

# Muhammad Faheem Khokhar

Professor

Institute of Environmental Sciences & Engineering

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## About

Dr. Muhammad Faheem Khokhar is working as Professor in the Institute of Environmental Sciences & Engineering. Dr. Muhammad Faheem Khokhar has a PhD in Atmospheric Sciences And Climate Change. Dr. Muhammad Faheem Khokhar has published 96 research articles & conference papers having a citation count of 1749, carried out 20 projects and filed 3 intellectual property.

## Qualifications

|                                                                                        |             |
|----------------------------------------------------------------------------------------|-------------|
| <b>PhD in Atmospheric Sciences And Climate Change</b><br>Universität Leipzig , Germany | 2002 - 2006 |
| <b>MSc in Space Sciences</b><br>University of the Punjab , Pakistan                    | 1994 - 1996 |
| <b>BSc in Phy, Math</b><br>University of the Punjab , Pakistan                         | 1992 - 1994 |

## Experience

|                                                                                                                                                |               |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Professor</b><br>Institute of Environmental Sciences & Engineering                                                                          | 2021- Present |
| <b>Professor</b><br>Institute of Environmental Sciences & Engineering                                                                          | 2019 - 2021   |
| <b>Professor</b><br>Institute of Environmental Sciences & Engineering                                                                          | 2017 - 2019   |
| <b>Professor</b><br>Institute of Environmental Sciences & Engineering                                                                          | 2017 - 2017   |
| <b>Associate Professor</b><br>Institute of Environmental Sciences & Engineering                                                                | 2015 - 2017   |
| <b>Assistant Professor</b><br>Institute of Environmental Sciences & Engineering                                                                | 2012 - 2015   |
| <b>PD Researcher</b><br>Laboratoire Atmosphères, Milieux, Observations Spatiales (LATMOS), , Université Pierre et Marie Curie Paris VI, France | 2008 - 2011   |
| <b>PD Researcher</b><br>Institute for Environmental Physics , INF-229, 69120 Heidelberg                                                        | 2006 - 2008   |
| <b>Scientific researcher</b><br>Institute for Environmental Physics , INF-229, 69120, Heidelberg                                               | 2002 - 2006   |

## Awards

|                                                                                                                                                   |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Innovative Ideas 2018</b><br>ranked first in Inter-Universities Competition for Innovative Ideas 2018 held by UNDP and CESTAC- FJWU Rawalpindi | 2018 |
| <b>Internl Mountain Day 2017</b><br>Ranked No: 1, as Best skit competition to address Climate Change, impacts and Mountainous Ecosystem.          | 2017 |

## Research Projects

### National Projects

|                                                                                                                                       |      |
|---------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Setting up AERONET station at NUST as part of research collaboration with NASA</b>                                                 | 2024 |
| <b>Funding Agency:</b> NASA                                                                                                           |      |
| <b>Amount:</b> PKR 14,681,000.00                                                                                                      |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Climate Change Mitigation for Food Security – Fostering Climate Smart Agriculture through Nature-based Approaches</b>              | 2023 |
| <b>Funding Agency:</b> NUST                                                                                                           |      |
| <b>Amount:</b> PKR 13,200,000.00                                                                                                      |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Indigenous CO2 Bin and CO2 Arrestor to reduce GHG emissions from building and the transport Sectors</b>                            | 2023 |
| <b>Funding Agency:</b> NUST                                                                                                           |      |
| <b>Amount:</b> PKR 17,000,000.00                                                                                                      |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Deployment of CO2-Bin at strategic location of NUST H-12 campus to off-set CO2 emissions</b>                                       | 2023 |
| <b>Funding Agency:</b> NUST                                                                                                           |      |
| <b>Amount:</b> PKR 1,990,000.00                                                                                                       |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Catalytic converter Euro 3/4 Class (Automobile Emission Control Technology)</b>                                                    | 2022 |
| <b>Funding Agency:</b> NCPC                                                                                                           |      |
| <b>Amount:</b> PKR 200,000.00                                                                                                         |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Air Quality Assessment based on Industry 4.0</b>                                                                                   | 2022 |
| <b>Funding Agency:</b> NUST                                                                                                           |      |
| <b>Amount:</b> PKR 1,000,000.00                                                                                                       |      |
| <b>Status:</b> Completed                                                                                                              |      |
| <b>NASA Pandora Project - Research Collaboration with NASA to be part of PGN</b>                                                      | 2022 |
| <b>Funding Agency:</b> NASA                                                                                                           |      |
| <b>Amount:</b> PKR 747,248.00                                                                                                         |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>A mobility program between with INP-University of Toulouse, France and NUST</b>                                                    | 2021 |
| <b>Funding Agency:</b> Erasmus                                                                                                        |      |
| <b>Amount:</b> PKR 3,972,183.00                                                                                                       |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Impacts of the COVID-19 pandemic on air quality of the Monsoon Asia region: Cross-country assessment and facilitating policy</b>   | 2021 |
| <b>Funding Agency:</b> Asia-Pacific Network for Global Change Research (APN), Japan                                                   |      |
| <b>Amount:</b> PKR 15,750,000.00                                                                                                      |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Building Capacity to Improve Air Quality in South Asia: Reducing PM2.5 Through Low-Cost Sensor Network Driven Policy Decisions</b> | 2021 |
| <b>Funding Agency:</b> Department of States (DOS), USA                                                                                |      |
| <b>Amount:</b> PKR 12,285,390.00                                                                                                      |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>STATUS OF ODS PHASE-OUT PROGRAM IN PAKISTAN</b>                                                                                    | 2020 |
| <b>Funding Agency:</b> National Ozone Unit Ministry of Climate Change                                                                 |      |
| <b>Amount:</b> PKR 401,926.00                                                                                                         |      |
| <b>Status:</b> Approved_inprocess                                                                                                     |      |
| <b>Source apportionment of ambient particulate matter in central Pakistan</b>                                                         | 2019 |
| <b>Funding Agency:</b> HEC                                                                                                            |      |
| <b>Amount:</b> PKR 11,085,000.00                                                                                                      |      |
| <b>Status:</b> Completed                                                                                                              |      |
| <b>Internet of Things (IoT) enabled surface water pollution detection for predictive healthcare</b>                                   | 2019 |
| <b>Funding Agency:</b> DAAD                                                                                                           |      |
| <b>Amount:</b> PKR 13,388,860.00                                                                                                      |      |
| <b>Status:</b> Completed                                                                                                              |      |

