CURRICULUM VITAE

Dr. Yogendra Sharma

Post-doctoral Scholar
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RESEARCH EXPERIENCE

- 2022-ongoing: **Post-doctoral scholar** at National Cheng Kung University, Taiwan.
- 2021-2022: **Research Associate** at National Centre for Geodesy, Indian Institute of Technology, Kanpur.

EDUCATIONAL QUALIFICATION

- 2021: **Doctor of Philosophy** in **Mathematics**, Birla Institute of Science & Technology, Pilani, Pilani Campus, India.
  Thesis Title: **Measuring and Modeling Crustal Deformation along the Himalayan Arc**
- 2014: **Master of Science** in **Mathematics**, University of Rajasthan, India. (First Class)
- 2012: **Bachelor of Science** in **Mathematics**, University of Rajasthan, India. (First Class)

RESEARCH INTERESTS

- Crustal Deformation Analysis using GPS and InSAR data
- Himalayan Tectonics and Fault Kinematics
- Statistical Seismology
- Earthquake Hazard Assessment

RESEARCH PUBLICATIONS

Journal Articles

1. **Y. Sharma**, K.E. Ching, R.J. Rau, T.C. Bacolcol, J.E. Fungo, A. Pelicano, K.M. Johnson, Y. Fukushima, "Seismic Implications of Creeping and Coupled Segments along the Philippine Fault in Leyte from GNSS and InSAR Data", *Remote Sensing of Environment*, vol. 335, pp. 115273, 2026.
2. **Y. Sharma**, S. Pasari, K.E. Ching, H. Verma, T. Kato, and O. Dikshit, "Interseismic slip rate and fault geometry along the northwest Himalaya", *Geophysical Journal International*, vol. 235, pp. 2694-2706, 2023.
3. **Y. Sharma**, S. Pasari, K.E. Ching, O. Dikshit, T. Kato, J.N. Malik, C.P. Chang, and J.Y. Yen, “Spatial distribution of earthquake potential along the Himalayan arc”, *Tectonophysics*, vol. 791, pp. 228556, 2020.
4. **Y. Sharma**, S. Pasari, K.E. Ching, H. Verma, and Neha, "Kinematics of crustal deformation along the central Himalaya", *Acta Geophysica*, vol. 72, pp. 553-564, 2024
5. **Y. Sharma**, K.E. Ching, W.L. Chang, H.C. Chen, S.H. Hsiao, W.Y. Liao, E.J. Lee, R.Y. Chuang, and C.L. Chen, "Fast report: Coseismic source model of the January 2025 Mw 6.1 Dapu earthquake from geodetic data and its implications for seismogenic structures in Southwestern Taiwan", *Terrestrial, Atmospheric and Oceanic Sciences*, 2025.
6. S. Pasari and **Y. Sharma**, “Contemporary earthquake hazards in the west-northwest Himalaya: a statistical perspective through natural times", *Seismological Research Letters*, vol. 91, pp. 3358–3369, 2020.
7. H. Verma, **Y. Sharma**, K.E. Ching, and S. Pasari "Contemporary seismic moment budget along the Nepal Himalaya derived from high-resolution InSAR and GPS velocity field ", *Acta Geophysica*, 2024.

8. S. Pasari, **Y. Sharma**, and Neha “Quantifying the current state of earthquake hazards in Nepal", *Applied Computing and Geosciences*, pp. 100058, 2021.

9. S. Pasari, H. Verma, **Y. Sharma**, and N. Choudhary, “Spatial distribution of seismic cycle progression in northeast India and Bangladesh regions inferred from natural time analysis" *Acta Geophysica*, 71(1), 89-100, 2023.

10. H. Verma, S. Pasari, **Y. Sharma**, and K.E. Ching, "High-resolution velocity and strain rate fields in the Kumaun Himalaya: An implication for seismic moment budget ", *Journal of Geodynamics*, 160, p.102023, 2024.

11. Y. Okur, Y. Fukushima, K.E. Ching, and **Y. Sharma**, "Interactions of Aseismic and Seismic Slips of the Philippines Fault on Leyte Island revealed by InSAR and GNSS Time-Series", *Progress in Earth and Planetary Science*, 2025.

