



Fahad Hussain

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Home: (Pakistan)

EDUCATION AND TRAINING

Bachelors of Studies in Physics

Hazara University, Pakistan [10/2020 – 08/2024]

Final grade: 3.63/4.00 | Thesis: Electrochemical evaluation of Pr₆O₁₁ & MOF nanocomposites for high-efficiency energy storage devices

WORK EXPERIENCE

Research Intern

Renewable Energy Research Laboratory | GIK Institute [02/2024 – 03/2024]

City: Sawabi | Country: Pakistan

- Fabricated hybrid supercapacitors using Pr₆O₁₁/HKUST-1 composites.
- Conducted morphological and structural (SEM, XRD, EDS), and electrochemical characterizations (CV, GCD, EIS) on the electrode materials.
- Optimized fabrication processes to enhance device performance and achieved energy density of 85 Wh/kg.
- Manuscript under review at a reputable journal.

University Teaching Assistant

Dept. of Physics | GPGC [09/2022 – 01/2023]

City: Mansehra | Country: Pakistan

- Assisted the professor in planning and delivering lectures, ensuring clear communication of course materials.
- Guided sophomores in making academic documents using LaTeX.
- Graded over 80 exam scripts within a tight deadline.

CONFERENCES AND SEMINARS

[25/06/2024] JMC Mansehra, PK

One Day Research Conference on Emerging Trends in Natural Sciences | Presentation

- Presented my final year thesis at the conference, showcasing research in hybrid energy storage devices.
- Recognized by judges as the best presenter in session for exceptional presentation and delivery.

[2023]

International Technical Training Course on Vacuum Applications in Applied Surface Science | Participation

- Explored advanced topics, including vacuum technology, thin-film deposition, surface nanotechnology, and photocatalysis.
- Acquired practical insights into applications in energy conversion, storage, and semiconductor technologies through interactive sessions.
- Enhanced understanding of surface characterization tools and their relevance to renewable energy and material science.

[11/09/2023 – 13/09/2023] National Center for Physics, PK

5th Int'l Workshop on Ion Beam Applications | Participation

- Explored ion beam technology and its applications, including material analysis and nanomaterial modifications.
- Attended discussions on and gained industry insights into the applications of ion beams, especially surface modification of devices.

DIGITAL SKILLS

Technical Skills

Cyclic Voltametry / Scanning Electronic Microscopy / Energy Dispersive Spectroscopy (EDS) / X Ray Diffraction / Electrochemical impedance spectroscopy / Galvanostatic Charge-Discharge

Digital Skills

LaTeX / Origin (Software)

MOOCS @ COURSERA (30+)

Renewable Energy (Specialization | 4 Courses)

University of Colorado Boulder

Link: <https://www.linkedin.com/in/fahadhussain3/details/certifications/>

Renewable Energy and Green Building Entrepreneurship

Duke University

Exploring Renewable Energy Schemes

University of Pennsylvania

Renewable Energy: Fundamentals and Job Opportunities

University at Buffalo

Materials Science for Technological Application (Specialization | 4 Courses)

Arizona State University

Energy Harvesting

Sungkyunkwan University

Nanotechnology: A Maker's Course

Duke University, NC State University, UNC Chapel Hill

RECOMMENDATIONS

Name: **Dr. Saeed Ahmad** | Undergraduate Thesis Supervisor

Assistant Professor of Physics | GPGC Mansehra

D.Sc. (Tech.) | Aalto University, Finland

saeed.ahmad@gcm.edu.pk

Email: saeedgcuahmad87@gmail.com | Phone number: (+92) 3226769500

Name: **Dr. Irfan Ahmed** | Undergraduate Thesis Examiner

Assistant Professor of Physics | Government College Balakot

Post - Doc | Fudan University, China

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18/01/2025



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