|                                                                                                      |      |
|------------------------------------------------------------------------------------------------------|------|
| Exploring the Spatial Extent, Causes, Composition and Intensity of Winter Smog over Plains of Punjab | 2018 |
| Funding Agency: HEC                                                                                  |      |
| Amount: PKR 9,551,000.00                                                                             |      |
| Status: Completed                                                                                    |      |

### International Projects

|                                                                                                   |      |
|---------------------------------------------------------------------------------------------------|------|
| Persistent winter fog monitoring across the borders of South Asian countries- Pakistan Chapter    | 2015 |
| Funding Agency: International Centre for Integrated Mountain Development                          |      |
| Amount: PKR 2,260,000.00                                                                          |      |
| Status: Completed                                                                                 |      |
| persistent winter fog monitoring across the borders of South Asian countries- multi country study | 2015 |
| Funding Agency: International Centre for Integrated Mountain Development                          |      |
| Amount: PKR 1,000,000.00                                                                          |      |
| Status: Completed                                                                                 |      |

## Industry Projects

### National Projects

|                                                                                                                 |      |
|-----------------------------------------------------------------------------------------------------------------|------|
| Decarbonization of Cement Sector in Pakistan                                                                    |      |
| Client: POLICY RESEARCH INSTITUTE FOR EQUITABLE DEVELOPMENT (PRIED) (Pvt.) Ltd.Paksitan                         |      |
| Amount: PKR 3,600,000.00                                                                                        |      |
| Status: Completed                                                                                               |      |
| Consultant to conduct a climate change impact study for AIUIa’s protected areas network at the landscape level. | 2023 |
| Client: IUCN                                                                                                    |      |
| Amount: PKR 7,310,544.00                                                                                        |      |
| Status: Completed                                                                                               |      |
| Role of Refrigeration Service Sector in Eradication Efforts of ODS in Pakistan                                  | 2021 |
| Client: NOU-MoCC Govt of Pakistan                                                                               |      |
| Amount: PKR 0.68                                                                                                |      |
| Status: Approved_inprocess                                                                                      |      |
| ADDRESSING CARBON EMISSIONS BY CONTRIBUTING TOWARDS CLIMATE CHANGE MITIGATION                                   | 2020 |
| Client: MoCC and UNDP_Isb                                                                                       |      |
| Amount: PKR 2,800,000.00                                                                                        |      |
| Status: Approved_inprocess                                                                                      |      |

### International Projects

## Research Articles

|                                                                                                                                              |      |
|----------------------------------------------------------------------------------------------------------------------------------------------|------|
| Identification of the blue-sky conditions in Punjab, Pakistan by exploiting satellite and ground-based observations, and policy implications | 2025 |
| Hira Saif Talha Saeed Musawar Hussain Afnan Ullah Muhammad Faheem Khokhar                                                                    |      |
| International Journal of Remote Sensing, Pages 1-21                                                                                          |      |
| Impact Factor: 2.600   Quartile: 3                                                                                                           |      |
| DOI: https://doi.org/10.1080/01431161.2025.2514821                                                                                           |      |
| Geo-spatial distribution of air pollutants in urban area and its potential health risk analysis solutions                                    | 2025 |
| Fajar Waheed Nusrat Ehsan Rabiya Nasir Waqas Ahmed Khan Muhammad Faheem Khokhar Laila Shahzad Aqil Tariq Hira Afzal Qamar uz Zaman           |      |
| Urban Climate , Volume 61, Article Number 102380                                                                                             |      |
| Impact Factor: 6.000   Quartile: 1   Citations: 15                                                                                           |      |
| DOI: https://doi.org/10.1016/j.uclim.2025.102380                                                                                             |      |
| A paradigm shift: Low-cost sensors for effective air quality monitoring and management in developing countries                               | 2025 |
| Muneeba Shabbir Talha Saeed Ahmad Saleem Parkash Bhawe Mike Bergin Muhammad Faheem Khokhar                                                   |      |
| Environment International , Volume: 200, Article Number: 109521, Pages:12                                                                    |      |
| Impact Factor: 10.3   Quartile: 1                                                                                                            |      |
| DOI: https://doi.org/10.1016/j.envint.2025.109521                                                                                            |      |
| Flood risk assessment of Attabad lake: adopting a scenario-based approach for disaster preparedness                                          | 2025 |
| Muhammad Qamar Javed Pirzada Junaid Aziz Khan Muhammad Faheem Khokhar                                                                        |      |

**Estimating Aboveground Biomass and Carbon Sequestration in Afforestation Areas Using Optical/SAR Data Fusion and Machine Learning**

2025

Kashif Khan Shahid Nawaz Khan Anwar Ali Muhammad Faheem Khokhar Junaid Aziz Khan  
*Remote Sensing* , Volume 17(5), Article Number 934

Impact Factor: 4.200 | Quartile: 1 | Citations: 4

DOI: <https://doi.org/10.3390/rs17050934>

**Tracking Microplastics in the Air: Cutting-edge Methods for Indoor and Outdoor Environments**

2024

Khadija Sharaf Din Muhammad Faheem Khokhar Hira Amjad  
*Aerosol and Air Quality Research* , Volume: 24, Issue: 12, Pages:12