12. H. Verma, S. Pasari, S. Devi, **Y. Sharma**, and K.E. Ching, "Interseismic fault kinematics along the Kumaun Himalaya: Insights from InSAR and GPS based observations ", *Journal of Geodynamics*, 167, p.102133, 2025.

13. S. Pasari, A. V. H. Simanjuntak, N. Neha, and **Y. Sharma**, “Nowcasting earthquakes in Sulawesi Island, Indonesia", *Geoscience Letters*. pp. 1-13, 2021.

14. S. Pasari, A. V. H. Simanjuntak, A. Mehta, N. Neha, and **Y. Sharma**, “A Synoptic View of the Natural Time Distribution and Contemporary Earthquake Hazards in Sumatra, Indonesia", *Natural Hazards*, pp. 1-13, 2021.

15. S. Pasari, A. V. H. Simanjuntak, A. Mehta, N. Neha, and **Y. Sharma**, “The Current State of Earthquake Potential in Java Island, Indonesia", *Pure and Applied Geophysics*. pp. 1-18, 2021.

International Conference Article

1. **Y. Sharma**, S. Pasari, O. Dikshit, and K.E. Ching, "GPS-based monitoring of crustal deformation in Garhwal-Kumaun Himalaya", *ISPRS- International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, vol. XLII-5, pp. 451-454, 2018. (SCOPUS)

Refereed Book Chapters

1. **Y. Sharma**, S. Pasari, and Neha, “Indian plate motion revealed by GPS observations: preliminary results”, In: R. Kulshrestha, C. Shekhar, M. Jain, and S.R. Chakravarthy (Eds.) *Mathematical Modeling and Computation of Real-Time Problems: An Interdisciplinary Approach*, CRC Press, 2021. (SCOPUS)

2. H. Verma, **Y. Sharma**, and S. Pasari, “Synthetic Aperture Radar Interferometry to Measure Earthquake-Related Deformation: A Case Study from Nepal", In: S. Kanga, G. Meraj, M. Farooq, S.K. Singh, M.S. Nathawat (Eds.) *Disaster Management in the Complex Himalayan Terrains - Natural Hazard Management, Methodologies and Policy Implications*, Springer Nature, 2022. (SCOPUS)

3. H. Verma, S. Pasari and **Y. Sharma**, "Tectonic deformation along the Delhi-Haridwar Ridge revealed by InSAR observations: Preliminary results," In: *2021 IEEE International India Geoscience and Remote Sensing Symposium (InGARSS), Ahmedabad, India*, IEEE, 2021. (SCOPUS)

Communicated and Under Preparation Articles

1. **Y. Sharma** and K.E. Ching "Coseismic Source Model of the 2017 Mw 6.5 Surigao Earthquake, Philippines from GPS and InSAR data". (Under preparation)

2. **Y. Sharma** and K.E. Ching "Co-seismic slip distribution of the 2022 Taitung, Taiwan (MW 6.8) earthquake inverted from GNSS observations". (Under preparation)

RESEARCH PROJECT

- Research Initiation Grant of amount 15,000 USD, funded by ISC ROAP and IRDR ICoE-Taipei (Taiwan) for the project entitled “Contemporary earthquake potential analysis along the central and Nepal Himalaya”. PI: **Yogendra Sharma** and Co-PI: Sumanta Pasari. (December 2020- December 2021)

SOFTWARE PROFICIENCIES

- **Geodesy Related Programming Skills:** GAMIT-GLOBK, GG-MATLAB, GMT, Surfer, ZMAP, LiCSBAS, GMTSAR, ISCE2, PRIDE-PPP, GIPSY & TEQC.
- **Mathematical Programming Skills:** MATLAB & Python.
- **Utilities:** LaTeX & MS Office.
- **Operating System Used:** Linux, Windows XP, Vista, Windows 7, Windows 8, Windows 10, & Windows 11.

RESEARCH AWARD

1. Awarded by **Council of Scientific and Industrial Research (CSIR) Junior Research Fellowship** from January 17, 2017 to January 16, 2019.

