

Dr Shahid Parvez

Assistant Professor

Department of Space Science, Centre for Remote Sensing, RSGCR Lab,
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Accomplished, resourceful scientist/academician/researcher with 22+ years of high-impact experience across higher education, research and development, public sectors, and consulting environments. Proven record of architecting and accelerating growth of research and academic learning programs. Strong scientific acumen with highly successful management experience, as well as hands-on work within research organizations, geospatial product development, and technical resource administration. Expertise in the Earth surface and atmospheric remote sensing, photogrammetry, digital image processing, GIS, GPS, surveying, mapping, and applications focusing on Earth's natural resources and environment.

SELECTED ACHIEVEMENTS

- Supervised 35 research theses and projects in the disciplines of Remote Sensing, GIS and their applications.
- Co-author book-chapter titled "Delineating Legal Forest Boundaries to Combat Illegal Forest Encroachments".
- Published/presented 28 research papers/posters in national/international journals/conferences.
- Guest Speaker & Trainer for 15+ RS & GIS trainings at national and international levels on full funding supports.
- Designed national curriculum of Higher Education Commission (HEC) of Pakistan for the subjects of Remote Sensing, GIS, and Space Science.
- Designed RS & GIS syllabi of Department of Space Science for B.S (Honours), M.Sc. and M.Phil. programs.
- Spearheaded 15+ major projects worth millions of PKR as Project Manager in fields of RS & GIS.
- Deployed resultant geospatial products, customized software applications, and trained concerned customers/staff.

PROJECTS

- **Title:** Establishment of "Remote Sensing, GIS and Climatic Research Lab (RSGCRL)", at University of the Punjab, Lahore
Role: Team Lead & Lab Member **Amount:** 80.9 million PKR, **Duration:** 2020 – 2023
Funding organization: Higher Education Commission of Pakistan.
- **Title:** Establishment of "National Centre for Remote Sensing & Geoinformatics" at SUPARCO HQ, Karachi
Role: Project Manager **Amount:** 116 million PKR, **Duration:** 2005 – 2007
Funding organization: Planning Commission of Pakistan.

AWARDS & HONORS

- SACAM funding to present research paper in Islamabad (3-5 Dec 2014).
- Obtained Yearly Performance Evaluation Awards during 2013 to 2019 by University of the Punjab, Lahore.
- ISNET sponsorship to impart lecture cum training on "Monitoring and Mapping Avalanche Hazard using RS&GIS" in Iran (7-19 Sep 2013).
- Institute of Space Technology (IST), Islamabad sponsorship to attend a training course on "Advanced Geo-spatial Disaster Management Techniques" (11-14 Feb 2013) held at IST Islamabad.
- DAAD sponsorship to present research paper in Malaysia (16-20 July 2012).
- ISNET sponsorship to present research paper in Senegal (9-14 July 2012).
- UNDP sponsorship for GIS presentation in Quetta, Pakistan (31 March 2009).
- ISNET sponsorship to present research paper in Islamabad (11-14 Sep 2006).
- ISNET sponsorship to present research paper in Sudan (26-29 Sep 2005).
- ISNET sponsorship to present research paper in Iran (9-15 Oct 2004).
- ESRI fellowship for International GIS Summer School at Hungary (14-19 Aug 2003).
- SUPARCO sponsorship to carryout master studies in Photogrammetry & Geoinformatics from the Stuttgart University of Applied Sciences, Germany (Sep 2002 to March 2004).
- President Talent Farming award for BSc studies and to attend National Summer School (20 June - 15 July 1992).
- Obtained 2nd Position in BSc (Space Science) from University of the Punjab, Lahore.

Dr Shahid Parvez

Page 2

- Awarded Scholarship during BSc (Space Science, 1992-94) under the auspices of President Talent Farming Scheme, through National Academy of Higher Education, University Grants Commission, Islamabad.

EDUCATIONAL BACKGROUND

- **PhD in Space Science, (2021)** from University of the Punjab, Lahore, Pakistan.
Research Title: Studying Ozone Variability, Trends and Climatology over Pakistan using RS&GIS
- **M.S. in Photogrammetry & Geoinformatics (2003)** from HfT Stuttgart, Germany.
Research Title: Augmented Cultural Heritage – a mobile tourist guide for Dydima (Turkey)
- **M.Sc. in Space Science (1997)** from University of the Punjab, Lahore, Pakistan.
Research Title: Study of Landuse/Landcover Classification of Multan city using SPOT Satellite Image
- **B.Sc. (Mathematics, Physics, & Space Science) (1995)** from University of the Punjab, Lahore, Pakistan.

