

# Muhammad Taqi Mehran

Assistant Professor

School of Chemical & Materials Engineering

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## About

Dr. Muhammad Taqi Mehran is working as Assistant Professor in the School of Chemical & Materials Engineering. Dr. Muhammad Taqi Mehran has a PhD in Advanced Energy Technology. Dr. Muhammad Taqi Mehran has published 72 research articles & conference papers having a citation count of 2836, carried out 9 projects and filed 2 intellectual property.

## Qualifications

<b>PhD in Advanced Energy Technology</b> University of Science and Technology , Korea	2013 - 2017
<b>MS in Process Engineering</b> Pakistan Institute of Engineering and Applied Sciences (PIEAS) , Pakistan	2008 - 2009
<b>BSc in Chemical Engineering</b> UET Lahore , Pakistan	2003 - 2007

## Experience

<b>Assistant Professor</b> School of Chemical & Materials Engineering	2023- Present
<b>Assistant Professor</b> School of Chemical & Materials Engineering	2021 - 2021
<b>Assistant Professor</b> School of Chemical & Materials Engineering	2021 - 2018
<b>Assistant Professor</b> School of Chemical & Materials Engineering	2018 - 2018
<b>Assistant Professor</b> School of Chemical & Materials Engineering	2018 - 2021
<b>Assistant Professor</b> School of Chemical & Materials Engineering	2009 - 2013
NESCOM , School of Chemical and Materials Engineering	

## Professional Memberships

<b>PEC</b>	Since 2007
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## Research Projects

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### National Projects

<b>Synthesis and Characterization Ni Nanoparticles Decorated LaxSR1-xTiO3 (LST) as Hydrogen Evolution Electro Catalyst</b> <b>Funding Agency:</b> HEC <b>Amount:</b> PKR 499,280.00 <b>Status:</b> Completed	2018
<b>Bench-Scale Demonstration of an Integrated Waste-to-Energy Process for Municipal Solid Waste Management: A Step Toward Circular Bio-economy</b> <b>Funding Agency:</b> HEC <b>Amount:</b> PKR 11,000,000.00 <b>Status:</b> Approved_inprocess	2022
<b>Fabrication of fluidized bed experimental system</b> <b>Funding Agency:</b> NUST <b>Amount:</b> PKR 300,000.00 <b>Status:</b> Completed	2021
<b>Circular economy: recovery and restoration of glass fibers for composite materials.</b> <b>Funding Agency:</b> HEC <b>Amount:</b> PKR 12,100,000.00 <b>Status:</b> Approved_inprocess	2022
<b>Develop an innovative technique for processing the olive fruit waste to achieve leftover oil for edible use under Competitive Research Grants</b> <b>Funding Agency:</b> Pakistan Agricultural Council <b>Amount:</b> PKR 7,013,000.00 <b>Status:</b> Completed	2021
<b>Synthesis and Fabrication of 2D Transition Metal Carbide Based Supercapacitor for superior Electrochemical Performance.</b> <b>Funding Agency:</b> US-PAKISTAN CASEN <b>Amount:</b> PKR 500,000.00 <b>Status:</b> Completed	2019
<b>Thermo Catalytic Cracking of Waste Low and High Density Polyethylene Using a Hybrid Catalyst of Zeolite, Dolomite and ZnO</b> <b>Funding Agency:</b> US-PAKISTAN CASEN <b>Amount:</b> PKR 500,000.00 <b>Status:</b> Completed	2019
<b>Synthesis and Characterization Ni Nanoparticles Decorated LaxSr1-xTio3 (LST) electro-catalysts for Hydrogen Evolution reaction in alkaline water electrolysis</b> <b>Funding Agency:</b> HEC <b>Amount:</b> PKR 494,280.00 <b>Status:</b> Approved_inprocess	2018

### International Projects

## Industry Projects

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### National Projects

<b>Lab scale production of Zeolite 4A from indigenous coal fly-ash obtained from Coal-fired Power plant</b> <b>Client:</b> Industry <b>Amount:</b> PKR 2,500,000.00 <b>Status:</b> Approved_inprocess	2022
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### International Projects

## Research Articles

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<b>2D/2D interfacial coupling of NiFe-LDH and Ti3C2Tx for oxygen evolution reaction</b> <i>Abdul Waheed Sadaf Siddique Mutawara Mahmood Baig Muhammad Taqi Mehran Muhammad Iftikhar Jamil Ahmad Hassan A. Arafat Faisal Shahzad</i> <i>International Journal of Hydrogen Energy</i> , Volume:72, Page:133-140	2024
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**Impact Factor:** 8.300 | **Quartile:** 1  
**DOI:** <https://doi.org/10.1016/j.ijhydene.2024.05.367>

