



Dr. Asim Daud Rana
Assistant Professor

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CURRICULUM VITAE

Passion driven scientist with distinguished academic career and having almost 20 years' experience of imparting and sharing knowledge of satellite remote sensing through university education, multi-national and semi government organisations. Supervision and development of RS/GIS based ecological conservation projects for environmental resources and landuse/landcover mapping, funded by international donors like, World Bank, UNDP, GEF and EU. Professional and academic expertise in satellite remote sensing and digital image processing for atmospheric and landuse/landcover perspectives, GIS mapping, and applications focusing on Earth's natural resources and environment.

Academic Credentials:

- Ph.D. in Space Science, University of the Punjab, Lahore, Pakistan
- M.Phil. in Space Science, University of the Punjab, Lahore, Pakistan
- M.Sc. in Space Science, University of the Punjab, Lahore, Pakistan

Professional Experience:

Sep, 2013 to date: Assistant Professor, Department of Space Science, University of the Punjab

<http://pu.edu.pk/home/department/62/Department-of-Space-Science>.

I am performing my teaching duties for taking M.Sc. and B.S (Hons) classes for the subjects of Remote Sensing and Image Processing. Also, I am given the responsibility of M.Sc. programme coordinator.

Dec, 2005 to Sep, 2013: Lecturer, Department of Space Science, University of the Punjab

<http://pu.edu.pk/home/department/62/Department-of-Space-Science>.

Along with teaching and research, in the subjects of Satellite Remote Sensing and Satellite Image Processing as a lecturer in University of the Punjab, I have also supervised several M.sc research thesis and B.S (Hons) research reports. I had been managing the GIS/ Remote Sensing Laboratory of the Department. The responsibilities included acquisition of satellite and ancillary data, appropriate Software and Hardware, and establishment of standard operating procedure for the Lab. I had also been given responsibility of M.Sc (Evening Program) coordinator for 02 years (2006-08).

Apr, 2003 to Nov, 2005: Remote Sensing Analyst, World Wide Fund for Nature (WWF) - Pakistan

<http://www.wwfpak.org>

GIS Laboratory of WWF Pakistan holds one of the country's largest GIS-based environmental data repository build over a period of more than two decades. I had been actively involved in the following Projects:

2003 Palas Conservation and Development Project (PCDP), This project was funded by EU European Union through Birdlife International.

2004 I was part of the GIS team responsible for distribution mapping of fresh water biodiversity through C.A.M.P (Comprehensive Assessment and Management Plan) organized by the IUCN Pakistan.

2005 Designation of Ramsar Site for Alpine Wetlands project was funded by WWF Global Freshwater Programme.

2005 Attended WWF-International's orientation workshop organized at its head office at Gland, Switzerland.

Sep, 2002 to Mar, 2003: Lecturer (on Contract), Department of Space Science, University of the Punjab

January, 2002 to Aug, 2002: Image Processing Specialist, NESPAK

<http://www.nespak.com.pk/>

I have worked with The Engineering Consultants, National Engineering Services Pakistan (NESPAK), as an Image Processing Specialist. I was part of the team working on

- Bhasha Dam Feasibility Report
- Kachhi Canal Project
- Rainy Canal Projects

Oct, 2001 to Dec, 2001: Lecturer (on Contract), Department of Space Science, University of the Punjab

Awards & Honours:

- I am honoured with **Gold Medal in M.Sc Space Science (2000)** by University of the Punjab.
- **Meraj Khalid Award** for promotion of Science and Technology by PSGIS at the event of International Water Symposium (2005).
- Resource person for the training on Geo-Informatics and Earth Observation Applications for the Natural Resources/Landcover Assessment at NCCW, Islamabad organized by International Centre for Integrated Mountain Development (ICIMOD) (2008).
- Visiting Faculty, Department of Environmental Science, Kinnaird College for Women (2007-2008)
- Visiting faculty, Department of Geography, University of the Punjab (2013-2016).
- Guest lecture on Remote Sensing and Satellite Imaging at NIIT (NUST) (2003).
- Member of the team obtained funding of PKR 100 million for the establishment of Remote Sensing and GIS Climate Research Lab (RSGCRL) at University of the Punjab, Lahore in 2020.

