ANAM TOAHA

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EDUCATION

University of Florence 2023–Present
Ph.D in Biophotonics *Florence, Italy*

University of Burgundy 2019–2021
Masters in Physics, Photonics and Nanotechnology *Dijon, France*

Aligarh Muslim University 2016–2018
M.Sc Physics *Aligarh, India*

Aligarh Muslim University 2013–2016
B.Sc Physics *Aligarh, India*

RESEARCH EXPERIENCE

Internship in CRESST Feb 2022 – Nov 2022
Research Intern *E.K. University of Tuebingen, Germany*

· Worked on Cryogenic Rare Event Search with Superconducting Thermometers.
· Worked on noise analysis in CRESST and gained exposure to Transition Edge Sensors.

Master's Thesis Feb 2021 – July 2021
Graduate Researcher *J.G. University of Mainz, Germany*

· Worked on Cosmic Axion Spin-Precession Experiment (CASPEr).
· Conducted data analysis for spin-noise spectra using SQUIDs.
· Presented work to international collaborators in weekly progress meetings.

Master's Thesis Dec 2017 – May 2018
Graduate Researcher *Aligarh Muslim University, India*

· Worked on Multi-Configuration Dirac Hartree Fock method for Ce XLVII.
· Calculated Energy levels, Wavelength, Oscillator strength, and Lande g factor.
· Calculated lifetimes for 3s3p, 3p2 and 3s3d configurations.

COMPUTATIONAL AND EXPERIMENTAL SKILLS

Tools: Python, Matlab, GNU plot, GRASP2K, Origin, SQUIDViewer
Experimental: Nanofabrication, Cryogenics, Atomic Spectroscopy

SCIENTIFIC CONFERENCES AND WORKSHOPS

- Attended ECBO 2025 at Munich, Germany
- Attended fNIRS 2024 at University of Birmingham, UK
- Attended CRESST collaboration meeting in Tuebingen, Germany
- Attended workshop on Nanosciences and Nanotechnology (NIT Srinagar, India), 2020
- Attended workshop on Atomic spectroscopy (AMU, India), 2017

AWARDS AND HONOURS

- Top 10 percent in National Graduate Physics Examination, 2016
- Best performer in Atomic Spectroscopy workshop examination, 2017
- UBFC Master's scholarship for M1 (UBFC, France)

- Holder of International Internship Programme scholarship (French Region)
- Datathon Winner for best presentation, Biophotonics and Artificial Intelligence School(BPAI 2025)

PUBLICATIONS

- Versatile and Comprehensive Hyperspectral Imaging tool for Molecular Neuronavigation: a case study on cerebral gliomas ,*Journal of Biomedical Optics* (2025)
- A label-free Hyperspectral Imaging Device for Ex Vivo Characterisation and Grading of Meningioma Tissues ,*Journal of Biophotonics* (2025)
- Transportable hyperspectral imaging setup based on fast, high-density spectral scanning for in situ quantitative biochemical mapping of fresh tissue biopsies ,*Journal of Biophotonics* (2024)

CONFERENCE PAPERS

- Advancing Neuroscience Diagnostics: A Hyperspectral Imaging System for Real-Time Biochemical Insights into Brain Tissue, *ECBO* 2025
- A Hyperspectral Imaging System for Meningioma Grade Discrimination, *ECBO* 2025
- HyperProbe consortium: transforming tumor neurosurgery with innovative hyperspectral imaging, *SPIE BiOs* 2025
- A novel hyperspectral imaging tool for preclinical and translational investigations of brain tissue physiology and pathology, Clinical and Translational Biophotonics 2024