Yaman Parasher

Applications Engineer - Optical Networks
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I am currently working as an Optical Applications Engineer at EXFO, where my work revolves around building & testing world-class network infrastructure by working with major ISPs, TSPs, & Hyperscalers in the EMEA region. My previous experiences encompass working on various in-lab optical system design software tools & Optical Sensor experimental setups along with expertise in modeling, design, & simulation of advanced photonic integrated circuits (PICs).

Education

Erasmus Mundus Joint Master Degree - PIXNET
Specialization : Photonic Integrated Circuits, Sensors & Networks (PIXNET) *Sept. 2019 - Aug. 2021*
Scuola Superiore Sant'Anna, Pisa, Italy (Sept. 2019 - Aug. 2020)
Aston University, Birmingham, United Kingdom (Sept. 2020 - Mar. 2021)
Osaka University, Osaka, Japan (Apr. 2021 - Aug. 2021)

Integrated Dual Degree B.Tech + M.Tech in Electronics & Communication Engineering 8.12/10.0
Specialization : Wireless Communication & Networks *Aug. 2013 - May 2018*
School of ICT, Gautam Buddha University (State Government University)
Greater Noida, Uttar Pradesh, India (Secured First Divison with Distinction)

Technical Strengths

- **Programming Languages:** Python, R, LaTeX
- **Optical Network Test Tools:** OTDRs, Insertion Loss Measurement (ILM), Chromatic Dispersion (CD), Polarization Mode Dispersion (PMD), Fibre Inspection, Test Diagnosis, Reporting & Automation
- **Photonic CAD Tools:** OptiSuite, OptSim, COMSOL, Lumerical (FDTD, MODE, INTERCONNECT)
- **Layout Design Tools:** KLayout+Nazca, Mentor Graphics L-Edit
- **Scientific Softwares:** MATLAB, ns2/3, QualNet
- **Misc.:** Knowledge of DWDM Technology, IP Routing Protocols Ethernet, Layer 2 Switching & Software Defined Networking(SDN)

Work Experiences

Optical Applications Engineer
EXFO Europe Ltd., Southampton, UK *Nov. 2021 - Ongoing*
- Provide Pre-Sales Technical Expertise on EXFO T&M Optical Product Line in EMEA Region.
- Deliver Training Sessions on Fibre Optic Test & Measurement Technologies & Solutions.
- Lead the technical requirements for RFQ, RFP & RFIs.

Experimental Research Volunteer : Photonics Research Group
Guide: Dr. David Webb, Professor Photonics, Aston Institute of Photonic Technologies, UK *Ongoing*
- Developing low-cost Digital Image Correlation setup for strain measurement in geotechnical applications.
- Also, involved in setting up of optical & characterization benches with acquisition lines to characterize, test, validate, & calibrate Polymeric Optical Fiber Bragg Grating (POFBG) sensor for the same applications.

PIXNET Master's Thesis Student : Photonic Information Technology Group
Guide: Dr. Tsuyoshi Konishi, Associate Professor, Osaka University, Japan *Apr. 2021 - Aug. 2021*
- Developed a simplified low cost receiver architecture using Fractional Fourier Transform (FrFT) which can be considered as an alternative to complex coherent receivers in Optical OFDM for flexible applications in PONs.
- Tool Used : MATLAB.

Project Associate : Optical Communication & Photonics Group
Guide: Dr. Gurjit Kaur, Professor, Delhi Technological University (DTU), India *Aug. 2018 - Aug. 2019*
- Design/Simulation/Modeling of high speed hybrid Optical Transmission Systems using OptiSystem.
- Documented technical projects proposals, book chapters, & research papers.
- Tool Used : OptiSuite & MATLAB.

International Summer Research Intern : Photonic Nanostructures & Devices Lab
Guide: Dr. Guo-En Chang, Professor, National Chung Cheng University (CCU), Taiwan *Summer 2018*

- Project : To increase Reflectivity of GeSn-based RCE (Resonant-cavity-enhanced) - PD (Photodetector) on SOI substrate with Si/SiO2 Distributed Bragg reflectors (DBRs).
- Brought improvement in the geometry & found the appropriate number of resonant DBR pairs that can help to deliver maximum reflectivity of around 99% (approximately) in the resonant cavity structure.
- Tool Used : COMSOL & MATLAB.

Research Intern : Incubation Centre for Medical Electronics - IIT Patna
Guide: Dr. Kailash Chandra Ray , Professor, Indian Institute of Technology(IIT), Patna, India *Summer 2017*

- Developed Micro Thermal Energy Harvesting Systems for Biomedical Implants like Pacemaker.
- Tool Used : HSPICE (180-nm CMOS technology)

Relevant Research Publications (Google Scholar Account Link)

- Kaur, Gurjit,**Yaman Parasher**, Akanksha Srivastava, and Prabhjot Singh."Machine learning-based predictive modeling for failure management of optical spatial mode division multiplexing system" International Journal of Communication Systems 35, no. 17 (2022): e5337. (Impact Factor (IF) : 2.349)
- Kaur, Gurjit, Disha Srivastava, Prabhjot Singh, and **Yaman Parasher**. "Development of a novel hybrid PDM/OFDM technique for FSO system and its performance analysis" Optics & Laser Technology 109 (2019): 256-262. (Impact Factor (IF) : 3.867)
- **Parasher, Yaman**, Akshay Kaushik, Gurjit Kaur, and Prabhjot Singh. "Modelling of structural and material parameters of optical planar waveguide to control birefringence" In Latin America Optics and Photonics Conference, pp. Th4A-36. Optical Society of America, 2018.

As of now, I have published 13 research articles in areas related to **Optical Communication, Photonics, Machine Learning, IoT & Green Technologies** in various peer-reviewed journals, books, & international conferences, with over **88 citations**.

Relevant Certification

edX course UBCx: Phot1xSilicon Photonics Design, Fabrication and Data Analysis by Prof. Dr. Lukas Chrostowski. Here, I was able to design, model, and characterize photonic intergated circuits - passive devices like like Directional, Grating Couplers, Y-Splitters,Spot Size Converters, Bragg Gratings,MZIs, Ring Resonators & circuits like MZI/ Ring Resonator based Wavelength Selective Switch, Polarization Splitting Rotator based on Sub-Wavelength Grating (SWG) waveguides, & etc. in LumericalSuite, KLayout & Mentor Graphics L-Edit.

Scholastic Achievements

- Secured Merit Certificate from Central Board of Secondary Education (CBSE) & Kendriya Vidyalaya Sangathan (KVS) for being in the top **0.1%** among **1,000,000** candidates in the All India Secondary School Examination (Class X) 2010 across the whole of India.
- Awarded prestigious fully funded Erasmus Mundus Joint Master Degree Scholarship in Photonic Integrated Circuits, Sensors and Networks (PIXNET)from the European Union. As a part of the degree program, I am supposed to spend my first year (1st & 2nd Semester) at TeCIP Institute, Scuola Superiore Sant'Anna, Pisa, Italy, second year (3rd Semester) at Aston Institute of Photonic Technologies, Aston University, UK and the last or the (4th Semester) at the Photonics Center Osaka University, Japan.