- Optimizing Design and Operational Parameters for Enhanced Mixing and Hydrodynamics in Bubbling Fluidized Bed Gasifiers: An Experimental and CFD-based Approach** 2023  
*Naveed Raza Rifat Mehdi Muhammad Ahsan Muhammad Taqi Mehran Salman Raza naqvi Emad UdDin Applied Sciences* , Volume: 13, Issue: 16, Article Number:9317  
**Impact Factor:** 2.7 | **Quartile:** 2  
**DOI:** <https://doi.org/10.3390/app>
- Bifunctional CuS/Cl-terminated greener MXene electrocatalyst for efficient hydrogen production by water splitting** 2023  
*Bilal Sarfraz Muhammad Taqi Mehran Faisal Shahzad Sajjad Hussain Salman Raza Naqvi Hassnain Abbas Khan Khalid Mahmood RSC Advances* , Volume 13, Issue 32, Pages 22017-22028  
**Impact Factor:** 3.9 | **Quartile:** 2 | **Citations:** 15  
**DOI:** <https://doi.org/10.1039/D3RA02581K>
- Development of high-capacity surface-engineered MXene composite for heavy metal Cr (VI) removal from industrial wastewater** 2023  
*Umair Ali Asif Khalid Mahmood Salman Raza Naqvi Muhammad Taqi Mehran Tayyaba Noor Chemosphere* , Volume 326, Article Number 138448  
**Impact Factor:** 8.943 | **Quartile:** 1 | **Citations:** 21  
**DOI:** <https://doi.org/10.1016/j.chemosphere.2023.138448>
- Gamma irradiated structural modification of Ti3C2Tx for high performance supercapacitors and the hydrogen evolution reaction** 2023  
*Muhammad Taqi Mehran Mutawara Mahmood Baig Faisal Shahzad Salman Raza Naqvi Sajid Iqbal New Journal of Chemistry* , Volume:47, Issue:15, Pages 7205-7210  
**Impact Factor:** 2.7000 | **Quartile:** 2  
**DOI:** <https://doi.org/10.1039/D2NJ06243G>
- A heuristic approach to boost the performance and Cr poisoning tolerance of solid oxide fuel cell cathode by robust multi-doped ceria coating** 2023  
*Hafiz Ahmad Ishfaq Muhammad Zubair Khan Yogita Manikrao Shirke Sanaullah Qamar Amjad Hussain Muhammad Taqi Mehran Rak Hyun Song Mohsin Saleem Applied Catalysis B: Environmental* , Volume 323, Article Number 122178  
**Impact Factor:** 24.319 | **Quartile:** 1 | **Citations:** 47  
**DOI:** <https://doi.org/10.1016/j.apcatb.2022.122178>
- Applications of machine learning in thermochemical conversion of biomass-A review** 2023  
*Muzammil Khan Salman Raza Naqvi Zahid Ullah Syed Ali Ammar Taqvi Muhammad Nouman Aslam Khan Wasif Farooq Muhammad Taqi Mehran Dagmar Juchelková Libor Štěpanec Fuel* , Volume 332, Part 1, Article Number 126055  
**Impact Factor:** 8.035 | **Quartile:** 1 | **Citations:** 134  
**DOI:** <https://doi.org/10.1016/j.fuel.2022.126055>
- Investigation of combustion performance of tannery sewage sludge using thermokinetic analysis and prediction by artificial neural network** 2022  
*Arslan Khan Imtiaz Ali Wasif Farooq Salman Raza Naqvi Muhammad Taqi Mehran Ameen Shahid Rabia Liaquat Muhammad Waqas Anjum Muhammad Naqvi Case Studies in Thermal Engineering* , Volume 40, Article Number 102586  
**Impact Factor:** 6.268 | **Quartile:** 1 | **Citations:** 37  
**DOI:** <https://doi.org/10.1016/j.csite.2022.102586>
- Exceptional stability of hydrotalcite derived spinel Mg(Ni)Al2O4 catalyst for dry reforming of methane** 2022  
*Umair Sikander Taqi Mehran Muzafar Abbas Sang Hoon Kim Catalysis Today* , Volume:403, Page:74-85  
**Impact Factor:** 5.3 | **Quartile:** 1 | **Citations:** 37  
**DOI:** [10.1016/j.cattod.2021.08.029](https://doi.org/10.1016/j.cattod.2021.08.029)
- A highly efficient A-site deficient perovskite interlaced within two dimensional MXene nanosheets as an active electrocatalyst for hydrogen production** 2022  
*Ramsha Khan Muhammad Taqi Mehran Salman Raza Naqvi Asif Hussain Khoja Mutawara Mahmood Baig Muhammad Aftab Akram Faisal Shahzad Sajjad Hussain International Journal of Hydrogen Energy* , Volume 47, Issue 88, Pages 37476-37489