2. Awarded by **Council of Scientific and Industrial Research (CSIR) Senior Research Fellowship** from January 17, 2019 to January 16, 2021.

3. Awarded by travel grants and accommodation by **IRDR-ICoE, Taipei for training course on Earthquake Hazard and Risk Assessment in East Asia, Taiwan** from October 1 to 5, 2018.

4. Awarded by travel grants and accommodation by **National Cheng Kung University (NCKU), Taiwan for the Summer School on Geospatial Information and Disaster Management** from July 1 to 10, 2019.

CONFERENCE PRESENTATIONS

1. Presented paper entitled "GPS based monitoring of crustal deformation in Garhwal-Kumaun Himalaya" in ISPRS TC V Mid term Symposium, International Society for Photogrammetry and Remote Sensing Dehradun, India, during November 20^{th} to 23^{th}, 2018.

2. Presented paper entitled "Earthquake potential along the Himalayan arc deduced from geodetic and seismic moment rates ratio", in Taiwan-Japan Workshop on Crustal Dynamics (TJWCD5), organized by Department of Geography, National Taiwan University (NTU), Taiwan and Department of Natural Resources and Environmental Studies, National Dong Hwa University, Taiwan, during June 24^{th} to 28^{th} , 2019.

3. Presented paper entitled "Seismic vs. geodetic moments in the Garhwal-Kumaun Himalaya: a tool for a rapid understanding of earthquake potential", in AOGS 16th Annual Meeting, Singapore, during July 28^{th} to August 2^{th}, 2019.

4. Presented paper entitled "Indian plate motion using GPS observations: preliminary results", in International Conference and 22^{nd} Annual Convention of Vijnana Parishad of India on Advances in Operations Research, Statistics and Mathematics (AOSM 2019), organized by Department of Mathematics, BITS Pilani, Pilani Campus, Rajasthan, during December 28^{th} to 30^{th}, 2019.

5. Presented paper entitled "Present-day crustal deformation along the Nainital Himalaya: Role of Garampani-Kathgodam fault", in Geodesy Retreat Taiwan, during August 23 to 25, 2022.

6. Presented paper entitled "Fault kinematics and earthquake potential of Garampani-Kathgodam fault", in Taiwan-Japan-New Zealand seismic hazard assessment meeting, during October 31 to November 2, 2022.

7. Presented paper entitled "Interseismic fault slip and fault geometry along the northwest Himalaya", in Geophysical & Geological Annual Meeting, during May 17 to May 18, 2023.

8. Presented paper entitled "Unveiling the Rupture Process of the 2022 Eastern Taiwan Earthquake Doublet through Coseismic Slip Inversion", in Japan-Taiwan Workshop on Crustal Dynamics (JTWCD2023) in Japan, during June 13 to June 16, 2023.

9. Presented paper entitled "Interseismic slip rate and fault geometry along the northwest Himalaya", in Japan Geoscience Union (JpGU) Meeting 2024 in Japan, during May 26 to May 31, 2024.

10. Presented paper entitled "Present-Day Crustal Deformation along the Northwest Himalaya", in 9th France-Taiwan Symposium in Earth Sciences in Penghu, Taiwan, during 4th to 5th June 2024

11. Presented paper entitled "Revisiting Crustal Deformation in Leyte, Philippines, Using GNSS and InSAR", in Taiwan-Philippines Summit on Active Volcanoes, Earthquakes, Marine, and Environmental Disasters, during 18th to 19th June 2024

12. Presented paper entitled "Investigating the Creeping and Locked Behavior of the Philippine Fault in Leyte Island: Insights from GNSS and InSAR Data and Implications for Seismic Hazard", in GEOCON 2024, Philippines, during to 4th to 5th December 2024

13. Presented paper entitled "Understanding the Creeping and Locked Behavior of the Philippine Fault in Leyte Island", in 7th Japan-Taiwan Workshop on Crustal Dynamics (JTWCD07) in Taiwan, during February 11 to February 12, 2025.