Research Interests:

- Satellite Remote Sensing

- Atmospheric Remote Sensing specific to trace gases, Remote Sensing of Landuse/Landcovers, Satellite Image Processing for modelling atmospheric and landuse/landcover perspectives

List of International Peer-reviewed Impact Factor Publications:

Asim Daud Rana, Shahid Parvez, Zia ul-Haq, Syeda Adila Batool, Ch. Muhammad Nawaz, Khalid Mahmood & Salman Tariq (2019). Anthropogenic, biogenic and pyrogenic emission sources and atmospheric formaldehyde (HCHO) and nitrogen dioxide (NO₂) columns over different landuse/landcovers of South Asia. *Applied Ecology and Environmental Research*, 17(5):10989-11015. http://dx.doi.org/10.15666/aeer/1705_1098911015. (Impact Factor: 0.721).

Shahid Parvez, **Asim Daud Rana**, Zia ul-Haq, Syeda Adila Batool, Muhammad Ali, Salman Tariq, Khalid Mahmood & Saira Bano (2019). Investigating contributions of gases, meteorological parameters, and aerosols towards tropospheric ozone variabilities over megacity Lahore (Pakistan). *Applied Ecology and Environmental Research*, (accepted for publication).

Zia ul-Haq, **Asim Daud Rana**, Salman Tariq, Khalid Mahmood, Muhammad Ali, & Iqra Bashir (2018). Modeling of tropospheric NO₂ column over different climatic zones and land use/land cover types in South Asia. *Journal of Atmospheric and Solar-Terrestrial Physics*, 168, 80–99.

Zia ul-Haq, Syeda Adila Batool, Salman Tariq, **Asim Daud Rana**, Khalid Mahmood, Muhammad Nawaz Chaudhary & Muhammad Azhar Naeem (2018). Temporal and spatial variations of NO₂ over Saudi Arabia and identification of major hotspot areas during 2005-2014 by using satellite data. *Applied Ecology and Environmental Research*, 16. doi: 10.15666/aeer/1605_57575770. (Impact Factor: 0.681).

Salman Tariq, Zia ul-Haq, Khalid Mahmood & **Asim Daud Rana** (2018). Spatio-Temporal Distributions and Trends of Aerosol Parameters over Pakistan Using Remote Sensing. *Applied Ecology and Environmental Research*, 16, doi: 10.15666/aeer/1603_26152637. (Impact Factor: 0.681).

Zia ul-Haq, Salman Tariq, Muhammad Ali, **Asim Daud Rana** & Khalid Mahmood (2017). Satellite sensed tropospheric NO₂ patterns and anomalies over Indus, Ganges, Brahmaputra and Meghna river basins. *International Journal of Remote Sensing*, 38(5), 1423-1450, doi: <http://dx.doi.org/10.1080/01431161.2017.1283071> (Impact Factor: 1.640).

Khalid Mahmood, Syeda Adila Batool, Fiza Faizi, Ch. Muhammad Nawaz, Zia ul-Haq, **Asim Daud Rana** & Salman Tariq (2017). Bio-thermal effects of open dumps on surroundings detected by remote sensing-influence of geographical conditions. *Ecological Indicators* 82, 131-142, <https://doi.org/10.1016/j.ecolind.2017.06.042>. (Impact Factor: 3.898).

Zia ul-Haq, Salman Tariq, Muhammad Ali, Khalid Mahmood & **Asim Daud Rana** (2016). Sulphur dioxide loadings over megacity Lahore (Pakistan) and adjoining region of Indo-Gangetic Basin. *International Journal of Remote Sensing*, 37(13), 3021-3041, doi: 10.1080/01431161.2016.1192701. (Impact Factor: 1.640).

