

Sattwik Deb Mishra

Stanford University

Email: sdmishra@stanford.edu

[Google Scholar](#)

Education

- Sep 2018 – Current Ph.D., Electrical Engineering, Stanford University
Advisor: [Prof. Jelena Vučković](#)
- July 2014 – June 2018 B.Tech., Electrical Engineering, Indian Institute of Technology, Bombay
(Ranked **1st** in the department and **3rd** in the institute according to GPA.)

Research Interests

- Quantum optics.
- Control of dynamics, scattering, and emission from open quantum systems.

Journal Publications and Preprints (in chronological order) ¹

- [1] **Sattwik D. Mishra***, Rahul Trivedi*, Amir H. Safavi-Naeini, Jelena Vučković, [Control Design for Inhomogeneous-Broadening Compensation in Single-Photon Transducers](#). *Phys. Rev. Applied* 16, 044025 (2021).
- [2] Alison Rugar*, Shahriar Aghaeimeibodi*, Constantin Dory*, Haiyu Lu, Patrick McQuade, **Sattwik D. Mishra**, Shuo Sun, Zhixun Shen, Nicholas Melosh, Jelena Vučković. [Narrow-linewidth tin-vacancy centers in a diamond waveguide](#). *ACS Photonics*, 7 (9), 2356-2361 (2020).
- [3] Daniil M. Lukin*, Constantin Dory*, Melissa A. Guidry*, Ki Youl Yang, **Sattwik D. Mishra**, Rahul Trivedi, Marina Radulaski, Shuo Sun, Dries Vercruysse, Geun Ho Ahn, Jelena Vučković. [4H-silicon-carbide-on-insulator for integrated quantum and nonlinear photonics](#). *Nature Photonics* 14, 330 (2020).
- [4] Rahul Trivedi*, Kevin Fischer*, **Sattwik D. Mishra** and Jelena Vučković. [Point-coupling Hamiltonian for frequency-independent linear optical devices](#). *Physical Review A* 100, Issue 4, page 043827 (2019).

¹* indicates equal contribution

Conferences and Presentations

- [1] **Sattwik Deb Mishra***, Rahul Trivedi*, Amir H. Safavi-Naeini, Jelena Vučković. [Quantum Control of Microwave-to-Optical Transducers for Inhomogeneous Broadening Compensation](#), *CLEO*, 2021, session JW4L.
 - [2] **Sattwik Deb Mishra***, Rahul Trivedi*, Amir H. Safavi-Naeini, Jelena Vučković. [Quantum control for inhomogeneous broadening compensation in single-photon transducers](#), *Second workshop on waveguide QED*, 2021 (poster presentation).
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Awards

- [1] **Soheil and Susan Saadat Graduate Fellowship**, Stanford University.
 - [2] **Institute Academic Prize (2015, 2017)** for ranking 1st in the Department of Electrical Engineering, Indian Institute of Technology Bombay.
 - [3] **Urvesh Medh Memorial Prize (2015, 2016)** and **Aditya Choubey Memorial Prize (2015)** for academic achievement, Indian Institute of Technology Bombay.
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Inventions

- [1] Optimized quantum transduction, Stanford docket number S20-514.
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Technical proficiency

- Experience with scientific computing in **Python**, **C++**, **MATLAB**, and **Mathematica**.
 - *Relevant libraries*: Experience with [google/JAX](#) and [google/TensorNetwork](#).
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Academic service

- Reviewer for **Nature Physics**.
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Other research projects

- [1] Construction and characterisation of an optical tweezer for trapping and manipulating cold Yb atoms. Princeton University, 2017. *Advisor*: Jeff Thompson. Supported by **International Student Internship Program, Princeton University**.
- [2] Approximate W-state generation in NV centers through magnetic dipolar interaction. Purdue University, 2016. *Advisor*: Peter Bermel. Supported by **S. N. Bose Scholars Program, Indo-U.S. Science and Technology Forum**.