PROFESSIONAL EXPERIENCE

UNIVERSITY OF THE PUNJAB, Department of Space Science, Lahore **2011-Present**

Assistant Professor (Remote Sensing & GIS)

Deliver lectures, supervise research theses, and design syllabi/curricula pertaining to the subjects of Remote Sensing (Optical: Multispectral & Hyperspectral, Thermal, Microwave, LiDAR), Digital Image & Point Cloud Processing, GIS and their applications in BS, MSc and MPhil programs in Space Science.

Remote Sensing, GIS and Climatic Research Lab (RSCGRL), University of the Punjab, Lahore **2020-Present**

Lab Member & Team Lead (RS&GIS)

Establishment, execution, collaborations, research, and academics related programs, capacity building, services and consultancies.

SUPARCO HQ, Karachi **1999-2011**

Manager & Assistant Manager (RS&GIS)

Spearheaded 20+ Research & Development and Commercial Projects of millions of Pak Rupees in Remote Sensing, Digital Image Processing, GIS, GPS and Applications. Organized, conducted, and imparted lectures/seminars/conferences in more than 25 international and national training courses/workshops/seminars/conferences related to Remote Sensing, GIS and Applications.

HFT STUTTGART, Germany **2003-2004**

Research Assistant

Development of online tutorials, assignments, and exercises of “Geomedia Professional” software under the LARS Project of HfT Stuttgart (www.hft-stuttgart.de) from 01 August 2003 to 31 Jan 2004.

PUBLICATIONS

Book Chapter

1. Book-chapter (co-author) titled “Delineating Legal Forest Boundaries to Combat Illegal Forest Encroachments: A case study in Murree Forest Division, Pakistan” published in the book titled “Forensic GIS: The Role of Geospatial Technologies for Investigating Crime and Providing Evidence” by Springer, Geotechnologies and the Environment, Volume 11, 2014, pp 263-286. ISBN: 978-94-017-8756-7, DOI: 10.1007/978-94-017-8757-4_13.

