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Publications

1. Bruno Lopez-Rodriguez*, **Naresh Sharma***, Zizheng Li, Roald van der Kolk, Jasper van der Boom, Thomas Scholte, Jin Chang, Silvania F. Pereira, and Iman Esmaeil Zadeh, Magic silicon dioxide for widely tunable photonic integrated circuits, ACS Photonics, 2025 (***Equal Contribution**)
2. Zizheng Li, **Naresh Sharma**, Bruno Lopez-Rodriguez, Roald van der Kolk, Hugo Voncken, and Iman Esmaeil Zadeh, Heterogeneous integration of amorphous silicon carbide on thin film lithium niobate, APL Photonics, 10, 016120, 2025.
3. **Naresh Sharma**, Zizheng Li, Bruno Lopez-Rodriguez, Joey Vrugt, Stijn van der Waal, Luozhen Li, Roald van der Kolk, Philip J. Poole, Dan Dalacu, and Iman Esmaeil Zadeh, Design and validation of a-SiC/SiN hybrid photonic platform for integrated quantum photonics, Materials for Quantum Technology, 2024.
4. Mohammad Talebi Khoshmehr, Mahdi Mozdoor Dashtabi, Hamed Nikbakht, Bruno Lopez Rodriguez, **Naresh Sharma**, Iman Esmaeil Zadeh, Bob van Someren, and B Imran Akca, Versatile hybrid optical waveguides in amorphous silicon carbide with enhanced functionality and performance, Applied Physics Letters, 125, 11, 2024.
5. Mahdi Mozdoor Dashtabi, Mohammad Talebi Khoshmehr, Hamed Nikbakht, Bruno Lopez Rodriguez, **Naresh Sharma**, Iman Esmaeil Zadeh, B Imran Akca, Real-Time Measurements of Photonic Microchips with Femtometer-Scale Spectral Precision and Ultrahigh Sensitivity, Laser & Photonics Reviews, 2301396, 2024.
6. **Naresh Sharma**, Kedar Khare, and Shilpi Gupta "Determining Transfer Function of a Reconstructive Spectrometer using Measurements at Two Wavelengths." Optics Letters, 48, 3753-3757, 2023.
7. Bruno Lopez-Rodriguez, Roald Van Der Kolk, Samarth Aggarwal, **Naresh Sharma**, Zizheng Li, Daniel Van Der Plaats, Thomas Scholte, Jin Chang, Silvania F. Pereira, Simon Groeblacher, Harish Bhaskaran, and Iman Esmaeil Zadeh "High-quality amorphous Silicon Carbide for hybrid photonic integration deposited at low temperature" ACS Photonics, 10, 3748-3754, 2023.
8. **Naresh Sharma**, Govind Kumar, Vivek Garg, Rakesh G. Mote, and Shilpi Gupta "Reconstructive Spectrometer using Photonic Crystal Cavity." Optics Express, 29, 26645-26657, 2021.
9. **Naresh Sharma**, Govind Kumar, Vivek Garg, Rakesh G. Mote, Vijaya Ramarao, and Shilpi Gupta "Translationally Invariant Generation of Annular Beams Using Thin Films." IEEE Photonics Technology Letters, 32, 1273-1276, 2020.
10. Mehak Mahajan, Sangeeth Kallatt, Medha Dandu, **Naresh Sharma**, Shilpi Gupta and Kausik Majumdar, Communications Physics, Light emission from the layered metal 2H-TaSe2 and its potential applications, 2, 2019.

Conference Proceedings

1. Bruno Lopez-Rodriguez, **Naresh Sharma**, Zizheng Li, Roald van der Kolk, Jasper van der Boom, Thomas Scholte, Jin Chang, Silvania F. Pereira, and Iman Esmaeil Zadeh, Large, deterministic and tunable thermo-optic shift for all photonic platforms, SPIE Photonics, 2024, Strasbourg, France.
2. Zizheng Li, Bruno Lopez-Rodriguez, **Naresh Sharma** and Iman Esmaeil-Zadeh, Heterogeneous interconnection of low-loss and dense material platforms using adiabatic tapering coupler, EOS Annual Meeting, 2023, Dijon, France.
3. Bruno Lopez-Rodriguez, Roald van der Kolk, Samarth Aggarwal, Zizheng Li, **Naresh Sharma**, Thomas Scholte, Harish Bhaskaran, and Iman Esmaeil Zadeh, Low-loss amorphous silicon carbide photonics and its heterogeneous integration with existing high performance active/passive platforms, Optica Advanced Photonics Congress, 2023, Busan, South Korea.
4. **Naresh Sharma** and Shilpi Gupta, Determining Transfer Function of Reconstructive Spectrometer using Two Laser Sources, Proceedings of Conference on Lasers and Electro-Optics (CLEO), 2022, San Jose, USA.
5. **Naresh Sharma**, Govind Kumar, and Shilpi Gupta, Computational Spectrometer based on Photonic Crystal Cavity and Reconstruction Algorithm, Proceedings of Frontier in Optics (FiO), 2021, Washington DC, USA.

6. **Naresh Sharma**, Govind Kumar, and Shilpi Gupta, Experimental Generation of Dispersion Curve of Photonic Crystal Cavity using two Laser Sources, Proceedings of Frontier in Optics (FiO), 2021, Washington DC, USA.
7. **Naresh Sharma**, Govind Kumar, R Vijaya, and Shilpi Gupta, Generation of Annular Beam using Photonic Crystal Cavity, Proceedings of Conference on Lasers and Electro-Optics (CLEO), 2020, San Jose, USA.
8. **Naresh Sharma**, Govind Kumar, R Vijaya, and Shilpi Gupta, Spectral Characterization of Light Source using Photonic Crystal Cavity, Proceedings of Frontier in Optics (FiO), 2020, Washington DC, USA.

Patents

1. **Naresh Sharma**, Zizheng Li, Bruno Lopez-Rodriguez, and Iman Esmaeil Zadeh, "Photonic Integrated Circuits for Nano-Lithography and Nano-Imaging," Patent No. 2038921, filed on October 25, 2024.