



BISWAS Biswajit
Post-doctoral Researcher
National Institute for Quantum Science and Technology

Pioneering Quantum and Optoelectronic Research: My Journey

I Biswajit Biswas, a passionate researcher working at the intersection of photonics, nanotechnology, and quantum physics. I achieved both my Master's and Ph.D. from Shimane University with the prestigious Japan Science and Technology (JST) scholarship. My time at Shimane University was deeply enriching, providing me with an exceptional academic environment with a postdoctoral research. Additionally, I had the opportunity to work as an assistant researcher at Department of Physics and S-Nanotech Co-Creation Co. Ltd., a joint venture company of Shimane University, where I contributed to applied research in advanced nanotechnology.

Shimane University played a crucial role in shaping my career. The university's commitment to innovation, interdisciplinary research, and collaboration between academia and industry provided the ideal foundation for my academic and professional growth. The faculty and research community were incredibly supportive, encouraging me to push the boundaries of scientific exploration. Beyond research, the welcoming atmosphere and vibrant international environment at Shimane University made my experience truly transformative.

My research focuses on fiber-optic sensing, LED fabrication, and material science. My work in optoelectronics has contributed to advancements in fiber-optic sensing technology and ZnO nanoparticle-based research has enhancing both their efficiency and fabrication stability. My expertise in advanced spectroscopy has also allowed me to gain valuable insights into phonon dynamics through time-dependent Raman scattering studies.

Starting in April 2025, I will embark on a new journey as a postdoctoral researcher at the National Institutes for Quantum Science and Technology (QST) (国立研究開発法人量子科学技術研究開発機構), where I will focus on diamond-based NV center quantum sensing. This opportunity will allow me to further expand my expertise in precision measurement technologies and quantum sensing applications.

With an open mind and a forward-thinking approach, I aim to contribute to the evolution of semiconductor and quantum technologies. I am committed to fostering international collaborations, mentoring young researchers, and bridging theoretical and experimental research to drive scientific advancements. My work is dedicated to pushing the boundaries of modern science, paving the way for future innovations in quantum and optoelectronic research.

I extend my deepest gratitude to my supervisor, the faculty members, and the university authorities at Shimane University for their unwavering support and guidance throughout my academic journey. Their mentorship and encouragement have been instrumental in helping me

achieve my goals. I sincerely wish Shimane University continued success in its pursuit of academic and research excellence.