- Impact Factor:** 7.139 | **Quartile:** 2 | **Citations:** 30  
**DOI:** <https://doi.org/10.1016/j.ijhydene.2021.09.017>
- Air gasification of high-ash sewage sludge for hydrogen production: Experimental, sensitivity and predictive analysis** 2022  
*Muhammad Abdullah Khan Salman Raza Naqvi Syed Ali Ammar Taqvi Muhammad Shahbaz Imtiaz Ali Muhammad Taqi Mehran Asif Hussain Khoja Dagmar Juchelková*  
*International Journal of Hydrogen Energy*, Volume 47, Issue 88, Pages 37374-37384  
**Impact Factor:** 7.139 | **Quartile:** 2 | **Citations:** 22  
**DOI:** <https://doi.org/10.1016/j.ijhydene.2021.11.192>
- Biolubricant production from castor oil using iron oxide nanoparticles as an additive: Experimental, modelling and tribological assessment** 2022  
*Uzair Ahmad Salman Raza Naqvi Imtiaz Ali Faisal Saleem Muhammad Taqi Mehran Umair Sikander Dagmar Juchelková*  
*Fuel*, Volume 324, Part A, Article Number 124565  
**Impact Factor:** 6.609 | **Quartile:** 1 | **Citations:** 38  
**DOI:** <https://doi.org/10.1016/j.fuel.2022.124565>
- Comparative hydrodynamics study of fluidized bed gasifier incorporating static and rotating air distributor plates: A CFD approach** 2022  
*Naveed Raza Muhammad Ahsan Muhammad Taqi Mehran Salman Raza Naqvi Iftikhar Ahmad*  
*Powder Technology*, Volume 405, Article Number 117500  
**Impact Factor:** 5.134 | **Quartile:** 1 | **Citations:** 10  
**DOI:** <https://doi.org/10.1016/j.powtec.2022.117500>
- Sorption enhanced steam reforming of methane over waste-derived CaO promoted MgNiAl hydrotalcite catalyst for sustainable H<sub>2</sub> production** 2022  
*Mariam Ayesha Asif Hussain Khoja Faaz Ahmed Butt Umair Sikandar Ahad Hussain Javed Salman Raza Naqvi Israf Ud Din Muhammad Taqi Mehran*  
*Journal of Environmental Chemical Engineering*, Volume 10, Issue 3, Article Number 107651  
**Impact Factor:** 5.909 | **Quartile:** 1 | **Citations:** 25  
**DOI:** [10.1016/j.jece.2022.107651](https://doi.org/10.1016/j.jece.2022.107651)
- HF free greener Cl-terminated MXene as novel electrocatalyst for overall water splitting in alkaline media** 2022  
*Bilal Sarfraz Muhammad Taqi Mehran Mutawara Mahmood Baig Salman Raza Naqvi Asif Hussain Khoja Faisal Shahzad*  
*International Journal of Energy Research*, Pages 1-13  
**Impact Factor:** 4.6 | **Quartile:** 1 | **Citations:** 45  
**DOI:** <https://doi.org/10.1002/er.7895>
- Valorization of Wet Oily Petrochemical Sludge via Slow Pyrolysis: Thermo-Kinetics Assessment and Artificial Neural Network Modeling** 2022  
*Salman Raza Naqvi Syed Ali Ammar Taqvi Asif Hussain Khoja Imtiaz Ali Muhammad Taqi Mehran Wasif Farooq Nakorn Tippayawong Dagmar Juchelková A.E. Atabani*  
*Frontiers in Energy Research*, Volume 9, Article Number 782139  
**Impact Factor:** 4.008 | **Quartile:** 2 | **Citations:** 17  
**DOI:** <https://doi.org/10.3389/fenrg.2021.782139>
- Rational design of MXene coated polyurethane foam for the removal of Pb<sup>2+</sup>** 2021  
*Qamar Shafiq Sayed Muhamad Husnain Faisal Shehzad Muhammad Taqi Mehran Sayed Asad Raza Kazmi Syed Mujtaba-Ul- Hasan Jamil Ahmed Zafar Iqbal*  
*Materials Letters*, Volume 304, Article Number 130600  
**Impact Factor:** 3.574 | **Quartile:** 2 | **Citations:** 20  
**DOI:** <https://doi.org/10.1016/j.matlet.2021.130600>
- A performance evaluation study of nano-biochar as a potential slow-release nano-fertilizer from wheat straw residue for sustainable agriculture** 2021  
*Hamza Ahmad Khan Salman Raza Naqvi Muhammad Taqi Mehran Asif Hussain Khoja Dagmar Juchelková Abdulaziz Atabani Muhammad Bilal Khan Niazi*  
*Chemosphere*, Volume 285, Article Number 131382  
**Impact Factor:** 8.943 | **Quartile:** 1 | **Citations:** 106  
**DOI:** <https://doi.org/10.1016/j.chemosphere.2021.131382>
- Biochars' adsorption performance towards moxifloxacin and ofloxacin in aqueous solution: Role of pyrolysis temperature and biomass type** 2021  
*Lubna Akhtar Mahtab Ahmad Sajid Iqbal Ahmed A. Abdelhafez Muhammad Taqi Mehran*  
*Environmental Technology and Innovation*, Volume 24, Article Number 101912