Impact Factor: 2.5 | Quartile: 3

DOI: <https://doi.org/10.4209/aaqr.240073>

**Estimating afforestation related forest cover change using data fusion and machine learning**

2024

Kashif Khan Muhammad Faheem Khokhar Javed Iqbal Junaid Aziz Khan Shahid Nawaz Khan  
*Environmental Research Communications* , Volume 6, Number 11, Article Number 115004

Impact Factor: 2.500 | Quartile: 3 | Citations: 2

DOI: <https://doi.org/10.1088/2515-7620/ad88e0>

**Scenario-based HEC-RAS 2D unsteady flow analysis of Shisper Lake for GLOF risk assessment**

2024

Junaid Aziz Khan Muhammad Qamar Javed Pirzada Muhammad Faheem Khokhar  
*Natural Hazards* , Pages 1-21

Impact Factor: 3.300 | Quartile: 1

DOI: <https://doi.org/10.1007/s11069-024-06989-0>

**Exploring the dynamics and future projections of land use land cover changes by exploiting geospatial techniques; A case study of the Kabul River Basin**

2024

Muhammad Faheem Khokhar SHAKIL AHMAD Muhammad Uzair Mohammad Ajmal Stanikzai Junaid Aziz Khan 00000240652-Kamran . 00000360096-Rahmatullah .  
*Heliyon* , Volume: 10, Issue: 20, Article Number: e39020

Impact Factor: 3.4 | Quartile: 1 | Citations: 2

DOI: <https://doi.org/10.1016/j.heliyon.2024.e39020>

**Assessing the impact of socio-demographic factors on municipal water security in planned and unplanned urban centers of Pakistan**

2024

Kamran Umer Khayyam Fasiha Safdar Rahmatullah Wahdatyar Abdul Waheed Muhammad Fahim Khokhar  
*Aqua Water Infrastructure, Ecosystems and Society* , Volume:73, Issue:9

Impact Factor: 2.1 | Quartile: 2 | Citations: 1

DOI: <https://doi.org/10.2166/aqua.2024.118>

**Drivers of municipal water security and vulnerability in Pakistan: A case study of Mardan, Khyber Pakhtunkhwa**

2024

Kamran Junaid Aziz Khan Fasiha Safdar Umer Khayyam Ittikhar Hussain Adil Abdul Waheed Muhammad Fahim Khokhar  
*Groundwater for Sustainable Development* , Volume: 26, Article Number: 101229

Impact Factor: 4.9 | Quartile: 1 | Citations: 2

DOI: <https://doi.org/10.1016/j.gsd.2024.101239>

**Characterization and source identification of PM2.5 during intense haze episodes in an urban environment of Lahore**

2024

Saima Mohyuddin Khan Alam Muhammad Fahim Khokhar Kaleem Anwar Mir Bahadar Zeb Anthony S. Wexler Ehtiram ul Haq Muhammad Ikram Imran Shahid  
*Atmospheric Environment: X* , Volume 23, Article Number 100276

Impact Factor: 3.800 | Quartile: 2 | Citations: 3

DOI: <https://doi.org/10.1016/j.aeaoa.2024.100276>

**In-depth characterization of particulate matter in a highly polluted urban environment at the foothills of Himalaya–Karakorum Region**

2024

Alam Khan Bahader Zaib Muhammad Fahim Khokhar Peng Wang Zhongwei Huang Fatma Öztürk Lyudmila Mihaylova Said Munir  
*Environmental Science and Pollution Research* , Volume: 31, Pages: 35705-35726,

