



**Hanan
Tariq**

DATE OF BIRTH:
1 Jan 1996

CONTACT

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WORK EXPERIENCE

21 DEC 2019 – CURRENT – Doha, Qatar

Laboratory Research Assistant

Qatar University

- Constructed Li-ion and Na-ion batteries and tested using various battery testing techniques, such as a cycle test and a load test, to show that suitable nanocomposites improve the battery's performance.
- Compared the performance of solid and liquid electrolytes in the Li-ion batteries.
- Checked Li-ion & Na-ion batteries with various nanocomposites compositions to determine the most effective composition for longer life.
- Used thermal cycling method to measure different solid electrolytes in Li-ion batteries to improve the battery's performance.
- Reviewed six different electrodes using Z-plot and calculated impedance to improve cyclic life. Changes in composition led to an improvement in battery life by 70%.
- Checked various solid electrolytes (stainless steel and lithium as electrodes) using impedance measurements to determine factors influencing the batteries' characteristics, including capacitance, inductance, and resistance.

Center for Advanced Materials / 2713, Doha, Qatar

DEC 2017 – AUG 2019 – Lahore, Pakistan

Assistant Manager Quality Assurance

Atlas Honda

- Assembled high voltage battery packs and managed battery testing equipment.
- Formulated reports and test plans.
- Evaluated inspection data and key performance indicators (KPI) of the department.
- Outlined new test rigs and chambers.
- Designed test plans and procedures and coordinated with design and test engineers.
- Reviewed test data and outlined test reports.
- Implemented ISO 9001: 2015, ISO 18001: 2015, and 5S systems.

Quality Assurance / Manufacturing / Lahore, Pakistan

EDUCATION AND TRAINING

27 JUL 2020 – 31 JUL 2020 – Philadelphia, United States

Course on MXene Characterization

Drexel University

27 JUL 2020 – 31 JUL 2020 – Philadelphia, United States

Course on MXene Synthesis and Processing

Drexel University

AUG 2013 – APR 2017 – Topi, Pakistan

Bachelor of Science in Materials Engineering

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology

Field(s) of study

- Nanotechnology

SEP 2011 – SEP 2013 – Okara, Pakistan

Higher Secondary School Certificate

Board of Intermediate and Secondary Education, Sahiwal, Pakistan

AUG 2009 – AUG 2011 – Renala Khurd, Pakistan

Secondary School Certificate

Board of Intermediate and Secondary Education, Lahore, Pakistan

DIGITAL SKILLS

Materials Characterization Skills

XRD / SEM / TEM / AFM / FTIR / XPS / Electrochemical techniques (EIS DPV CV) / Galvanostatic chargedischarge

Software Proficiency

VESTA / Xpert Highscore Plus / biologic EC LAB / Origin Pro / Solidworks (design and FEA) / Microsoft Office / Adobe Illustratiior

PUBLICATIONS

Synthesis of lithium manganese oxide nanocomposites using microwave-assisted chemical precipitation technique and their performance evaluation in lithium-ion batteries

2020 <https://onlinelibrary.wiley.com/doi/10.1002/est2.202>

Tariq HA, Abraham JJ, Shakoor RA, Al-Qaradawi S, Karim MRA, Chaudhry U. *Synthesis of lithium manganese oxide nanocomposites using microwave-assisted chemical precipitation technique and their performance evaluation in lithium-ion batteries*. **Energy Storage** 2020. <https://doi.org/10.1002/est2.202>.

Synthesis and Performance Evaluation of Na(2-x)LixFeP2O7 (x=0, 0.6) Hybrid Cathodes

2020 <https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/slct.202003658>

Abraham JJ, Tariq HA, Shakoor RA, Kahraman R, Al-Qaradawi S. *Synthesis and Performance Evaluation of Na (2-x) Li x FeP 2 O 7 (x=0, 0.6) Hybrid Cathodes* . **ChemistrySelect**. 2020. doi:10.1002/slct.202003658

Synthesis and Performance Evaluation of SiO₂ Coated Li-Rich Li_{1.2}Ni_{0.13}Mn_{0.54}Co_{0.13}O₂ Cathode Materials for Li-Ion Batteries

2020 <https://iopscience.iop.org/article/10.1149/MA2020-012399mtgabs>

Shakoor RA, Abraham JJ, Tariq HA, et al. *Synthesis and Performance Evaluation of SiO₂ Coated Li-Rich Li_{1.2} Ni_{0.13} Mn_{0.54} Co_{0.13} O₂ Cathode Materials for Li-Ion Batteries*. **ECS Meet Abstr.** 2020;MA2020-01(2): 399-399. doi:10.1149/MA2020-012399mtgabs

CONFERENCES AND SEMINARS

25 NOV 2020 – 27 NOV 2020 > - Virtual Conferenece

International Conference on Renewable Energy 2020

Presentation on the topic “**Microwave-Assisted Chemical Synthesis of Lithium Manganese Oxide - MXene Composite for Lithium-Ion Batteries**”

<https://premc.org/conferences/icren-renewable-energy/>

19 OCT 2020 – 20 OCT 2020 > - Virtual Conference

iGRAPHENE-2020

Poster Presentation on the topic “**Combustion-Free Synthesis of Lithium Transition Metal Oxide Composites with Carbon Nanotubes and Graphene Nanoplatelets by Chemical Coprecipitation for Energy Storage Devices**”.

<https://phronesisonline.com/igraphene/>

1 AUG 2020 – 5 AUG 2020 > - Virtual Conference

MXene 2020: Ten Years Later

<https://mxeneconference.coe.drexel.edu/>

17 JUN 2020 – 17 JUN 2020 > - Webinar

Graphene For Energy Storage Applications

<http://graphene-flagship.eu/>

HONOURS AND AWARDS

APR 2017

Dean's Honor Roll - Spring 2017 – Ghulam Ishaq Khan Institute of Engineering Sciences and Technology

DEC 2016

Dean's Honor Roll - Fall 2016 – Ghulam Ishaq Khan Institute of Engineering Sciences and Technology

MAR 2017

Certificate of Appreciating for Designing Faculty Newsletter – Department of Materials Science and Engineering, GIKI

2006

Global Environmental Teachings Award (GET) – UNESCO

NETWORKS AND MEMBERSHIPS

NOV 2017 – CURRENT

Registered Materials Engineer

Pakistan Engineering Council
(signatory of washington accord)

DEC 2019 – CURRENT

TMS Membership - The Minerals, Metals & Materials Society