Publications

1. Mansoor T., Zahida N., Maria F., Farah S., Shahid P., and Faiza R., (2020), "Use of Lidar and Radar Technologies for Watershed Analysis in Feather River Near California," Published in 2019 Sixth International Conference on Aerospace Science and Engineering (ICASE), Islamabad, Pakistan, Publisher: IEEE, added to IEEE Xplore on 09 April 2020, pp. 1-7. e-ISBN: 978-1-7281-1955-7, PoD ISBN: 978-1-7281-1956-4, DOI: 10.1109/ICASE48783.2019.9059196.
2. Zahida N., Mansoor T., Maria F., Atif M., Shahid P., and Faiza R., (2020), "Forest Inventory Parameters from LiDAR Radar and Optical Data: Case Study Lubrecht Experimental Forest in California," Published in 2019 Sixth International Conference on Aerospace Science and Engineering (ICASE), Islamabad, Pakistan, Publisher: IEEE, added to IEEE Xplore on 09 April 2020, pp. 1-6. e-ISBN: 978-1-7281-1955-7, PoD ISBN: 978-1-7281-1956-4, DOI: 10.1109/ICASE48783.2019.9059112.
3. Shahid, P., Asim D., Ul Haq, Z., Adila S. B., Ali M., Khalid M., Salman T., Saira B., (2019), "Investigating contributions of gases, meteorological parameters, and aerosols towards Tropospheric Ozone variabilities over megacity Lahore (Pakistan)", *Applied Ecology and Environmental Research* Vol 17(6), pp:13533-13553, ISSN 1589 1623 (Print) ISSN 1785 0037 (Online), DOI: http://dx.doi.org/10.15666/aeer/1706_1353313553.
4. Asim D.R., Shahid, P., Ul-Haq, Z., Adila S.B., Nawaz, C.M., Khalid, M., & Salman, T., (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*, Vol 17(5), pp:10989-11015 ISSN 1589 1623 (Print), ISSN1785 0037 (Online), DOI: http://dx.doi.org/10.15666/aeer/1705_109891101.
5. Abdullah., Affifa T., Shahid, P., (2019), "Web-GIS Application for Finding Best Fit Route of Health Facilities in Lahore", Oral presentation in ICASE-2019, Islamabad (12-14 Nov 2019).
6. Nimra A., Shahid, P., (2019), "Delineation of urban footprint of Lahore using microwave remote sensing", Oral presentation in ICASE-2019, Islamabad (12-14 Nov 2019).
7. Amira B. S., Shahid P., Ikram M., Humaira B., (2017), Land suitability assessment for maize crop in Okara district using GIS techniques, *Int J of Life Sciences Research*, Research Publish, Vol. 5, Issue 2, pp: 37-44; ISSN 2348-313X (Print), ISSN 2348-3148 (online).
8. Zahida N., Mansoor T., Shahid P., (2017), Spatio-temporal surface hydrology of Hispar Glacier using Remote Sensing, poster presented at the Summer School on Water Informatics: Science and Systems held at LUMS Centre for Water Informatics & Technology, Lahore (21-23 May 2017).
9. Imran H. A., Munir B. A., Shahid P., (2016), Climate Change Impact Assessments of a Selected Area of Himalaya Glaciers of Pakistan Using RS & GIS, presented in the International Conference on Space, Islamabad (20-22 Sep 2016).
10. Zafar I. Z., Munir B. A., Shahid P., (2016), Monitoring and Mapping Avalanches and their Hazards in Pakistan Glaciers using RS&GIS Techniques, presented in the International Conference on Space, Islamabad (20-22 Sep 2016).
11. Shahid P., Rida B. (2016), Importance of GIS Education and Its Current Scenario in Pakistan, *Int J of R&D in Social Sc (IJRDS)*, Vol. 02. No. 05, 43-49, ISSN: 2415-217X.
12. Zia U. H., Salman T., Asim D. R., Ali M., Khalid M., Shahid P. (2015), Satellite remote sensing of total ozone column (TOC) over Pakistan and neighbouring regions, *Int J Rem Sens*, Taylor & Francis, Vol. 36, No. 4, 1038-1054; DOI: 10.1080/01431161.2015.1007255.
13. Mansoor T., Zulqarnain A., Sohail M., Saqib K., Shahid P., (2014), "Investigating impacts of climate change on Hispar glacier using remote sensing", presented in the "6th Meeting of The South and Central Asia MAB Network (SACAM)" on "Impact of Climate Change on Natural Ecosystems" held at Islamabad (3-5 Dec 2014).
14. Shahid I., Maryam A., Shahid P., (2014), "Effects of Monsoon on Glaciers - A case study of Pakistan", presented in the International Conference on Space, Islamabad (12-14 Nov 2014).
15. Anam M., Mudabber A., Shahid P., (2014), "Remote Sensing for Monitoring the Physical properties of Hispar Glacier", presented in ICS-2014, Islamabad (12-14 Nov 2014).
16. Arsheen N., Shahid P., (2014), "Monitoring and Mapping Desertification Sensitive Areas along Nara Canal, Pakistan using GIS & RS", presented in the International Conference on Space (ICS-2014), Islamabad (12-14 Nov 2014).
17. Anam A., Shahid P., (2014), "Geo-statistical Interpolation Methods in GIS", presented in ICS-2014, Islamabad (12-14 Nov 2014).
18. Shahid I., Sara H., Usman H. M., Hamza M., Mubashir M., Shahid P., (2013), "Monitoring and Mapping Batura Glacier using RS&GIS", presented in the National Conference on Space Science, held by Karachi University (7-8 Oct 2013).