Impact Factor: 5.8 | Quartile: 1 | Citations: 1

DOI: [10.1007/s11356-024-33487-4](https://doi.org/10.1007/s11356-024-33487-4)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <p><b>Toxicological profile and potential health concerns through metals and trace elements exposure in brick kiln workers from Lahore, Pakistan</b></p> <p><i>Talha Saeed Naeem Akhtar Abbasi Muhammad Talha Zahid Noor Fatima Kaleem Ullah Muhammad Faheem Khokhar</i></p> <p><i>Environmental Geochemistry and Health</i> , Volume:46, Issue:5, Article Number:150</p> <p><b>Impact Factor:</b> 4.2   <b>Quartile:</b> 2   <b>Citations:</b> 1</p> <p><b>DOI:</b> 10.1007/s10653-024-01937-0</p>                                                                                    | 2024 |
| <p><b>Analyzing land use land cover (LULC) changes induced by the run-of river project and respondent survey: a case of Ghazi Barotha Hydropower Project on Indus River, Pakistan</b></p> <p><i>Ehsan Inam Ullah Shakil Ahmad Muhammad Faheem Khokhar Umer Khayyam Muhammad Azmat Muhammad Arshad Faizan ur Rehman Qaiser</i></p> <p><i>Environmental Research Communications</i> , Volume 6, Issue 3, Article Number 035002</p> <p><b>Impact Factor:</b> 2.500   <b>Quartile:</b> 3   <b>Citations:</b> 1</p> <p><b>DOI:</b> 10.1088/2515-7620/ad2bb5</p>                             | 2024 |
| <p><b>Exploration of microplastic concentration in indoor and outdoor air samples: Morphological, polymeric, and elemental analysis</b></p> <p><i>Khadija Sharaf Din Muhammad Faheem Khokhar Shahid Ikramullah Buttt Abdul Qadir Farhan Younas</i></p> <p><i>Science of the Total Environment</i> , Volume 908, Article Number 168398</p> <p><b>Impact Factor:</b> 9.8   <b>Quartile:</b> 1   <b>Citations:</b> 40</p> <p><b>DOI:</b> <a href="https://doi.org/10.1016/j.scitotenv.2023.168398">https://doi.org/10.1016/j.scitotenv.2023.168398</a></p>                                | 2024 |
| <p><b>Solving the mysteries of Lahore smog: the fifth season in the country</b></p> <p><i>Rabia Majeed Muhammad Shehzaib Anjum Muhammad Fahim Khokhar Muhammad Imad-ud-din Suhaib Malik Muhammad Naveed Anwar Bilal Anwar</i></p> <p><i>Frontiers in Sustainable Cities</i> , Volume 5, Article Number 1314426</p> <p><b>Impact Factor:</b> 2.400   <b>Quartile:</b> 2   <b>Citations:</b> 11</p> <p><b>DOI:</b> <a href="https://doi.org/10.3389/frsc.2023.1314426">https://doi.org/10.3389/frsc.2023.1314426</a></p>                                                                 | 2024 |
| <p><b>Monitoring of Ambient Air Quality Patterns and Assessment of Air Pollutants' Correlation and Effects on Ambient Air Quality of Lahore, Pakistan</b></p> <p><i>Waqas Ahmed Khan Faiza Sharif Muhammad Faheem Khokhar Laila Shehzad Nusrat Ehsan Muhammad Jahanzaib</i></p> <p><i>Atmosphere</i> , Volume 14(8), Article Number 1257</p> <p><b>Impact Factor:</b> 2.9   <b>Quartile:</b> 3   <b>Citations:</b> 13</p> <p><b>DOI:</b> <a href="https://doi.org/10.3390/atmos14081257">https://doi.org/10.3390/atmos14081257</a></p>                                                 | 2023 |
| <p><b>Antibiotics induced changes in nitrogen metabolism and antioxidative enzymes in mung bean (Vigna radiata)</b></p> <p><i>Marium Fiaz Iftikhar Ahmed Sumara Masood Ul Hassan Adnan Khan Niazi Muhammad Faheem Khokhar Zeshan Muhammad Ansar Farooq Muhammad Arshad</i></p> <p><i>Science of the Total Environment</i> , Volume 873, Article Number 162449</p> <p><b>Impact Factor:</b> 10.753   <b>Quartile:</b> 1   <b>Citations:</b> 20</p> <p><b>DOI:</b> <a href="http://dx.doi.org/10.1016/j.scitotenv.2023.162449">http://dx.doi.org/10.1016/j.scitotenv.2023.162449</a></p> | 2023 |
| <p><b>Recurring South Asian smog episodes: Call for regional cooperation and improved monitoring</b></p> <p><i>Muhammad Fahim Khokhar M. Shehzaib Anjum Abdus Salam Vinayak Sinha Manish Naja Kirpa Ram Hiroshi Tanimoto James H Crawford M. Iqbal Mead</i></p> <p><i>Atmospheric Environment</i> , Volume 295, Article Number 119534</p> <p><b>Impact Factor:</b> 5.755   <b>Quartile:</b> 1   <b>Citations:</b> 8</p> <p><b>DOI:</b> 10.1016/j.atmosenv.2022.119534</p>                                                                                                              | 2023 |
| <p><b>Exploring the nexus between land use land cover (LULC) changes and population growth in a planned city of islamabad and unplanned city of Rawalpindi, Pakistan</b></p> <p><i>Kamran Junaid Aziz Khan Umer Khayyam Abdul Waheed Muhammad Fahim Khokhar</i></p> <p><i>Heliyon</i> , Volume 9, Issue 2, Article Number e13297</p> <p><b>Impact Factor:</b> 3.776   <b>Quartile:</b> 2   <b>Citations:</b> 25</p> <p><b>DOI:</b> <a href="https://doi.org/10.1016/j.heliyon.2023.e13297">https://doi.org/10.1016/j.heliyon.2023.e13297</a></p>                                       | 2023 |
| <p><b>Quantitative Assessment of Deforestation and Forest Degradation in Margalla Hills National Park (MHNP): Employing Landsat Data and Socio-Economic Survey</b></p> <p><i>Muhammad Faheem Khokhar Hiba Ahmad Hamayoon Jallat Ejaz Hussain Najam-u-Saqib Zafeer Saqib Waseem Razzaq Khan</i></p> <p><i>Forests</i> , Volume 14, Issue 2, Article Number 201</p> <p><b>Impact Factor:</b> 3.282   <b>Quartile:</b> 1   <b>Citations:</b> 6</p> <p><b>DOI:</b> <a href="https://doi.org/10.3390/f14020201">https://doi.org/10.3390/f14020201</a></p>                                   | 2023 |
| <p><b>Hydrological and ecological impacts of run off river scheme; a case study of Ghazi Barotha hydropower project on Indus River, Pakistan</b></p> <p><i>Ehsan Inam Ullah Shakil Ahmad Muhammad Fahim Khokhar Muhammad Azmat Umer Khayyam Faizan ur Rehman Qaiser</i></p>                                                                                                                                                                                                                                                                                                            | 2023 |

*Heliyon* , Volume 9, Issue 1, Article Number e12659

**Impact Factor:** 3.776 | **Quartile:** 2 | **Citations:** 7

**DOI:** <https://doi.org/10.1016/j.heliyon.2022.e12659>

**Observed and predicted precipitation variability across Pakistan with special focus on winter and pre-monsoon precipitation**

2022

*Fasiha Safdar Muhammad Fahim Khokhar Fatimah Mehmood Muhammad Zeeshan Ali Khan Muhammad Arshad Environmental Science and Pollution Research* , Pages 1-21