- Impact Factor:** 7.758 | **Quartile:** 1 | **Citations:** 55  
**DOI:** 10.1016/j.eti.2021.101912
- Partial oxidation of methane over CeO<sub>2</sub> loaded hydrotalcite (MgNiAl) catalyst for the production of hydrogen rich syngas (H<sub>2</sub>, CO)** 2021  
*Anees ul Hasnain Faaz Ahmed Butt Faisal Saleem Muhammad Taqi Mehran Rabia Liaquat Majid Ali Zaki IsmailZaki Asif Hussain Khoja Mariam Ayesha International Journal of Hydrogen Energy* , Volume 46, Issue 74, Pages 36663-36677  
**Impact Factor:** 5.816 | **Quartile:** 2 | **Citations:** 19  
**DOI:** 10.1016/j.ijhydene.2021.08.169
- Designing the MXene/molybdenum diselenide hybrid nanostructures for high-performance symmetric supercapacitor and hydrogen evolution applications** 2021  
*Sajjad Hussain Iqra Rabani Dhanasekaran Vikraman Muhammad Taqi Mehran Faisal Shahzad Young-Soo Seo Hyun-Seok Kim Jongwan Jung International Journal of Energy Research* , Volume:45, Issue:13, Page:18770-18785  
**Impact Factor:** 4.672 | **Quartile:** 1 | **Citations:** 40  
**DOI:** 10.1002/er.6998
- Methane decomposition for hydrogen production over biomass fly ash-based CeO<sub>2</sub> nanowires promoted cobalt catalyst** 2021  
*Jehangeer Raza Asif Hussain Khoja Salman Raza Naqvi Muhammad Taqi Mehran Sehar Shakir Rabia Liaquat Muhammad Tahir Ghulam Ali Journal of Environmental Chemical Engineering* , Volume 9, Issue 5, Article Number 105816  
**Impact Factor:** 7.968 | **Quartile:** 1 | **Citations:** 39  
**DOI:** <https://doi.org/10.1016/j.jece.2021.105816>
- Direct chemical synthesis of interlaced NiMn-LDH nanosheets on LSTN perovskite decorated Ni foam for high-performance supercapacitors** 2021  
*Mutawara Mahmood Baig Muhammad Taqi Mehran Ramsha Khan Khalid Mehmood Salman Raza Naqvi Asif Hussain Khoja Iftikhar Hussain Gul Surface and Coatings Technology* , Volume 421, Article Number 127455  
**Impact Factor:** 4.865 | **Quartile:** 1  
**DOI:** <https://doi.org/10.1016/j.surfcoat.2021.127455>
- Investigation of slow pyrolysis mechanism and kinetic modeling of Scenedesmus quadricauda biomass** 2021  
*Sajjad AkbarKhan Imtiaz Ali Salman Raza Naqvi Kai Li Muhammad Taqi Mehran Asif Hussain Khoja Abdulrahman Anwar Alarabi A.E Atabani Journal of Analytical and Applied Pyrolysis* , Volume 158, Article Number 105149  
**Impact Factor:** 6.437 | **Quartile:** 1 | **Citations:** 28  
**DOI:** <https://doi.org/10.1016/j.jaap.2021.105149>
- Synthesis of Ash Derived Co/Zeolite Catalyst for Hydrogen Rich Syngas Production via Partial Oxidation of Methane** 2021  
*Amer Zafar Bilal A. Khan Asif Hussain Khoja Uneeb Masood Khan Qassam Sarmad Muhammad Taqi Mehran Salman Raza Naqvi Majid Ali Bulletin of Chemical Reaction Engineering and Catalysis* , Volume 16(3), Pages 507-516  
**Impact Factor:** 0 | **Citations:** 7  
**DOI:** 10.9767/bcrec.16.3.10614.507-516
- Reutilizing Methane Reforming Spent Catalysts as Efficient Overall Water-Splitting Electrocatalysts** 2021  
*Muhammad Awais Khan Muhammad Taqi Mehran Salman Raza Naqvi Asif Hussain Khoja Faisal Shahzad Umair Sikander Sajjad Hussain Ramsha Khan Bilal Sarfaraz Mutawara Mahmood Baig ACS Omega* , Volume 6(33), Pages 21316–21326  
**Impact Factor:** 3.512 | **Quartile:** 2 | **Citations:** 21  
**DOI:** <https://doi.org/10.1021/acsomega.1c01558>
- Computational Analysis of the Hydrodynamic Behavior for Different Air Distributor Designs of Fluidized Bed Gasifier** 2021  
*Naveed Raza Muhammad Ahsan Muhammad Taqi Mehran Iftikhar Ahmad Salman Raza Naqvi Frontiers in Energy Research* , Volume 9, Issues 1, Article Number 692066  
**Impact Factor:** 4.008 | **Quartile:** 2 | **Citations:** 17  
**DOI:** <https://doi.org/10.3389/fenrg.2021.692066>
- Perylene diimide/MXene-modified graphitic pencil electrode-based electrochemical sensor for dopamine detection** 2021  
*Umay Amara Muhammad Taqi Mehran Bilal Sarfaraz Khalid Mahmood Akhtar Hayat Muhammad Nasir Sara Riaz Mian Hasnain Nawaz Microchimica Acta* , Volume 188, Article Number 230  
**Impact Factor:** 6.408 | **Quartile:** 1 | **Citations:** 60  
**DOI:** 10.1007/s00604-021-04884-0

