

Anuja Padhye

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Summary

- Experimental physicist with over 8 years of experience in nonlinear optics and photonics.
- Expertise in developing quantum computing hardware for photonic and atomic systems.
- International experience in transferring research projects from lab to product prototypes.
- Innovative engineering mindset complemented by analytical and problem-solving skills.

Research Experience

R&D Engineer

August 2023 - present

- Developing hardware for neutral atom quantum computer under [aQCess](#) project
European Center for Quantum Sciences ([CESQ](#)), Strasbourg, France.

Scientist C

October 2021 - July 2023

- Developed single photon devices for quantum information processing applications
Indian Institute of Science ([IISc](#)), Bangalore, India.

Postdoctoral research fellow

January-July 2021

- Developed optical fiber long-period grating sensors for agricultural applications
Institute of Electronic Structure and Laser ([IESL-FORTH](#)), Heraklion (Crete), Greece.

ITN Marie-Curie-Actions doctoral fellow

2016-2020

Thesis title: Novel continuous-wave infrared parametric sources and noise analysis of infrared upconversion detectors

[ICFO](#) - The Institute of Photonic Sciences, Castelldefels (Barcelona), Spain.

Charpak Research Internship Program

June-September, 2015

Project title: Intensity and phase noise study of dual-frequency vertical external cavity surface emitting laser and development of an optical parametric oscillator
Laboratoire Aimé Cotton ([LAC](#)), Orsay, France.

Master's thesis

2014-2015

Thesis title: Random lasing over Anderson localized states in a quasi-one-dimensional disordered microstructure

Tata Institute of Fundamental Research ([TIFR](#)), Mumbai, India.

Visiting Students' Research Program (VSRP)

May-July, 2014

Project title: Aerosol based random lasers

Tata Institute of Fundamental Research ([TIFR](#)), Mumbai, India.

Education

PhD in Photonics

2016-2020

Grade: Excellent Cum Laude.

Polytechnic University of Catalonia, Spain.

M.Sc. Physics **2013-2015**
CGPA: 6.25/7, Grade: A.
Ramnarain Ruia College, University of Mumbai, India.

B.Sc. Physics **2010-2013**
Percentage: 71.62%, Class: First.
KET'S V. G. Vaze College, University of Mumbai, India.

List of Publications

Comprehensive list of publications is available [here](#).
ORCID: [0000-0002-9003-6490](#)

Computer Skills

- Programming languages: C, C++, Python, Julia, Verilog, VHDL.
- Other applications: SolidWorks, Zemax, FRED, MATLAB, ImageJ, IRAF, Onshape, LabVIEW, Mathematica, Inkscape, \LaTeX , LIFBASE, Microsoft softwares.

Awards and Fellowships

ITN Marie-Curie-Actions fellowship for doctoral training under [Mid-TECH consortium](#), 2016-2019.

[France Excellence Charpak Lab Scholarship](#) awarded by French government, June-September 2015.

Award for 1th rank in KET'S V. G. Vaze College for B.Sc. Physics university examination, 2012-2013.

T. K. Kawale (Ozarkar) merit scholarship in Physics, 2011-2012 & 2012-2013.

Synergistic and Outreach Activities

Core organizing committee member for following conferences:

- "Young Atom Opticians Conference 2024" at Institut de Science et d'Ingénierie Supramoléculaires (ISIS) in Strasbourg, France from 30 June to 5 July 2024

- "Photonics 2023" at Indian Institute of Science (IISc) in Bangalore, India on 5-8 July 2023.

Science for Rural India (SFRI at IISc): part of a communication network for digital outreach, 2022-2023.

Outreach@ICFO: conducted visits for high school students and general public, 2016-2020.

Evidyaloka: conducted online classes and hands-on science experiments for middle school students from Maharashtra, 2018-2020.

Presented PhD research project in '3rd BCN Science Slam' (European pre-final) at Bar Mau Mau, Barcelona, 31st May 2018.

Conducted sky observation sessions as an assistant coordinator of Amateur Astronomy Club, Mumbai, 2012-2015.

Delivered a lecture to undergraduates on "An introduction to tensors" as part of 'T³PL Series' at Ramnarain Ruia College, Mumbai, 19th July 2014.