**Impact Factor:** 5.8 | **Quartile:** 1 | **Citations:** 16

**DOI:** <https://doi.org/10.1007/s11356-022-22502-1>

**Retrieval of NO<sub>2</sub> Columns by Exploiting MAX-DOAS Observations and Comparison with OMI and TROPOMI Data during the Time Period of 2015– 2019**

2022

*Ahmad Iqbal Naveed Ahmad Hassan Mohy ud Din Michel Van Roozendaal Muhammad Shehzaib Anjum Muhammad Zeeshan Ali Khan Muhammad Fahim Khokhar*

*Aerosol and Air Quality Research* , Volume 22, Issue 6, Article Number 210398

**Impact Factor:** 4.530 | **Quartile:** 2 | **Citations:** 14

**DOI:** <https://doi.org/10.4209/aaqr.210398>

**Emerging Challenges of Air Pollution and Particulate Matter in China, India, and Pakistan and Mitigating Solutions**

2021

*Muhammad Naveed Anwar Muneeba Shabbir Mahnoor Iftikhar Hira Saif Ajwa Tahir Malik Ashir Murtaza Muhammad Fahim Khokhar Mohammad Rehan Mortaza Aghbashlo Meisam Tabatabaei Abdul-Sattar Nizami Eza Tahir*

*Journal of Hazardous Materials* , Volume 416, Article Number 125851

**Impact Factor:** 14.224 | **Quartile:** 1 | **Citations:** 143

**DOI:** [10.1016/j.jhazmat.2021.125851](https://doi.org/10.1016/j.jhazmat.2021.125851)

**Spatial trends of maximum and minimum temperatures in different climate zones of Pakistan by exploiting ground-based and space-borne observations**

2021

*Fasiha Safdar Muhammad Fahim Khokhar Muhammad Imad ud Din Ghazanfar Farooq Siddiqui Waleed Khattak International Journal of Global Warming* , Volume 24, Nos. 3/4, Pages 365-382

**Impact Factor:** 1.086 | **Quartile:** 4 | **Citations:** 4

**DOI:** [10.1504/IJGW.2021.116715](https://doi.org/10.1504/IJGW.2021.116715)

**A computationally efficient symmetric diagonally dominant matrix projection-based Gaussian process approach**

2021

*Said Munir Rohit Chakraborty Jikai Wang Peng Wang Lyudmila Mihaylova Martin Mayfield Khan Alam Muhammad Fahim Khokhar Daniel Coca Signal Processing* , Volume 183, Article Number 108034

**Impact Factor:** 4.662 | **Quartile:** 1 | **Citations:** 2

**DOI:** <https://doi.org/10.1016/j.sigpro.2021.108034>

**Inventory and GLOF susceptibility of glacial lakes in Hunza River Basin, Western Karakorum**

2021

*Siddique Ullah Baig Fakhra Muneeb Muhammad Fahim Khokhar Junaid Aziz Khan Remote Sensing* , Volume 13(9), Article Number 1794

**Impact Factor:** 4.848 | **Quartile:** 1 | **Citations:** 21

**DOI:** <https://doi.org/10.3390/rs13091794>

**A comprehensive study on upgradation of pyrolysis products through co-feeding of waste tire into rice straw under broad range of co-feed ratios in a bench-scale fixed bed reactor**

2021

*Shoaib Raza Khan Muhammad Faheem Khokhar Zeshan Muhammad Zeeshan Iftikhar Ahmad Biomass Conversion and Biorefinery* , Pages 1-15

**Impact Factor:** 4.987 | **Quartile:** 1 | **Citations:** 18

**DOI:** [doi.org/10.1007/s13399-021-01434-9](https://doi.org/10.1007/s13399-021-01434-9)

**Exploring the linkage between PM<sub>2.5</sub> levels and COVID-19 spread and its implications for socio-economic circles**

2021

*Syeda Mahnoor Ali Fatima Malik Muhammad Shehzaib Anjum Ghazanfar Farooq Siddiqui Muhammad Naveed Anwar Su Shiung Lam Abdul-Sattar Nizami Muhammad Fahim Khokhar*

*Environmental Research* , Volume 193, Article Number 110421

**Impact Factor:** 6.498 | **Quartile:** 1 | **Citations:** 55

**DOI:** <https://doi.org/10.1016/j.envres.2020.110421>

**An Emerged Challenge of Air Pollution and Ever-Increasing Particulate Matter in Pakistan; A Critical Review**

2021

*Muhammad Shehzaib Anjum Syeda Mahnoor Ali Muhammad Imad-ud-din Muhammad Ahmed Subhani Muhammad Naveed Anwar Abdul-Sattar Nizami*

Umar Ashraf Muhammad Fahim Khokhar

Journal of Hazardous Materials , Volume 402, Article Number 123943

**Impact Factor:** 10.588 | **Quartile:** 1 | **Citations:** 135

**DOI:** <https://doi.org/10.1016/j.jhazmat.2020.123943>

#### Investigating the tipping point of crop productivity induced by changing climatic variables

2021

Fatima Mahmood Muhammad Fahim Khokhar Zafar Mahmood

Environmental Science and Pollution Research , Volume 28, Pages 2923-2933

**Impact Factor:** 5.190 | **Quartile:** 2 | **Citations:** 4

**DOI:** <https://doi.org/10.1007/s11356-020-10655-w>

#### Monitoring carbon stock and land-use change in 5000-year-old juniper forest stand of Ziarat, Balochistan, through a synergistic approach

2021

Muhammad Fahim Khokhar Hamayoon Jallat Kamziah Abdul Kudus Mohd Nazre Najam-us-Saqib Usman Tahir Waseem Razzaq Khan

