Muhammad RASHID, Ph.D

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University of Tsukuba, Tsukuba, Ibaraki, 305-8573, Japan

Experience

- **Postdoctoral Research Fellow [🌐]** — *October 2025 - Present*
  Advanced Infrastructure System (AIS) Lab, University of Tsukuba — Tsukuba, Japan
- **Research Assistant [🌐]** — *November 2023 - September 2025*
  Advanced Infrastructure System (AIS) Lab, University of Tsukuba — Tsukuba, Japan
- **Research Assistant [🌐]** — *April 2019 - September 2020*
  Earthquake Engineering Center, UET Peshawar — Peshawar, Pakistan
- **Visiting Lecturer [🌐]** — *January 2020 - June 2020*
  Department of Civil Engineering, UET Peshawar — Peshawar, Pakistan
- **Teaching Assistant [🌐]** — *October 2023 - September 2025*
  Department of Engineering Mechanics and Energy, University of Tsukuba — Tsukuba, Japan
- **Teaching Assistant [🌐]** — *October 2018 - June 2020*
  Department of Civil Engineering, UET Peshawar — Peshawar, Pakistan
- **Junior Design Engineer** — *March 2018 - August 2018*
  Structural Engineers Solution (SES) Consultant — Peshawar, Pakistan

Education

- **University of Tsukuba** — *October 2022 - September 2025*
  Ph. D in Engineering — Tsukuba, Japan
  - Degree Program in Engineering Mechanics and Energy
- **University of Tsukuba** — *October 2020 - September 2022*
  Masters in Engineering — Tsukuba, Japan
  - Degree Program in Engineering Mechanics and Energy
- **University of Engineering and Technology, Peshawar** — *August 2014 - September 2018*
  Bachelor in Engineering — Peshawar, Pakistan
  - Department of Civil Engineering

Journal Publications

[10] Rashid, M., Nishio, M. (2025). **Energy-based fragility assessment of reinforced concrete bridges considering cumulative seismic demand under mainshock-aftershock sequences**. *Bulletin of Earthquake Engineering*, DOI: 10.1007/s10518-025-02300-z

[9] Rashid, M., Nishio, M. (2025). **An optimal intensity measure-based seismic fragility surfaces for curved bridges considering their sensitivity to seismic excitation direction**. *Earthquake Engineering and Engineering Vibration*, Vol. 24 (2), 509-526, DOI: 10.1007/s11803-025-2310-z

[8] Rashid, M., Nishio, M. (2024). **Mainshock-aftershock seismic fragility assessment of Civil structures: A state-of-the-art review**. *Earthquake Engineering and Resilience*, Vol. 3 (4), 548-573, DOI: 10.1002/eer2.105

[7] Saida, T., Rashid, M., Nishio, M. (2024). **System fragility analysis of highway bridge using multi-output Gaussian process regression surrogate model**. *Advances in Structural Engineering*, Vol. 27 (16), 2803-2822, DOI: 10.1177/13694332241291255

[6] Rashid, M., Nishio, M. (2023). **System fragility evaluation of a curved highway bridge structure considering multi-direction seismic excitations**. *Advances in Structural Engineering*, Vol. 26 (14), 2672-2692, DOI: 10.1177/13694332231198136

[5] Saida, T., Rashid, M., Nemoto, Y., Tsukamoto, S., Asai, T. Nishio, M. (2023). **CNN-based segmentation frameworks for structural component and earthquake damage determinations using UAV images**. *Earthquake Engineering and Engineering Vibration*, Vol. 22, 359-369, DOI: 10.1007/s11803-023-2174-z

[4] Khan, F. A., Khan, S. W., Shahzada, K., Ahmad, N., Rizwan, M., Fahim, M., Rashid, M. (2022). **Shake-table tests on moment-resisting frames by introducing engineered cementitious composite in plastic hinge length**. *Earthquakes and Structures*, Vol. 23 (1), 23-34, DOI: 10.12989/eas.2022.23.1.000

[3] Khan, F. A., Rashid, M., Khan, S. W., Rizwan, M., Badrashi, Y. I., Fahim, M., Tanoli, M. A., Khaliq, W., Gul, A. (2021). **Comparative seismic performance assessment of RC and RC/ECC hybrid frame structures: a shake table study**. *Innovative Infrastructure Solutions*, Vol. 7 (1), 94, DOI: 10.1007/s41062-021-00692-w

[2] Khan, F., Khan, S., Rashid, M., Rizwan, M., Fahim, M., Shahzada, K. (2021). **Evaluation of code-compliant / non-compliant ECC-RC IMRF structures**. *Structures*, Vol. 32, 1634-1645, DOI: 10.1016/j.istruc.2021.03.070

