

Md Mizanur Rahman

MSc candidate, University of Science and Technology (UST), Republic of Korea
Research Assistance at Korea Institute of Energy Research (KIER)
[Email: mreng2k13@gmail.com, Phone: +821027763289]
LinkedIn: <https://www.linkedin.com/in/mizanur-rahman3289/>

Hydrogen Energy Research

Korea Institute of Energy Research (KIER)
152 Gajeong-ro, Jang-dong, Yuseong-gu, Daejeon, Republic of Korea
<https://www.kier.re.kr/eng/>

Tel: 042-860-3114
Cell: 82-10-7251-2082

EDUCATION

Mar'2020 to Current	University of Science and Technology (UST), South Korea MSc in Advance Energy and System Engineering (4.3/4.5) https://ust.ac.kr/eng.do
Apr'2014 to Apr'2018	Khulna University of Engineering and Technology (KUET), Bangladesh BSc in Industrial and Production Engineering (IPE) (3.2/4.0) https://www.kuet.ac.bd/

EXPERIENCE

Jan'2020 – Current	Graduate Research Assistant Research Area: Proton Exchange Membrane Water Electrolysis (PEMWE) in Hydrogen Research Laboratory at Korea Institute of Energy Research (KIER) Project title I: Development of durability evaluation method and durability improvement technology in PEMWE II: Renewable energy-linked high-performance 1 MW class (200 Nm ³ /hr.) single stack PEM electrolysis device development. Major Accomplishment: <ul style="list-style-type: none">• Standard Membrane Electrode Assembly (MEA) Making• Development of Accelerated degradation Test (ADT) method• Durability study under fluctuating current profile (Wind Profile)
Nov'2018 – Oct'2019	Intern Research Assistant Projects: Same as stated above. Major Accomplishment: Cell performance assessment and optimization: 1) High current up to 7 A/cm ² , 2) High pressure, up to 10 bar, 3) Renewable power fluctuation, 4) Membrane thickness, 5) Ionomer loading, 6) PTL, 7) Catalyst loading, 8) Temperature, 9) Clamping pressure, and 10) Solvent Effect.

PRESENTATION

POSTER PRESENTATION

1. **Title:** Effect of Wind Power Profile on the Durability of Proton Exchange Membrane Water Electrolyzer, *International Society of Electrochemistry (ISE), International conference 2021, Jeju Island, South Korea.*

2. **Title:** Effect of cathode pressure on the proton exchange membrane water electrolysis performance and durability. *KIER conference, December 2021.*

RESEARCH AND PUBLICATION

1. Mizanur Rahman, Phan Thanh Thien, Sang-Kyung Kim, * Chang-Hee Kim, Won-Chul Cho, Hyun-Seok Cho, Min-Joong Kim, Changsoo Lee, Jae Hun Lee, *Effect of Wind Power Profile on the Durability of Proton Exchange Membrane Water Electrolyzer (Under professor revision). TJ: Renewable Energy*
2. Jahowa Islam, Sang-Kyung Kim, * Mizanur Rahman, Phan Thanh Thien, Min-Joong Kim, Hyun-Seok Cho, Changsoo Lee, Jae Hun Lee, Sechan Lee, The effect of iridium content in boron carbide-supported iridium catalyst on the activity and stability of proton exchange membrane water electrolyzer. <https://doi.org/10.1016/j.mtener.2022.101237>

TECHNICAL SKILL

Electrochemical Characterization and Analysis : Polarization Curve, Impedance Spectroscopy (EIS), CV, etc.

Water Electrolyzer : MEA making (Spray coating, doctor blade, brushing, decal transfer), Single cell and mini stack testing.

Material Characteristics and Microscopic Techniques : XRF, XPS, SEM analysis

Analysis and Data Visualization Software : Origin-2020, Microsoft Office, SolidWorks

Computer Language : C

FELLOWSHIP AND GRANDS

Jan'2020 – Present **Research Assistance**, University of Science and Technology (UST), South Korea
USD 1200/month

Nov'2018 – Oct'2019 **Intern Research Assistance**, Korea Institute of Energy Research (KIER)
USD 1800/month

SUPERVISORY & MENTORING EXPERIENCE

1. Supervising summer interns (undergraduate students) at KIER, S Korea.
2. Part time teacher, Bangladesh, 2014-2018.

LANGUAGE SKILL

Bangla : Native Speaker

English : Advance, IELTS overall: 6.5 (L 6.5 R 6, W 6, S 7)

Korean and Arabic : Beginner (Can read and write)

PROFESSIONAL SOCIETIES

1. Member of Toastmaster International, Pathway: Presentation Mastery, Level -5. (April'2020 to current)