Devika Dass

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Biography

I'm a postdoctoral research fellow in CONNECT / School of Computer Sciences and Statistics, located at Trinity College Dublin. My research interests include exploring higher-order data modulation for a converged optical metro-access network, optical generation of radio frequencies ranging from 30-300 GHz, analog Radio-over-Fiber (ARoF) and Free-space optics.

EDUCATION

Doctor of Philosophy
Radio & Optical Commmunication

- **Dublin City University** YEAR - Sep 2019 - 2023;
- Thesis title- '**Next Generation Hybrid Optical & Wireless Systems for Converged Access Networking**'

Master of Technology
Communication Engineering

- VIT University, Vellore YEAR - Jul 2015 - Jun 2017
- **CGPA - 8.08**

Bachelor of Technology
Electronics & Telecom Engineering

- Amity University,Noida YEAR - Aug 2010 - Jun 2014
- **CGPA - 7.60**

PAST RESEARCH EXPERIENCE

- **Trinity College Dublin, Dublin Ireland:** Research Fellow from December 2023 - Present
- **Dublin City University, Dublin , Ireland:** Postdoctoral Fellow from Sep 2023 - Nov 2023
- **Indian Institute of Technology, Delhi, India**: Junior Research Fellow from Jan 2018 - Jul 2019
- **CSIR - NATIONAL PHYSICAL LABORATORY:** Internship from Aug 2016 - May 2017

AWARDS & SCHOLARSHIPS

- Awarded top-scored paper with extension to JOCN at OFC 2025, San Francisco
- Best Poster award at IPIC Industry Day 2022
- Awarded full scholarship to attend Seigman School 2022
- Awarded top-scored paper with extension to JLT at ECOC 2021, Bordeaux
- Nominated for the best student paper award at ECOC 2021, Bordeaux
- Nominated for the best student paper award at IEEE MWP 2021, Italy
- Runner-up at Tell it Straight 2020 competition organized by DCU
- Awarded a grant of €400 to attend ePIXfab SUMMER SCHOOL

RESEARCH TRAINING & WORKSHOPS

- EUIMWP COST action training school on 'Photonic Integration for Aerospace, Satellite & Radar Technology'
- 2nd ePIXfab-PIX4LIFE Intensive Course On Silicon Nitride Pics from 12-13 November 2020
- 6th ePIXfab SILICON PHOTONICS SUMMER SCHOOL from 14-18 June 2021

RECENT PUBLICATIONS

- Devika Dass et al. "Coexistence of Digital Coherent, mmWave and sub-THz Analog RoF Services using OSaaS over converged access-metro live production network. ***(Top-Scored)***" OFC, 2025.
- Devika Dass, Dan Kilper, Liam Barry, and Marco Ruffini, "Heterogeneous transmission of analog radio and digital coherent signals over multispan metro and PON for bandwidth-efficient fronthaul in mmWave centralized RANs [Invited]," J. Opt. Commun. Netw. 17, C136-C143 (2025)

LIST OF PUBLICATIONS

[1] A. Raj, D. Dass, D. C. Kilper, and M. Ruffini, “Real-Time Streaming Telemetry Based Detection and Mitigation of OOK and Power Interference in Multi-User OSaaS Networks,” *arXiv preprint arXiv:2503.18495*, 2025.

[2] D. Dass, D. Kilper, L. Barry, and M. Ruffini, “Heterogeneous transmission of analog radio and digital coherent signals over multispan metro and PON for bandwidth-efficient fronthaul in mmWave centralized RANs,” *Journal of Optical Communications and Networking*, vol. 17, no. 8, pp. C136–C143, 2025.

[3] D. Dass *et al.*, “Coexistence of Digital Coherent, mmWave and sub-THz Analog RoF Services using OSaaS over converged access-metro live production network,” *arXiv preprint arXiv:2505.17809*, 2025.

[4] K. Anazawa *et al.*, “Experimental Evaluation of an SDN Controller for Open Optical-circuit-switched Networks,” *arXiv preprint arXiv:2501.16907*, 2025.

[5] R. Raj *et al.*, “Towards Efficient Confluent Edge Networks,” in *2024 Joint European Conference on Networks and Communications & 6G Summit (EuCNC/6G Summit)*, IEEE, 2024, pp. 1163–1168.

[6] D. Dass, F. Slyne, D. Kilper, L. Barry, and M. Ruffini, “Coexistence of analogue radio and digital coherent transmission over access/metro networks fibre for bandwidth-efficient fronthaul beyond 5G,” in *ECOC 2024; 50th European Conference on Optical Communication*, VDE, 2024, pp. 1865–1868.

[7] D. Dass *et al.*, “Hybrid Digital PAM and 60 GHz Analog Radio over Fiber Optical Spectrum as a Service Applications,” in *Photonic Networks and Devices*, Optica Publishing Group, 2024, pp. NeTh1C-3.

[8] D. Dass, “Next generation hybrid optical & wireless systems for converged access networking,” PhD Thesis, Dublin City University, 2024.

[9] L. N. Venkatasubramani, D. Dass, C. Browning, C. G. Roeloffzen, D. Geuzebroek, and L. Barry, “Bandwidth Re-Configurable Wideband QAM-OFDM With Hybrid Integrated InP-Si N Tunable Laser Source for Short-Reach Systems,” *Journal of Lightwave Technology*, vol. 41,

ADDITIONAL ACTIVITIES

- SPPCOM subcommittee member of Advanced Photonics Congress 2025, Marseilles.
- Demonstrator at CONNECT booth in EUCNC 2025, Poznan.
- Volunteered at Connect Stand at the I-wish event for motivating schoolgirls to take up STEM courses at HEI.
- Volunteered in public engagement activity, Dublin Maker in 2023
- Volunteered in showcasing young schoolgirls light communication in an event held for the Weave Project supported by Science Foundation Ireland, May 2022
- Presented at ‘OFC’s Virtual lab tour’ Aug 2021
- Presented at ‘IEEE IPC’s Virtual lab tour’ 2021
- Digital storytelling training in DCU’s Tell It Straight 2020 competition
- Workshop on Education & Public Engagement by Catriona Tyndall
- Participated in international Day of Light 2020
- Presentation at ‘OFC’s Virtual lab tour’ Aug 2021
- Participation in Women in Engineering Gathering - Solutions to SDGs session held at Trinity College Dublin 2021