Forests , Volume 12(1), Article Number 51

**Impact Factor:** 2.633 | **Quartile:** 1 | **Citations:** 24

**DOI:** <https://doi.org/10.3390/f12010051>

#### Atmospheric chemistry research in Monsoon Asia and Oceania: Current status and future prospects

2020

Muhammad Fahim Khokhar Hiroshi Tanimoto Nguyen Thi Kim Oanh Manish Naja Shih-Chun Candice Lung Mohd Talib Latif Liya Yu Abdus Salam Maria

Obiminda Cambaliza To Thi Hien Ohnmar May Tin Hlaing Puji Lestari Hiranthi Janz Bhupesh Adhikary Melita Keywood Tao Wang Jim Crawford Mark

Lawrence Megan Melamed

APN Science Bulletin , Volume 10, Issue 1, Pages 126-131

**Impact Factor:** - | **Citations:** 2

**DOI:** [10.30852/sb.2020.1246](https://doi.org/10.30852/sb.2020.1246)

#### Examining the relationship of tropospheric ozone and climate change on crop productivity using the multivariate panel data techniques

2020

Fatima Mahmood Muhammad Fahim Khokhar Zafar Mahmood

Journal of Environmental Management , Volume 272, Article Number 111024

**Impact Factor:** 6.789 | **Quartile:** 1 | **Citations:** 23

**DOI:** <https://doi.org/10.1016/j.jenvman.2020.111024>

#### Intercomparison of NO<sub>2</sub>, O<sub>4</sub>, O<sub>3</sub> and HCHO slant column measurements by MAX-DOAS and zenith-sky UV-visible spectrometers during CINDI-2

2020

Karin Kreher Michel Van Roozendaal Francois Hendrick Arnoud Apituley Ermioni Dimitropoulou Udo Frieß Andreas Richter Thomas Wagner Johannes

Lampel Muhammad Fahim Khokhar Nader Abuhassan Li Ang Monica Anguas Alkis Bais Nuria Benavent Tim Bösch Kristof Bogner Alexander Borovski Ilya

Bruchkouski Alexander Cede Ka Lok Chan Sebastian Donner Theano Drosoglou Caroline Fayt Henning Finkenzeller David Garcia-Nieto Clio Gielen Laura

Gómez-Martín Nan Hao Bas Henzing Jay R. Herman Christian Hermans Syedul Hoque Hitoshi Irie Junli Jin Paul Johnston Theodore K. Koenig Jonas Kuhn

Vinod Kumar Cheng Liu Jianzhong Ma Alexis Merlaud Abhishek K. Mishra Moritz Müller Monica Navarro-Comas Mareike Ostendorf Andrea Pazmino Enno

Peters Gaia Pinardi Manuel Pinharanda Ankie PETERS Ulrich Platt Oleg Postlyakov Cristina Prados-Roman Olga Puente-dura Richard Querel Alfonso Saiz-

Lopez Anja Schönhardt Stefan F. Schreier Andre Seyler Vinayak Sinha Elena Spinei Kimberly Strong Frederik Tack Xin Tian Martin Tiefengraber Jan-Lukas

Tirpitz Jeroen van Gent Rainer Volkamer Mihalís Vrekoussis Shanshan Wang Zhuoru Wang Mark Wenig Folkard Wittrock Pinhua H. Xie Jin Xu Margarita

Yela Chengxin Zhang Xiaoyi Zhao Junaid Khayyam Butt Nader Abuhassan Li Ang Monica Anguas Alkis Bais Nuria Benavent Tim Bösch Kristof Bogner

Alexander Borovski Ilya Bruchkouski Alexander Cede Ka Lok Chan Sebastian Donner Theano Drosoglou Caroline Fayt Henning Finkenzeller David Garcia-

Nieto Clio Gielen Laura Gómez-Martín Nan Hao Bas Henzing Jay R. Herman Christian Hermans Syedul Hoque Hitoshi Irie Junli Jin Paul Johnston Theodore

K. Koenig Jonas Kuhn Vinod Kumar Cheng Liu Jianzhong Ma Alexis Merlaud Abhishek K. Mishra Moritz Müller Monica Navarro-Comas Mareike Ostendorf

Andrea Pazmino Enno Peters Gaia Pinardi Manuel Pinharanda Ankie PETERS Ulrich Platt Oleg Postlyakov Cristina Prados-Roman Olga Puente-dura Richard

Querel Alfonso Saiz-Lopez Anja Schönhardt Stefan F. Schreier Andre Seyler Vinayak Sinha Elena Spinei Kimberly Strong Frederik Tack Xin Tian Martin

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Xie Jin Xu Margarita Yela Chengxin Zhang Xiaoyi Zhao Junaid Khayyam Butt

Atmospheric Measurement Techniques , Volume 13, Issue 5, Pages 2169-2208

**Impact Factor:** 4.176 | **Quartile:** 2 | **Citations:** 76

**DOI:** <https://doi.org/10.5194/amt-13-2169-2020>

#### CO<sub>2</sub> Utilization: Turning Greenhouse Gas into Fuels and Valuable Products

2020

Muhammad Fahim Khokhar Muhammad Naveed Anwar A. Fayyaz Nabbia Farrukh Sohail M. Baqar A. Yassar K. Rasool A. Nazir Muhammad Umer Farooq

Raja M. Rehan M. Aghbeshlo M. Tabatabaie A.S Nizami

Journal of Environmental Management , Volume 260, Article Number 110059

**Impact Factor:** 6.789 | **Quartile:** 1 | **Citations:** 155

**DOI:** <https://doi.org/10.1016/j.jenvman.2019.110059>

#### Forecasting CO<sub>2</sub> emissions from energy consumption in Pakistan under different scenarios: The China–Pakistan Economic Corridor