<b>A comparative assessment of solid fuel pellets production from torrefied agro-residues and their blends</b> <i>Rifat Mehdi Naveed Raza Salman Raza Naqvi Asif Hussain Khoja M. Taqi Mehran Muhammad Farooq Khanh-Quang Tran</i> <i>Journal of Analytical and Applied Pyrolysis</i> , Volume 156, Article Number 105125 <b>Impact Factor:</b> 5.541   <b>Quartile:</b> 1   <b>Citations:</b> 20 <b>DOI:</b> <a href="https://doi.org/10.1016/j.jaap.2021.105125">https://doi.org/10.1016/j.jaap.2021.105125</a>	2021
<b>Terahertz time-domain spectroscopy of thin and flexible CNT-modified MXene/polymer composites</b> <i>Khadim Hussain Shoaib Mehboob Izhar Ahmad Muhammad Mumtaz Abdul Rehman Khan Syed Mujtaba-ul-Hassan Muhammad Taqi Mehran Zafar Iqbal Jamil Ahmad Mazhar Mehmood Faisal Shahzad</i> <i>Applied Physics A: Materials Science and Processing</i> , Volume 127, Issue 5, Article Number: 382 <b>Impact Factor:</b> 2.983   <b>Quartile:</b> 2   <b>Citations:</b> 29 <b>DOI:</b> <a href="https://doi.org/10.1007/s00339-021-04525-6">10.1007/s00339-021-04525-6</a>	2021
<b>Microstructure tailoring of solid oxide electrolysis cell air electrode to boost performance and long-term durability</b> <i>Sangcho Kim Dong Woo Joh Dong-Young Lee Jieun Lee Hye Sung Kim Muhammad Zubair Khan Jong Eun Hong Seung-Bok Lee Seok Joo Park Rak-Hyun Song Muhammad Taqi Mehran Choong Kyun Rhee Tak-Hyoung Lim</i> <i>Chemical Engineering Journal</i> , Volume 410, Article Number 128318 <b>Impact Factor:</b> 16.744   <b>Quartile:</b> 1   <b>Citations:</b> 66 <b>DOI:</b> <a href="https://doi.org/10.1016/j.cej.2020.128318">https://doi.org/10.1016/j.cej.2020.128318</a>	2021
<b>Kinetic and thermodynamic analyses of dried oily sludge pyrolysis</b> <i>Imtiaz Ali Rumaisa Tariq Salman Raza Naqvi Asif Hussain Khoja Muhammad Taqi Mehran Ningbo Gao Muhammad Naqvi</i> <i>Journal of the Energy Institute</i> , Volume 95, Pages 30-40 <b>Impact Factor:</b> 6.186   <b>Quartile:</b> 2   <b>Citations:</b> 83 <b>DOI:</b> <a href="https://doi.org/10.1016/j.joei.2020.12.002">https://doi.org/10.1016/j.joei.2020.12.002</a>	2021
<b>Controlling cation migration and inter-diffusion across cathode/interlayer/electrolyte interfaces of solid oxide fuel cells: A review</b> <i>Muhammad Zubair Khan Rak-Hyun Song Muhammad Taqi Mehran Seung-Bok Lee Tak-Hyoung Lim Muhammad Zubair Khan Rak-Hyun Song Seung-Bok Lee Tak-Hyoung Lim Muhammad Zubair Khan Rak-Hyun Song Seung-Bok Lee Tak-Hyoung Lim</i> <i>Ceramics International</i> , Volume 47, Issue 5, Pages 5839-5869 <b>Impact Factor:</b> 5.532   <b>Quartile:</b> 1   <b>Citations:</b> 89 <b>DOI:</b> <a href="https://doi.org/10.1016/j.ceramint.2020.11.002">https://doi.org/10.1016/j.ceramint.2020.11.002</a>	2021
<b>Biomass ash characterization, fusion analysis and its application in catalytic decomposition of methane</b> <i>Muhammad Assad Munawar Asif Hussain Khoja Muhammad Hassan Rabia Liaquat Salman Raza Naqvi Muhammad Taqi Mehran Ali Abdullallah Faisal Saleem</i> <i>Fuel</i> , Volume 285, Article Number 119107 <b>Impact Factor:</b> 6.609   <b>Quartile:</b> 1   <b>Citations:</b> 68 <b>DOI:</b> <a href="https://doi.org/10.1016/j.fuel.2020.119107">10.1016/j.fuel.2020.119107</a>	2021
<b>Global plastic waste management strategies (Technical and behavioral) during and after COVID-19 pandemic for cleaner global urban life</b> <i>Muhammad Taqi Mehran Salman Raza Naqvi Muhammad Ali Haider Maryam Saeed Muhammad Shahbaz Tareq Al-Ansari</i> <i>Energy Sources, Part A: Recovery, Utilization and Environmental Effects</i> , Pages 1-10 <b>Impact Factor:</b> 3.447   <b>Quartile:</b> 2   <b>Citations:</b> 14 <b>DOI:</b> <a href="https://doi.org/10.1080/15567036.2020.1869869">https://doi.org/10.1080/15567036.2020.1869869</a>	2021
<b>Agro-industrial residue gasification feasibility in captive power plants: A South-Asian case study</b> <i>Salman Raza Naqvi Muhammad Naqvi Syed Ali Ammar Taqvi Farukh Iqbal Abrar Inayat Asif Hussain Khoja Muhammad Taqi Mehran Muhammad Ayoub Muhammad Shahbaz Nor Aishah Saidina Amin</i> <i>Energy</i> , Volume 214, Article Number 118952 <b>Impact Factor:</b> 8.857   <b>Quartile:</b> 1   <b>Citations:</b> 31 <b>DOI:</b> <a href="https://doi.org/10.1016/j.energy.2020.118952">https://doi.org/10.1016/j.energy.2020.118952</a>	2021
<b>Post-decontamination treatment of MXene after adsorbing Cs from contaminated water with the enhanced thermal stability to form a stable radioactive waste matrix</b> <i>Muhmood ul Hassan Sujeong Lee Muhammad Taqi Mehran Faisal Shahzad Syed M. Husnain Ho Jin Ryu</i> <i>Journal of Nuclear Materials</i> , Volume 543, Article Number 152566 <b>Impact Factor:</b> 3.555   <b>Quartile:</b> 1 <b>DOI:</b> 132	2021

