



A short professional bio: Prof. (Dr.) Ghanshyam Singh received the Bachelor of Engineering degree from REC Silchar (now NIT Silchar) and the Master of Technology and Ph.D. degrees in Electronics and Communication Engineering from Malaviya National Institute of Technology Jaipur, India. He is currently a Full Professor in the Department of Electronics and Communication Engineering at MNIT Jaipur. Prof. Singh has held international academic appointments as a Visiting Research Scholar/Professor at Heriot-Watt University, Edinburgh, UK (2008); University of Eastern Finland, Joensuu (2010); and Keio University, Japan (2013). He is a recipient of the 2017 IEEE Distinguished Lecturer Award from the IEEE Photonics Society, recognizing his contributions to photonics research and education. He has published over 225 research articles in leading peer-reviewed international journals. Prof. Singh is a Senior Member of IEEE, SPIE, and Optica, and a Fellow of the Optical Society of India and the Institution of Electronics and Telecommunication Engineers. His professional service includes serving as Chair-elect of the Optica Technical Group on Optics in Digital Systems (2021–2024) and Member of the SPIE Education and Outreach Activity Committee (2024–2026), Chair of the IEEE Photonics Society Chapter, Delhi Section (PH036), and Vice Chair of the IEEE Nanotechnology Council & Magnetics Chapter (2025–2026). He is also Chair-elect (2027) of Prakash Bharti, a national forum of photonics professionals in India supported by the IEEE Photonics Society. Prof. Singh has led and participated in international research collaborations with institutions in Japan, Austria, Ukraine, Egypt, South Africa, Russia, and China. His research interests include integrated photonics, quantum photonics, photonic biosensors, and micro-ring resonator-based optical logic circuits.

[Talk details \(01\), Duration : 35-40 Minutes:](#)

Photonic Integrated Devices and Systems: Technology for next Generation Telecom Networks

Abstract: Telecommunications networks are experiencing rapid traffic growth of nearly 30% annually (as reported by Cisco), leading to a projected tenfold rise in energy and cost demands over the next decade. Such growth is unsustainable both economically and environmentally. Photonic Integrated Circuits (PICs) offer a promising solution by enabling high-density integration of compact photonic components. Silicon-based PICs benefit from low cost, abundant availability, and mature fabrication processes. Meanwhile, Group III–V materials, with their direct bandgap properties, are ideal for active devices like lasers and modulators. Owing to their performance and reliability, PICs are driving a transition toward efficient all-optical and electro-optic communication networks.

[Talk details \(02\), Duration : 15-20 Minutes:](#)

Strengthening Academic Collaboration between MNIT Jaipur and Yonsei University

Abstract: With this talk, I would like to discuss possible collaborative opportunities between Malaviya National Institute of Technology Jaipur and Yonsei University offer strong potential for advancing interdisciplinary research, innovation, and global academic exchange. MNIT Jaipur’s strengths in areas such as photonics, renewable energy, materials science, artificial intelligence, and communication systems can synergize with Yonsei University’s advanced research ecosystem. Potential collaborations include joint research projects, faculty and student exchange programs, dual-degree initiatives, and co-hosted conferences. Such partnerships can foster knowledge transfer, promote sustainable technological solutions, and enhance global visibility, contributing to impactful research outcomes and long-term institutional growth.

Speaker Details:

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