2020

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| <p><i>Muhammad Fahim Khokhar Aysha Malik Ejaz Hussain Sofia Baig</i><br/> <i>Greenhouse Gases: Science and Technology</i> , Volume 10, Issue 2, Pages 380-389</p> <p><b>Impact Factor:</b> 2.013   <b>Quartile:</b> 4   <b>Citations:</b> 31<br/> <b>DOI:</b> 10.1002/ghg.1968</p>                                                                                                                                                                                                               |      |
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| <p><b>Identification of dust transport patterns and sources by using MODIS: a technique developed to discriminate dust and clouds</b></p> <p><i>Zaib-un-Nisa Muhammad Faheem Khokhar Salman Atif</i><br/> <i>International Journal of Environment and Pollution</i>, Vol.66(1-3), Pages 80-97</p> <p><b>Impact Factor:</b> 0.540   <b>Quartile:</b> 4   <b>Citations:</b> 3<br/> <b>DOI:</b> <a href="https://doi.org/10.1504/IJEP.2019.104537">https://doi.org/10.1504/IJEP.2019.104537</a></p> | 2019 |
| <p><b>Spatiotemporal Evolution of Atmospheric Ammonia Columns over the Indo-Gangetic Plain by Exploiting Satellite Observations</b></p> <p><i>Aimon Tanvir Muhammad Fahim Khokhar Zeeshan Javed Osama Sandhu Tehreem Mustansar Asadullah Shoaib</i><br/> <i>Advances in Meteorology</i> , Article Number 7525479, Pages 1-11</p> <p><b>Impact Factor:</b> 1.491   <b>Quartile:</b> 4   <b>Citations:</b> 8<br/> <b>DOI:</b> 10.1155/2019/7525479</p>                                             | 2019 |
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Conference Proceedings

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*Muhammad Faheem Khokhar*  
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**Spatio-Temporal Assessment of Land Use Land Cover Changes and Population Dynamics Using Geoinformatics: A Case Study of Mardan, Khyber Pakhtunkhwa, Pakistan †** 2023

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| <p><b>How to manage impacts of climate change in Pakistan</b></p> <p><i>Muhammad Faheem Khokhar</i><br/> <i>Partnership for Climate Action; Science 4 Sustainability</i> , res.country(177,)</p> <p><b>Citations:</b> N/A<br/> <b>DOI:</b> 1234567890</p>                                                                                                                                                                                                                                                                                                    | 2023 |
| <p><b>Inventory and GLOF susceptibility of glacial lakes in Western Karakoram</b></p> <p><i>Fakhra Muneeb Siddique Ullah Baig Junaid Aziz Khan Muhammad Fahim Khokhar</i><br/> <i>GLOF conference &amp; workshop 2021</i> , res.country(12,)</p> <p><b>Citations:</b> N/A<br/> <b>DOI:</b> <a href="https://doi.org/10.3390/rs13091794">https://doi.org/10.3390/rs13091794</a></p>                                                                                                                                                                           | 2021 |
| <p><b>Maximum and Minimum Temperature trends Analysis over Seasons of Different Climatic Zones of Pakistan from 1978-2016</b></p> <p><i>Fasiha Safdar Muhammad Artshad Muhammad Fahim Khokhar</i><br/> <i>8th Global Conference on Global Warming</i> , res.country(186,)</p> <p><b>Citations:</b> N/A<br/> <b>DOI:</b> ISBN: 978-605-66381-7-6</p>                                                                                                                                                                                                          | 2019 |
| <p><b>Exploring the inter-dependence of tropospheric trace gases over pakistan through impulse response function analysis</b></p> <p><i>Naila Zeb Muhammad Fahim Khokhar Saud Ahmed Khan Naila Zeb Muhammad Fahim Khokhar Saud Ahmed Khan</i><br/> <i>8th Global Conference on Global Warming</i> , res.country(186,)</p> <p><b>Citations:</b> N/A<br/> <b>DOI:</b> ISBN: 978-605-66381-7-6</p>                                                                                                                                                              | 2019 |
| <p><b>Exploring the Atmospheric Composition in the Changing Climate Scenario of Pakistan</b></p> <p><i>MUHAMMAD FAHEEM KHOKHAR N. Zeb A. Shoaib A. Ali A Hassen</i><br/> <i>15th IGAC Science Conference 2018</i>, res.country(113,)</p> <p><b>Citations:</b> N/A<br/> <b>DOI:</b> <a href="http://www.igacproject.org/sites/default/files/2018-09/iCACGP-IGAC2018%20Abstracts.pdf#page=47">http://www.igacproject.org/sites/default/files/2018-09/iCACGP-IGAC2018%20Abstracts.pdf#page=47</a></p>                                                           | 2018 |
| <p><b>Air Quality Trends in Pakistan: recent smog event choked the life in the provincial capital city of Lahore</b></p> <p><i>M. F. Khokhar</i><br/> <i>Second International Meeting on Environmental Health in Strasbourg, Venue: Council of Europe Strasbourg, France</i>, res.country(75,)</p> <p><b>Citations:</b> N/A<br/> <b>DOI:</b> <a href="https://worldneurologyonline.com/article/second-international-meeting-on-environmental-health/">https://worldneurologyonline.com/article/second-international-meeting-on-environmental-health/</a></p> | 2017 |
| <p><b>Smog choked the life in the city of Lahore, Pakistan as air pollution hits hazardous levels</b></p> <p><i>Muhammad Fahim Khokhar Junaid Khayyam Asadullah Shoaib Zunaira Jabeen Hira Ishtiaq Tehreem Mustansar</i><br/> <i>National Workshop on Air Pollution &amp; Smog: From Science to Solution</i>, res.country(177,)</p> <p><b>Citations:</b> N/A<br/> <b>DOI:</b> <a href="http://www.uvas.edu.pk/academics/faculties/FBS/ES/smog.htm">http://www.uvas.edu.pk/academics/faculties/FBS/ES/smog.htm</a></p>                                        | 2017 |
| <p><b>An assessment of short lived climate pollutants over Pakistan</b></p> <p><i>Muhammad Fahim khokhar M.Qasim A. Noreen</i><br/> <i>SPARC Local Workshop on "WCRP Grand Challenges and Regional Climate Change"</i>, res.country(121,)</p> <p><b>Citations:</b> N/A</p>                                                                                                                                                                                                                                                                                   | 2017 |