14. Presented paper entitled "Creeping but Capable: Locking and Seismic Hazard Along the Central Philippine Fault"", in 12th ACES International Workshop (APEC Cooperation for Earthquake Science) in Academia Sinica, Taipei, Taiwan., during November 4 to November 6, 2025.

15. Presented paper entitled "Crustal deformation analysis along the Masbate Island", in 2025 Taiwan-Japan-New Zealand Seismic Hazard Workshop in Taiwan, during November 10 to November 11, 2025.

WORKSHOPS/SCHOOLS ATTENDED

1. Attended "GIAN workshop on GPS data processing and Analysis with GAMIT/GLOBK', organized by MNNIT Allahabad, India, during January 22^{th} to 26^{th}, 2018.
2. Attended "Training course on Earthquake Hazard and Risk Assessment in East Asia", organized by IRDR ICoE Taipei, Taiwan, during October 1^{th} to 5^{th}, 2018.
3. Attended "Summer School on Geospatial information and Disaster Management", organized by NCKU, Tainan, Taiwan, during July 1^{th} to 10^{th}, 2019.
4. Attended "Autumn School on Physical Geodesy and Its Applications", organized by National Center in Geodesy (NCG) at IIT Kanpur, during October 14^{th} to 24^{th}, 2019.
5. Attended "International Workshop on Advanced Seismology, Seismic Hazards and Earthquake Engineering: Theory, Simulation and Observations", organized by Department of Civil Engineering, National Institute of Technology, Agartala, during December 12^{th} to 17^{th}, 2019.
6. Attended "National Conference on Recent Advances in Applied Mathematics and 18th Prof. P.D. Verma Memorial Lecture (NCESMRWP & PDVML-2014)" organized by Department of Mathematics, University of Rajasthan, India. (September 14, 2014).
7. Attended "COMET InSAR Training Workshop 2021" organized by COMET Research Fellow in Earth Observation and Geoinformatics School of Earth and Environment, University of Leeds, UK in virtual mode (November 23^{rd}- 24^{th} 2021).
8. Attended "Taiwan Geosciences Assembly" , Taipei, Taiwan (June 7^{th}- 10^{th} 2022).

COURSES TAUGHT

1. Probability and Statistics (at BITS Pilani, as Tutor)
2. Advance Calculus (at BITS Pilani, as Tutor)
3. Basic Linux (at IIT Kanpur)
4. GAMIT/GLOBK (at IIT Kanpur)

INVITED LECTURES

1. Conducted two laboratory sessions (each of three hours) on GAMIT-GLOBK GNSS post-processing software at "Short-term course on Introduction to GNSS and applications" workshop organized by National Centre for Geodesy, IIT Kanpur during November 8^{th} to 19^{th}, 2021.
2. Delivered a talk on “Earthquake Potential Analysis using GPS Observations along the Himalayan Arc” at "Short-term course on Introduction to GNSS and applications" workshop organized by National Centre for Geodesy, IIT Kanpur during November 8^{th} to 19^{th}, 2021.
3. Delivered a talk on “Understanding the Rupture Process of the 2022 Eastern Taiwan Earthquake and Current Seismic Potential of Central Range Fault” at "University of the Philippines National Institute of Geological Sciences (UP-NIGS)", during December 2^{nd} to 3^{rd}, 2024.

HONORS

1. I was given the opportunity to be the Chairman Person for Section G1: Geodesy and Crustal Deformation at the Geophysical & Geological Annual Meeting, during May 17 to May 18, 2023.
2. I was invited as a Resource Person and Invited Speaker in a Five-day Virtual FDP on Data Analytics Tools for Real-World Problems organized by the Division of Mathematics, School of Advanced Sciences, VIT Chennai, India. I delivered a lecture on Exploring the Role of Statistics in Geophysics from May 1 to May 5, 2023.
3. I was invited as a research expert to participate in knowledge exchange and explore potential collaborative research opportunities in Earth Sciences at the University of the Philippines National Institute of Geological Sciences (UP-NIGS) from December 2 to December 3, 2024.

Declaration:

I hereby declare that all the information is correct up to my knowledge and I bear the responsibility for the correctness of the above mentioned particulars.

Place: **Tainan, Taiwan** **Yogendra Sharma**