19. Roshan A. S., Shahid P., (2013), "Use of Fourier Transformations and Wavelets Customization for Satellite Image Processing", presented in ICASE-2013, Islamabad (11-15 Aug 2013). Published by IEEE-ICASE 2013. DOI 10.1109/ICASE.2013.6785559.
20. Shahid I., Shahid P., (2013), "Comparing Different Image Classification Techniques (Fuzzy, OBIA, Pixel-Based)", poster presentation in ICASE-2013, Islamabad (11-15 Aug 2013). Won 2nd prize.
21. Rizwan R., Shahid P., (2013), "Digital Change Detection Methods for Satellite Remote Sensing Images", poster presentation in ICASE-2013, Islamabad (11-15 Aug 2013).
22. Maryam A., Shahid P., (2013), "DEM/DTM/DSM Generation using Point Elevation Data and existing DEM of Swat District", poster presentation in ICASE-2013, Islamabad (11-15 Aug 2013).
23. Farkhanda I., Shahid P., (2012), "Landuse / landcover of Sialkot using RS & GIS - an urban sprawl perspective", Presented in the International Conference on Applied Geoinformatics for Society and Environment (AGSE 2012) held at the University Technology Malaysia, Johor Bahru, Malaysia (16-20 July 2012). Published at AGSE Proceeding, Karlsruhe, Germany. ISBN: 978-3-943321-09-8.
24. Ghulam A., Ijaz A., Shahid P., (2012), "Landslide hazard assessment in Mansehra District using remote sensing and GIS", Journal of Himalayan Earth Sciences, Vol 45 (2), 2012 ISSN:1994-3237, ISSN:2305-6959.
25. Faiza R., Shahid P., Salman I., Ikram M., (2012), "Land suitability assessment for rice crop in Sheikhpura and Nankana Sahib districts using GIS techniques", Presented in the ISNET/CSE Workshop on Applications of Space Technology for Food Security (9-14 July 2012) at Dakar, Senegal. Published at ISNET Proceeding. ISBN: 978-969-9392-02-3.
26. Shahid P., Ashar H. L., Kumail M., Irshad M., (2006), "GIS-based Security Information System", Presented in the International ISNET Seminar on Space Technology and Applications (11-14 Sep 2006), Islamabad. Published in ISNET Proceeding.
27. Shahid P., (2005), "Use of Space Technology in Precision Farming", Presented in the International Seminar on Space Technology for Peace, Rehabilitation and Development (26-29 Sep 2005) organized by ISNET and RSA Khartoum, Sudan. Published in ISNET Proceeding.
28. Shahid P., Volker C., Peter S., (2004), "Augmented Cultural Heritage – A Mobile Tourist Guide for Didyma, Turkey", Presented in the International Seminar on Satellite Technology Applications in Communications and Remote Sensing, (9-15 Oct 2004) organized by ISNET and ISA Tehran, Iran. Published in ISNET Proceeding.

Journal referee

- Reviewer for an international, peer-reviewed, Open Access journal "Advances in Meteorology" by Hindawi (<https://www.hindawi.com/>).
- Reviewer for an international, peer-reviewed journal "Geocarto International" journal by Taylor & Francis (<https://www.tandfonline.com/loi/tgei20>).
- Proceeding Reviewer for the International Conference on Applied Geoinformatics for Society and Environment (AGSE 2012) held at the University Technology Malaysia, Johor Bahru, Malaysia (16 – 20 July 2012).

CONFERENCES, SEMINARS, WORKSHOPS

1. Conference Attended a knowledge sharing lecture delivered by Prof Dr Roland Geerken, University of Yale, USA and Karlsruhe Institute of Technology, Germany on the topic of "Classification of Phenological cycle using DFT" at the Department of Space Science, University of the Punjab, Lahore on 31 July 2015.
2. Attended two public seminars on "Water, Sewerage, and Solid Waste Management", and "Real Estate Market in Lahore including Land Use, Building Control and Zoning" under USAID funded project on "Lahore Vision 2035" organized by Forman Christian College University, Lahore in collaboration with Urban Unit.
3. Participated as an Invited Resource Person in ISNET/ISA International Workshop on Space Applications for Disaster Risk Reduction and Management (7-19 Sep 2013), Tehran, Iran.
4. Attended National Stakeholders Conference on 'Land Acquisition, Resettlement, and Rehabilitation in Pakistan' held at the National Centre for Resettlement & Rehabilitation, University of the Punjab, Lahore (3-4 July 2013).
5. Attended GIS Working Group meeting organized by UN-OCHA at WWF, Lahore (28 Mar 2013).

Shahid Parvez

Page 5

6. Delivered a presentation on 'Remote Sensing & GIS Applications' in E-Governance Expert Meeting on Upscaling Participatory Information System of Baluchistan, organized by UNDP (Assistance to Governance Reforms and Practices in Baluchistan) held at Quetta (31 March 2009) on UNDP sponsorship.
7. Attended a seminar on "Space Science & the Challenges of 21 Century" held at Institute of Space & Planetary Astrophysics, University of Karachi (21 Nov 2005).
8. Attended a Seminar on "Challenges in Geospatial Analysis, Integration and Visualization" of Commission IV working groups of International Society of Photogrammetry and Remote Sensing (ISPRS) held at Stuttgart, Germany (8-9
9. Attended a workshop on "Remote Sensing & GIS Applications" (13-18 Sep 1999) held at Aerospace Institute, SUPARCO (Institute for Space Technology – new name), Islamabad.