DOI: <http://159.226.119.58/aas/article/2018/0256-1530/0256-1530-35-6-624.shtml>

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| <b>Early Growth Response of Wheat (<i>Triticum aestivum</i>) Cultivars to Titanium Dioxide (tio2) Nanoparticles</b><br><i>Zahra Zahra Naima Waseem Rubab Zahra Muhammad Arshad Hyung-Kyoon Choi Amna Parveen Sofia Baig Muhammad Fahim Khokhar</i><br><i>International Conference on Bio-approaches for Environment and Sustainability - ICBES-2017</i> , res.country(177,)<br><b>Citations:</b> N/A<br><b>DOI:</b> N/A | 2017 |
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| <b>Inter-comparison of CINDI-2 observations for nitrogen dioxide and formaldehyde columns</b><br><i>M. F. Khokhar Junaid Khayyam Butt</i><br><i>Cabauw Intercomparison of Nitrogen Dioxide Measuring Instruments 2 (CINDI -2)</i> , res.country(165,)<br><b>Citations:</b> N/A<br><b>DOI:</b> N/A | 2016 |
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## Book Chapters

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| <b>Regional and Urban Air Quality in South Asia</b><br><i>Manish Naja Abdus Salam Muhammad Fahim Khokhar Maheswar Rupakheti</i><br>In: <i>Handbook of Air Quality and Climate Change</i> , Pages 1-37<br><b>Citations:</b> N/A<br><b>DOI:</b> <a href="https://doi.org/10.1007/978-981-15-2527-8_67-1">https://doi.org/10.1007/978-981-15-2527-8_67-1</a> | 2023 |
| <b>The environment and development in contemporary Pakistan: The way forward</b><br><i>Khadija Amir Khadija Amir Muhammad Fahim Khokhar</i><br>In: <i>Book on Perspectives on Contemporary Pakistan: Governance, Development and Environment</i> , 1st Edition, Chapter 12, Pages 197-211<br><b>Citations:</b> N/A                                        | 2020 |

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| <b>Investigating the Aerosol Type and Spatial Distribution During Winter Fog Conditions over Indo-Gangetic Plains</b><br><i>Muhammad Fahim Khokhar Naila Yasmin Farrukh Chishtie</i><br>In: <i>Book on Land-Atmospheric Research Applications in South and Southeast Asia (Springer Remote Sensing/Photogrammetry)</i> , Pages 471-497<br><b>Citations:</b> N/A<br><b>DOI:</b> 10.1007/978-3-319-67474-2_22 | 2018 |
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## Editorial Activities

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| <b>Atmospheric Environment</b><br>Reviewed Papers for Journals<br><b>Impact Factor:</b> 4.2                        | 2024 |
| <b>Environmental Surfaces and Interfaces</b><br>Reviewed Papers for Journals<br><b>Impact Factor:</b> N/A          | 2024 |
| <b>Atmosphere</b><br>Edited Journal Issue / Proceeding / Book<br><b>Impact Factor:</b> 2.9                         | 2022 |
| <b>Science of the Total Environment</b><br>Reviewed Papers for Journals<br><b>Impact Factor:</b> 10.75             | 2022 |
| <b>Scientific Reports</b><br>Reviewed Papers for Journals<br><b>Impact Factor:</b> 4.99                            | 2022 |
| <br>Reviewed Papers for Journals<br><b>Impact Factor:</b> 4.223                                                    | 2021 |
| <br>Reviewed Papers for Journals<br><b>Impact Factor:</b> 0                                                        | 2021 |
| <b>Advances in Air Quality Monitoring</b><br>Edited Journal Issue / Proceeding / Book<br><b>Impact Factor:</b> 3.1 | 2021 |

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|-------------------------------------------------------------------------|------|
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 5.38              | 2021 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 4.223             | 2021 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 3.33              | 2021 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 4.2               | 2021 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 5.36              | 2021 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 0                 | 2021 |
| Reviewed Papers for Journals                                            | 2020 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 4.677             | 2019 |
| Edited Journal Issue / Proceeding / Book                                | 2019 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 3.998             | 2019 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 1.491             | 2019 |
| Edited Journal Issue / Proceeding / Book<br><b>Impact Factor:</b> 1.327 | 2019 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> -                 | 2019 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> -                 | 2018 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 0                 | 2018 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 4.9               | 2017 |
| Reviewed Papers for Journals<br><b>Impact Factor:</b> 3.8               | 2017 |

## Intellectual Property

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### Copyrights

**Semi-Automated System for GLOF Susceptibility (SURGE)**

2022

**Status:** Filed

### Patents

**Introducing the idea of “CO2 Bin” in order to improve indoor air quality and to combat climate change.**

2023

**Status:** Filed

**Introducing the idea of “CO2 Arrestor” in a bid to reduce transport sector emissions and to combat climate change.**

2023

**Status:** Filed

### Industrial Designs

### Trademarks

## Trainings

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**Three Day Master Class in Residence on Regional Approaches to Air Quality and the Environment (Phase-2) in Collaboration of PDC-NUST**

2021

**Partner:** USEFP and PUAN

**Duration:** 15-Jun-2021 to 18-Mar-2022

**Three Day Master Class in Residence on Regional Approaches to Air Quality and the Environment (Phase-1)**

2021

**Partner:** USEFP and PUAN

**Duration:** 10-Feb-2021 to 09-Jul-2021