- Wettability control of modified stainless steel surfaces for oxide catalyst carrier slurry coating** 2020  
Muzafar Abbas Muhammad Taqi Mehran Myoung-Woon Moon Ji Young Byun Sang Hoon Kim  
*Journal of Industrial and Engineering Chemistry*, Volume 91, Pages 330-339  
**Impact Factor:** 6.064 | **Quartile:** 1 | **Citations:** 7  
**DOI:** <https://doi.org/10.1016/j.jiec.2020.08.017>
- Hydrogen Production from Methane Cracking in Dielectric Barrier Discharge Catalytic Plasma Reactor Using a Nanocatalyst** 2020  
Asif Hussain Khoja Abul Kalam Azad Faisal Saleem Bilal Alam Khan Nor Aishah Saidina Amin Abul Kalam Azad Faisal Saleem Bilal Alam Khan Salman Raza Naqvi M Taqi Mehran Nor Aishah Saidina Amin  
*Energies*, Volume 13(22), Article Number 5921  
**Impact Factor:** 3.004 | **Quartile:** 3 | **Citations:** 30  
**DOI:** 10.3390/en13225921
- 3D hierarchical heterostructured LSTN@NiMn-layered double hydroxide as a bifunctional water splitting electrocatalyst for hydrogen production** 2020  
Ramsha Khan M. Taqi Mehran Mutawara Mahmood Baig Bilal Sarfraz Salman Raza Naqvi Muhammad Bilal Khan Niazi Muhammad Zubair Khan Asif Hussain Khoja  
*Fuel*, Volume 285, Article Number 119174  
**Impact Factor:** 6.609 | **Quartile:** 1 | **Citations:** 77  
**DOI:** <https://doi.org/10.1016/j.fuel.2020.119174>
- Thermal dry reforming of methane over La<sub>2</sub>O<sub>3</sub> co-supported Ni/MgAl<sub>2</sub>O<sub>4</sub> catalyst for hydrogen-rich syngas production** 2020  
Asif Hussain Khoja Mustafa Anwar Sehar Shakir Muhammad Taqi Mehran Arslan Mazhar Adeel Javed Nor Aishah Saidina Amin  
*Research on Chemical Intermediates*, Volume 46, Pages 3817-3833  
**Impact Factor:** 2.914 | **Quartile:** 3 | **Citations:** 29  
**DOI:** <https://doi.org/10.1007/s11164-020-04174-z>
- Role of perovskites as a bi-functional catalyst for electrochemical water splitting: A review** 2020  
Ramsha Khan M. Taqi Mehran Salman Raza Naqvi Asif Hussain Khoja  
*International Journal of Energy Research*, Pages 1-34  
**Impact Factor:** 5.164 | **Quartile:** 1 | **Citations:** 58  
**DOI:** <https://doi.org/10.1002/er.5635>
- Performance Comparison of Industrially Produced Formaldehyde Using Two Different Catalysts** 2020  
Salman Raza Naqvi Muhammad Taqi Mehran Umair Sikandar Kamran Shakeel Muqaddam Javaid Yusra Muazzam Syed Ali Ammar Taqvi Fahim Uddin Muhammad Bilal Khan Niazi  
*Processes*, Volume 8, Issue 5, Article Number 571  
**Impact Factor:** 2.847 | **Quartile:** 3 | **Citations:** 12  
**DOI:** <https://doi.org/10.3390/pr8050571>
- Kinetic study of dry reforming of methane using hybrid DBD plasma reactor over La<sub>2</sub>O<sub>3</sub> co-supported Ni/MgAl<sub>2</sub>O<sub>4</sub> catalyst** 2020  
Muhammad Tahir Nor Aishah Saidina Amin Adeel Javed Muhammad Taqi Mehran Asif Hussain Khoja  
*International Journal of Hydrogen Energy*, Volume 45, Issue 22, Pages 12256-12271  
**Impact Factor:** 5.816 | **Quartile:** 2 | **Citations:** 50  
**DOI:** 10.1016/j.ijhydene.2020.02.200
- Binder-free heterostructured MWCNTs/Al<sub>2</sub>S<sub>3</sub> decorated on NiCo foam as highly reversible cathode material for high-performance supercapacitors** 2020  
Ifthikhar Hussain Gul Muhammad Zarrar Khan Mutawara Mahmood Baig Muhammad Taqi Mehran Muhammad Saleem Akhtar  
*Electrochimica Acta*, Volume 340, Article Number 135955  
**Impact Factor:** 6.901 | **Quartile:** 2 | **Citations:** 46  
**DOI:** <https://doi.org/10.1016/j.electacta.2020.135955>
- Scaling up syngas production with controllable H<sub>2</sub>/CO ratio in a highly efficient, compact, and durable solid oxide coelectrolysis cell unit-bundle** 2020  
Dong-Young Lee Muhammad Taqi Mehran Jonghwan Kim Sangcho Kim Seung-Bok Lee Rak-Hyun Song Eun-Yong Ko Jong-Eun Hong Joo-Youl Huh Tak-Hyoung Lim  
*Applied Energy*, Volume 257, Article Number 114036  
**Impact Factor:** 9.746 | **Quartile:** 1 | **Citations:** 21  
**DOI:** <https://doi.org/10.1016/j.apenergy.2019.114036>