Khalid Mahmood, Zia ul-Haq, Syeda Adila Batool, **Asim Daud Rana** & Salman Tariq (2016). Application of Temporal GIS to Track Areas of Significant Concern Regarding Groundwater Contamination. *Environmental Earth Sciences*, 75(33), doi: 10.1007/s12665-015-4844-2. (Impact Factor: 1.765).

Zia ul-Haq, **Asim Daud Rana**, Muhammad Ali, Khalid Mahmood, Salman Tariq & Zarmina Qayyum (2015). Carbon monoxide (CO) emissions and its tropospheric variability over Pakistan using satellite-sensed data. *Advances in Space Research*, 56, 583-595, doi: 10.1016/j.asr.2015.04.026. (Impact Factor: 1.409).

Zia ul-Haq, Salman Tariq, **Asim Daud Rana**, Muhammad Ali, Khalid Mahmood & Shahid Parvez (2015). Satellite remote sensing of total ozone column (TOC) over Pakistan and neighboring regions. *International Journal of Remote Sensing*, 36(4), 1038-1054, doi: 10.1080/01431161.2015.1007255. (Impact Factor: 1.640).

Khalid Mahmood, Syeda Adila Batool, Ch. Muhammad Nawaz & **Asim Daud Rana** (2015). Evaluating municipal solid waste dumps using geographic information system. *Polish Journal of Environmental Studies*, 24(2), 879-886.

Zia ul-Haq, Salman Tariq, Muhammad Ali, Khalid Mahmood, Syeda Adila Batool & **Asim Daud Rana** (2014). A study of tropospheric NO₂ variability over Pakistan using OMI data. *Atmospheric Pollution Research*, 5(4), 709-720, doi: 10.5094/APR.2014.080. (Impact Factor: 1.401).

Muhammad Ali, Salman Tariq, Khalid Mahmood, **Asim Daud Rana**, Adila Batool & Zia ul-Haq (2014). A study of aerosol properties over Lahore (Pakistan) by using AERONET data. *Asia-Pacific Journal of Atmospheric Sciences*, 50(2), 153-162, doi: 10.1007/s13143-014-0004-y. (Impact Factor: 1.611).

International Conference Attended and Papers Presented/Abstracts Accepted:

4th International conference on Global Environmental Changes 4-5th May, (2017), Department of Environmental Science and Engineering, Government College University, Faisalabad.

Zia ul-Haq, **Asim Daud Rana**, Muhammad Ali, Khalid Mahmood, Salman Tariq, & Zermina Qayyum (2015). *Carbon monoxide emissions and its spatial and temporal variability over Pakistan and adjoining regions using satellite data*. 3rd International Symposium on Energy Challenges and Mechanics- towards a big picture (Session 07: Energy and Environment), 7-9th July 2015, Aberdeen, Scotland, United Kingdom.

Zia ul-Haq, Salman Tariq, **Asim Daud Rana**, Khalid Mahmood, Syeda Adila Batool, & Abdur Rehman, (2014). *Dubai air show 2013 and spatio-temporal study of elevated levels of tropospheric NO₂ over UAE region by using satellite remote sensing technique*. 2nd International Conference on Environmental Science and Technology (ICOEST '2014), 14-17th May 2014, Side, Antalya, Turkey.

Professional Trainings/Workshops:

- Workshop on HCFC's Phase-out and Alternatives, Ozone Cell, Ministry of Climate Change, Lahore, Pakistan (2013).
- Training workshop on Advanced Satellite Image Processing Techniques of Object Based Image Analysis, WWF-Pakistan, Lahore, Pakistan (2013).
- Training workshop on Disaster Risk Management, National Disaster Management Authority, National Institute of Disaster Management, Department of Geography, University of the Punjab, sponsored by UNDP, (2011).
- Satellite Applications in Communications and Remote Sensing, SUPARCO & ISNET, Lahore, Pakistan (2008).
- Workshop on Pakistan's Freshwater Biodiversity Conservation Assessment & Management Plan (CAMP), IUCN. (2004).
- Training Course on Seismotectonics of Pakistan, Institute of Geology, University of the Punjab, Lahore, Pakistan (2003).