** for six months, MME, BUET.

Reviewer contribution

1. A full-length article, International Journal of Hydrogen Energy, April **2022**.
2. Short communication, *Materials Letter*, October **2020**.

Conference Oral Presentation

1. "**Electrical properties of bagasse pyrolyzed biocarbon reinforced polyvinyl alcohol composite**", International Conference on Environmental Protection for Sustainable

Development (ICEPSD-2022), 2-4 September 2022, Dhaka University, Ref: 39.02.1506.065.29.001.22/3857 and 1st September 2022.

2. "**Development of biocarbon reinforced polyvinyl alcohol biocomposite films**" ICSTB-2021, DRiCM Auditorium, Dhaka, 12 March **2021**.
3. "**Development of molecular sieve from domestic biomass for petrochemical refinery industry**", MMDD Laboratory, BCSIR Laboratories, Chattogram, Bangladesh Council of Scientific and Industrial Research, Ref: 39.360.029.03.00.001.2016/1601 and 03/10/**2018**, 3:00 pm.

Training on scientific instruments

From joining my current job, I attended numerous instrumental training on **Hydrogen Fuel Cell Test Station; MBR and Hydrogen Storage Analyzer, Commercial Scale Electrolyzer with High Pressure Dispensing Units,** Field Emission Scanning Electron Microscope (FESEM); Thermogravimetric Differential Thermal Analysis (TG-DTA); BET Sorptometer, Wavelength Dispersive X-ray fluorescence (WD XRF), Inductively Coupled Plasma Optical Emission Spectroscopy (ICP OES); Fourier Transform Infra Radiation (FTIR); CNHS Elemental Analyzer; Gas Chromatography (GC) TCD-FID etc.

Current Research & Development (R&D) Projects

As Project Leader

1. Preparation and characterization of metal oxide for hydrogen storage, 2021-2023, funded by BCSIR, Bangladesh. ***BCSIR grant.***
2. Industrial carbon waste to commercial grade carbon black, 2021-2022, funded by Supersilica Bangladesh Ltd., Bangladesh. ***External grant.***
3. Development of low-cost biodegradable polyethene composite for packaging applications, 2020-2022, funded by BCSIR, Bangladesh. ***BCSIR grant.***

As Research Associate

4. **Synthesis and Characterization of Novel Proton Exchange Membrane (PEM) for Hydrogen (H_2) Fuel Cell**. Duration two years (2022-2024), funded by BCSIR, Bangladesh.
5. Synthesis and characterization of low-cost photocatalyst for hydrogen production, 2020-2022, funded by BCSIR, Bangladesh. ***BCSIR grant.***

PROFESSIONAL MEMBERSHIP

- BCSIR Scientist Association, Bangladesh Council of Scientific and Industrial Research, Dhanmondi, Dhaka.
- Bangladesh Chemical Society, Bangladesh.

SOCIAL ACTIVITIES

1. Founding member of BAKS (Better Alternate to Knock Stringency, since 2014), a community to overcome challenges collaboratively regarding individual well-being and prosperity along with fulfilling social responsibility by searching and implementing time demanding better alternatives.
2. Volunteering member of Blood for Cumilla, a regional blood donation community, Cumilla, Bangladesh.
3. Voluntary Blood Donar, Bangladesh Red Crescent Society, Registration no. 19/1578, Chattogram, Bangladesh.

COMPUTER LITERACY

1. "Basic Graphic Design Course", 30 hours, Certificate No. b3b420f, 22-08-2021. https://pentanikit.com/verify-certicate/
2. "Diploma in Computer Science and Programming" (01-7-2012 to 31-12-2012)

REFERENCES

1. Dr Mahbub Hasan
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Department of Materials and Metallurgical Engineering (MME)
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh.
Mobile: +8801820291811
Email: mahbubh@mme.buet.ac.bd

2. Dr Md. Abdus Salam
Senior Principal Engineer & Project Director
Establishment of Hydrogen Energy Laboratory-Project
Bangladesh Council of Scientific and Industrial Research (BCSIR)
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