<p><b>Enhancing the Thermal, Mechanical and Swelling Properties of PVA/Starch Nanocomposite Membranes Incorporating g-C3N4</b></p> <p><i>Erum Pervaiz Arooj Ahmed Muhammad Bilal Khan Niazi Zaib Jahan Ghufrana Samin Taqi Mehran Arshad Hussain</i>  <i>Journal of Polymers and the Environment</i>, Volume 28, Pages 100-115</p> <p><b>Impact Factor:</b> 3.667   <b>Quartile:</b> 2   <b>Citations:</b> 62  <b>DOI:</b> <a href="https://doi.org/10.1007/s10924-019-01592-y">https://doi.org/10.1007/s10924-019-01592-y</a></p>	2020
<p><b>Highly durable nano-oxide dispersed ferritic stainless steel interconnects for intermediate temperature solid oxide fuel cells</b></p> <p><i>Muhammad Taqi Mehran Tae-Hun Kim Muhammad Zubair Khan Seung-Bok Lee Tak-Hyoung Lim Rak-Hyun Song</i>  <i>Journal of Power Sources</i>, Volume 439, Article Number 227109</p> <p><b>Impact Factor:</b> 8.247   <b>Quartile:</b> 1   <b>Citations:</b> 26  <b>DOI:</b> <a href="https://doi.org/10.1016/j.jpowsour.2019.227109">https://doi.org/10.1016/j.jpowsour.2019.227109</a></p>	2019
<p><b>Jute Based Bio and Hybrid Composites and Their Applications</b></p> <p><i>Muhammad Taqi Mehran Muhammad Ahsan Ashraf Mohammed Zwawi Ramesh Kanthasamy Ali Bahadar</i>  <i>Fibers</i>, Volume 7, Issue 9, Article Number 77</p> <p><b>Impact Factor:</b> 0   <b>Citations:</b> 79  <b>DOI:</b> <a href="https://doi.org/10.3390/fib7090077">10.3390/fib7090077</a></p>	2019
<p><b>Two-dimensional transition metal carbide (Ti3C2Tx) as an efficient adsorbent to remove cesium (Cs+)</b></p> <p><i>Abdul Rehman Khan Syed M Husnain Faisal Shahzad Syed Mujtaba-ul-Hassan Mazhar Mehmood Jamil Ahmad Muhammad Taqi Mehran Sohaila Rahman</i>  <i>Dalton Transactions</i>, Volume 48, Issue 31, Pages 11803-11812</p> <p><b>Impact Factor:</b> 4.174   <b>Quartile:</b> 1   <b>Citations:</b> 139  <b>DOI:</b> <a href="https://doi.org/10.1039/c9dt01965k">10.1039/c9dt01965k</a></p>	2019
<p><b>Co- axial electrospray: a versatile tool to fabricate hybrid electron transporting materials for high efficiency and stable perovskite photovoltaics</b></p> <p><i>Madsar Hameed Khalid Mahmood Muhammad Imran Faisal Nawaz Muhammad Taqi Mehran</i>  <i>Nanoscale Advances</i>, Volume: 1 Issue: 4 Pages: 1297-1304</p> <p><b>Impact Factor:</b> 0   <b>Citations:</b> 5  <b>DOI:</b> <a href="https://doi.org/10.1039/c8na00409a">10.1039/c8na00409a</a></p>	2019
<p><b>Enhanced efficiency and stability of perovskite solar cells using polymer-coated bilayer zinc oxide nanocrystals as the multifunctional electron-transporting layer</b></p> <p><i>Khalid Mahmood Arshi Khalid Muhammad Shahzad Zafar Faisal Rehman Madsar Hameed Muhammad Taqi Mehran</i>  <i>Journal of Colloid and Interface Science</i>, Volume 538, Pages 426-432</p> <p><b>Impact Factor:</b> 7.489   <b>Quartile:</b> 1   <b>Citations:</b> 15  <b>DOI:</b> <a href="https://doi.org/10.1016/j.jcis.2018.12.001">10.1016/j.jcis.2018.12.001</a></p>	2019
<p><b>Performance characteristics of a robust and compact propane-fueled 150 W-class SOFC power-generation system</b></p> <p><i>Muhammad Taqi Mehran Sung-Woo Park Jonghwan Kim Jong-Eun Hong Seung-Bok Lee Seok-Joo Park Rak-Hyun Song Joon-Hyung Shim Tak-Hyoung Lim</i>  <i>International Journal of Hydrogen Energy</i>, Volume 44, Issue 12, Pages 6160-6171</p> <p><b>Impact Factor:</b> 4.939   <b>Quartile:</b> 2   <b>Citations:</b> 22  <b>DOI:</b> <a href="https://doi.org/10.1016/j.ijhydene.2019.01.076">10.1016/j.ijhydene.2019.01.076</a></p>	2019
<p><b>A multifunctional blade-coated ZnO seed layer for high-efficiency perovskite solar cells</b></p> <p><i>Khalid Mahmood Muhammad Taqi Mehran Madsar Hameed Faisal Rehman Arshi Khalid Muhammad Imran</i>  <i>APPLIED PHYSICS A-MATERIALS SCIENCE &amp; PROCESSING</i>, Volume 125, Issue 2, Article Number 83</p> <p><b>Impact Factor:</b> 1.810   <b>Quartile:</b> 3   <b>Citations:</b> 12  <b>DOI:</b> <a href="https://doi.org/10.1007/s00339-019-2383-5">10.1007/s00339-019-2383-5</a></p>	2019
<p><b>Effect of nano-Al2O3 addition on mechanical durability of nickel-yttria stabilized zirconia anode support of solid oxide fuel cells</b></p> <p><i>Muhammad Taqi Mehran Muhammad Zubair Khan Tak-Hyoung Lim Seung-Bok Lee Rak-Hyun Song</i>  <i>Ceramics International</i>, NULL</p> <p><b>Impact Factor:</b> 3.450   <b>Quartile:</b> 1   <b>Citations:</b> 22  <b>DOI:</b> <a href="https://doi.org/10.1016/j.ceramint.2018.05.114">https://doi.org/10.1016/j.ceramint.2018.05.114</a></p>	2018
<p><b>Effects of applied current density and thermal cycling on the degradation of a solid oxide fuel cell cathode</b></p> <p><i>Muhammad Zubair Khan Muhammad Taqi Mehran Rak-Hyun Song Seung-Bok Lee Tak-Hyoung Lim</i>  <i>International Journal of Hydrogen Energy</i>, NULL</p>	2018