MEMBERSHIPS

1. National Curriculum Review Committee of Higher Education Commission, Pakistan for Remote Sensing, GIS, and Space Science.
2. Curriculum Review & Development Committee, Department of Space Science, University of the Punjab, Lahore.
3. Alumni 'University of the Punjab, Lahore, Pakistan'.
4. Alumni 'Stuttgart University of Applied Sciences, Germany'.
5. Alumni 'Institute of Space Science & Space Technology (ISSSTECH) Pakistan'.
6. Alumni 'Spacian Alumni Association, Pakistan (www.spacianalumni.org.pk)'.
7. Pakistan Society of Geographic Information System (PSGIS).

LIST OF THESES SUPERVISED

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|---------------|---|
| M.Phil | <ol style="list-style-type: none">1. Monitoring and Modeling NO₂ over Lahore2. Use of RS&GIS in Dairy Farming in a selected area of Sheikhpura3. Climate change impact assessments of a selected area of Himalaya Glaciers of Pakistan using RS&GIS4. Monitoring and mapping Avalanches and their hazards in Pakistan Glaciers using RS&GIS Techniques5. Monitoring of Hindukush Glaciers, Pakistan using RS&GIS Techniques6. Application of wavelet analysis on some spatial datasets of Pakistan7. Monitoring and mapping desertification sensitive areas along Nara canal, Pakistan using GIS&RS8. Land suitability assessment for Maize crop in Okara District using RS&GIS9. Geohazard (Land-sliding) Assessment in Tehsil Balakot, Pakistan using RS&GIS10. Delineating legal boundaries and developing a baseline RS&GIS of Murree State Forest11. Land suitability assessment for Rice crop in Sheikhpura & Nankana Sahib Districts using RS&GIS12. Landuse / Landcover of Sialkot using RS&GIS - an Urban Sprawl Perspective |
| MSc | <ol style="list-style-type: none">13. Monitoring changes and impacts of urban green spaces using RS&GIS14. Spatio-temporal analysis of urbanization using remote sensing and GIS techniques15. Delineation of urban footprint of Lahore using microwave remote sensing16. A study of coastal forest using contemporary remote sensing technique and data17. GIS based ground water quality segregation for Sheikhpura city18. Monitoring and Mapping Glacial Lake Outburst in Pakistan using RS&GIS Techniques |
| B.S | <ol style="list-style-type: none">19. Forest cover change assessment in KPK & Punjab using Remote Sensing & Google Earth Engine20. Urban ecology and modernization – a GIS & RS perspective21. Indices based mapping of terrestrial vegetative landcovers22. Exploring snow-melt run-off modeling in the Hunza river catchment using RS&GIS23. Soil moisture mapping of Sheikhpura using SAR satellite images24. Assessing potential of Lidar data for 3D Modeling25. A comprehensive study of pan-sharpening algorithms for remotely sensed images |

Dr Shahid Parvez

Page 6

26. Spatio-temporal analyses of Lahore vegetal cover and urban heat island using RS&GIS
27. RS and GIS based modeling for optimum site selection in RWH system: An SCS-CN approach
28. Air quality monitoring over Lahore using ground and satellite data
29. A Web-GIS application for finding best fit route of a health facility in Lahore
30. Monitoring urban tree cover along selected roads in Lahore and its environmental impacts using RS&GIS
31. Analyzing snow-cover characteristics of Siachin glacier using RS&GIS techniques
32. Forest cover and land use change detection of Lal Suhanra Biosphere Reserve using RS&GIS
33. Flood modelling of Taunsa Barrage and adjoining areas using RS&GIS
34. Investigating impacts of climate change on snow cover using RS&GIS – a case study of HKH region, Pakistan
35. Monitoring and Mapping Batura Glacier, Pakistan using RS&GIS

Spoken Languages

English (Fluent), Urdu (Native), German (Basic), French (Basic), and Punjabi (Native).