[1] Ghani, A., Ali, Z., Khan, F. A., Shah, S. R., Khan, S. W., Rashid, M. (2020). **Experimental study on the behavior of waste marble powder as partial replacement of sand in concrete**. *SN Applied Sciences*, Vol. 2 (9) 1554, DOI: 10.1007/s42452-020-03349-y

Conference Papers

[10] Rashid, M., Nishio, M. (2025). **Seismic energy dissipation and system fragility analysis of continuous reinforced concrete highway bridges**. In *14th International Conference on Structural Safety and Reliability - ICOSSAR'25*, University of Southern California, Los Angeles, USA. DOI: 10.23967/icossar.2025.042

[9] Rashid, M., Nishio, M. (2025). **Seismic Energy Distribution in Multi-span Reinforced Concrete Bridges**. In *IABSE Symposium, Tokyo: Environmentally Friendly Technologies and Structures: Focusing on Sustainable Approaches*, pp. 1485-1493. DOI: 10.2749/tokyo.2025.1485

[8] Rashid, M., Nishio, M. (2025). **Seismic energy distribution and fragility assessment of reinforced concrete multi-span highway bridges**. *The 2nd International symposium on Urban Lifeline, ISUL 2025*, Saitama, Japan.

[7] Rashid, M., Nishio, M. (2023). **System Fragility Analysis of a Horizontally Curved Multi-span Highway Bridge Structure**. In *Experimental Vibration Analysis for Civil Engineering Structures. Lecture Notes in Civil Engineering*, pp. 500-510. DOI: 10.1007/978-3-031-39117-0_51

[6] Saida, T., Rashid, M., Nishio, M. (2023). **Gaussian Process Regression Surrogate Model for Seismic Vulnerability Assessment of Highway Bridge Structure System**. In *Experimental Vibration Analysis for Civil Engineering Structures. Lecture Notes in Civil Engineering*, pp. 520-529. DOI: 10.1007/978-3-031-39117-0_53

[5] Rashid, M., Nishio, M. (2023). **Seismic Fragility Analyses of a Curved Bridge System Considering an Optimal Intensity Measure**. *JSCE-25th International Summer Symposium*, Hiroshima: Japan Society of Civil Engineers.

[4] Rashid, M., Nishio, M. (2023). **Dynamic Response Evaluation of an Existing Bridge Structure Based on Finite Element Modeling**. In *Experimental Vibration Analysis for Civil Engineering Structures. Lecture Notes in Civil Engineering*, pp. 413-427. DOI: 10.1007/978-3-030-93236-7_35

[3] Rashid, M., Nishio, M. (2022). **Seismic Vulnerability Assessment of Complex Highway Bridge Structure using System Fragility Curves**. *JSCE-24th International Summer Symposium*, Kyoto: Japan Society of Civil Engineers.

[2] Rashid, M., Nishio, M. (2022). **System Fragility Analysis of a Geometrically Complex Bridge for Seismic Risk Evaluation of Existing Highway Bridge Network**. *The 8th World Conference on Structural Control & Monitoring (8WCSCM)*, Florida, USA.

[1] Rashid, M., Nishio, M. (2021). **Finite Element Analysis of an Existing Seismically Isolated Bridge Structure**. *JSCE-The 23rd International Summer Symposium*, Tokyo: Japan Society of Civil Engineers.

Honors and Awards

- **Awardee of MEXT Scholarship (University Special Program) for Ph.D** *September, 2022*
  Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan
- **Honorable mention** *July, 2022*
  International Competition on Structural Health Monitoring (IC-SHM_2021)
- **Awardee of MEXT Scholarship (University Special Program) for Masters** *September, 2020*
  Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan
- **Gold Medal and Distinction Certificate** *August, 2014*
  Board of Intermediate & Secondary Education (BISE) Malakand
- **Best Student Award** *March, 2011*
  Government High School Adam Dheri, Chakdara

Summer School

- **APESS, Kyoto University, Japan** *July, 2024*
  13th Asia-Pacific-Euro Summer School on Smart Structures Technology [🌐]

Professional Memberships

- **Japan Society of Civil Engineers (JSCE):** Student member *October, 2020 - Present*
- **Pakistan Engineering Council (PEC):** Rigestered Engineer *August, 2018 - Present*

Additional Information

Languages: English (Business level), Pashto & Urdo (Native), Japanese (N4)
Interests: Exploring Nature and Hiking

References

Will be provided on demand