**Impact Factor:** 4.084 | **Quartile:** 2 | **Citations:** 64  
**DOI:** <https://doi.org/10.1016/j.ijhydene.2018.04.175>

**A simplified approach to predict performance degradation of a solid oxide fuel cell anode**

2018

Muhammad Zubair Khan Muhammad Taqi Mehran Rak-Hyun Song Jong-Won Lee Seung-Bok Lee Tak-Hyoung Lim  
*Journal of Power Sources*, NULL

**Impact Factor:** 7.467 | **Quartile:** 1 | **Citations:** 83  
**DOI:** <https://doi.org/10.1016/j.jpowsour.2018.04.080>

**Improving sulfur tolerance of Ni-YSZ anodes of solid oxide fuel cells by optimization of microstructure and operating conditions**

2018

Muhammad Taqi Mehran Muhammad Zubair Khan Seung-Bok Lee Tak-Hyoung Lim Sam Park Rak-Hyun Song  
*International Journal of Hydrogen Energy*, NULL

**Impact Factor:** 4.084 | **Quartile:** 2 | **Citations:** 44  
**DOI:** <https://doi.org/10.1016/j.ijhydene.2018.04.200>

## Conference Proceedings

**Catalytic pyrolysis of polyethylene waste with Fuller's earth clay and metal oxides under mild conditions**

2021

Muhammad Shozab Mehdi Muhammad Taqi Mehran Salman Raza Naqvi Shafiq Uz Zaman Asif Hussain Khoja Ali Bahadar  
*International Symposium of Reaction Engineering, Catalysis & Sustainable Energy*, res.country(157,)

**Citations:** N/A  
**DOI:** <https://doi.org/10.1016/j.matpr.2021.12.552>

**Partial oxidation of methane using ash derived Co/Zelite catalyst for hydrogen rich syngas production**

2021

Amer Zafar Bilal Khan Asif Hussain Khoja Taqi Mehran Salman Raza Naqvi Majid Ali  
*International Conference (Virtual) on Sustainable Energy & Catalysis (ICSEC 2021*, res.country(157,)

**Citations:** N/A  
**DOI:** NA

**Green immobilization of Cs-adsorbed MXenes to form durable waste matrix**

2019

Muhmood Ul Hassan Sujeong Lee Muhammad Taqi Mehran Jin Ryu Ho Muhammad Taqi Mehran  
*Transactions of the Korean Nuclear Society Autumn Meeting*, res.country(121,)

**Citations:** N/A  
**DOI:** [https://www.kns.org/files/pre\\_paper/42/19A-052-Muhmood.pdf](https://www.kns.org/files/pre_paper/42/19A-052-Muhmood.pdf)

**Metal Sulfide/Mxene Based Nanostructured Electrode Materials for High-Performance Supercapacitors**

2018

Muhammad Taqi Mehran Mutawarra Mehmood  
*The Electrochemical Society Summer Meeting*, res.country(233,)

**Citations:** N/A  
**DOI:** <http://ma.ecsdl.org/content/MA2019-04/5/294.short>

**High Performance Co-Electrolysis of CO<sub>2</sub>/H<sub>2</sub>O in Tubular Solid Oxide Electrolysis Cells**

2018

M. Taqi Mehran Tak-Hyoung Lim Rak-Hyun Song  
*1st international Workshop on Energy Materials and Nanotechnology EMNT 2018, Abbotabad Pakistan*, res.country(177,)

**Citations:** N/A  
**DOI:** [http://emnt.com.pk/wp-content/uploads/2019/02/Abstract-Book\\_EMNT-2018.pdf](http://emnt.com.pk/wp-content/uploads/2019/02/Abstract-Book_EMNT-2018.pdf)

## Book Chapters

**Catalytic pyrolysis of biomass using shape-selective zeolites for bio-oil enhancement**

2021

Salman Raza Naqvi Syed Ali Ammar Taqvi M. Taqi Mehran Asif Hussain Khoja Awais Bokhari M. Naqvi Nor Aishah Saidina Amin  
In: *Book on Bioenergy Resources and Technologies*, Chapter 2, Pages 39-60

**Citations:** 7  
**DOI:** <https://doi.org/10.1016/B978-0-12-822525-7.00002-0>

## Editorial Activities

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Reviewed Papers for Journals <b>Impact Factor:</b> NIL	2021
Reviewed Papers for Journals <b>Impact Factor:</b> 2.52	2020
Reviewed Papers for Journals <b>Impact Factor:</b> 1.529	2020
Reviewed Papers for Journals <b>Impact Factor:</b> 1.68	2020
Reviewed Papers for Journals <b>Impact Factor:</b> 5.39	2019
Reviewed Papers for Journals	2018
Reviewed Papers for Journals <b>Impact Factor:</b> 3.075	2018

## Intellectual Property

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### Copyrights

### Patents

<b>MXene-2D sheets and HF free manufacturing method thereof</b> <b>Status:</b> Filed	2020
<b>Synthesis of high surface area Zeolite 4A from coal power plant fly-ash</b> <b>Status:</b> Filed	2020

### Industrial Designs

### Trademarks