

Raunak Farhaz

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EDUCATION

Humboldt-Universität zu Berlin

Ph.D. / Dr. Rer. Nat. (*magna cum laude*)

2021 — 2026
Berlin, Germany

- **Thesis** : Multiresolution Analysis in Extreme Magnetic Fields

Jadavpur University

M.Sc. Chemistry with specialization in Physical Chemistry

2018 — 2020
Kolkata, India

- **Thesis** : Theoretical study of Adsorption of Carbon Monoxide on ZnO Clusters

Jadavpur University

B.Sc. Chemistry

2015 — 2018
Kolkata, India

RESEARCH EXPERIENCE

Arctic University of Tromsø, Norway

Transferring wavelet-function files with cross-codebase support

2023

Humboldt-Universität zu Berlin, Germany

Quantum model systems in Multiresolution Analysis using Wolfram Mathematica

2020

Indian Association for the Cultivation of Sciences, India

Computational Catalytic study on Al-S bond breaking with hydrogen evolution

2019

PUBLICATIONS

1. **Farhaz, R.**; Bischoff, F. A.; Stopkowicz, S.; Blaschke, S.

Quantification of the basis set error for molecules in strong magnetic fields and general orientation
(2025) *Journal of Chemical Physics*, 163(3):034308

2. Sardar, R.; Banik, R.; **Farhaz, R.**; Ghosh, S.

Drug-Induced Micelle-to-Supramicelle Transition in CTAB: Comparative Study with Acetylenic Gemini Surfactant via Experimental and DFT Approaches
(2026) submitted

SKILLS

- **Quantum Chemistry**: MADNESS, MRCP/ MRChem, PySCF, ORCA, ElemCo.jl, HUMMR
- **Programming Languages**: Python, C++, Wolfram Mathematica, Julia, Fortran
- **HPC**: Git, Linux, SLURM/PBS, CMake, MPI/OpenMP, snakemake
- **Data Science**: numpy, pandas, matplotlib, scipy

FUNDING AND FELLOWSHIPS

Deutscher Akademischer Austauschdienst (DAAD)

Doctoral Programmes in Germany 2021/22

2021 — 2025

DST-INSPIRE Scholarship, Govt. of India

Scholarship for higher studies in natural sciences

2015 — 2020

CONFERENCES AND ACADEMIC ACTIVITIES

5 international conferences (e.g. WATOC, STC, QBIC, Numerical Methods in Quantum Chemistry) and 5 posters, 1 contributed talk and 2 workshops

TEACHING AND MENTORING

- Guest Lecturer **International University of Applied Sciences** for Math foundations
- M.Sc. practical course instructor **Humboldt-Universität zu Berlin** for theoretical molecular spectroscopy

CONTACT OF REFERENCE

- **PD Dr. Florian A. Bischoff** (Ph.D. supervisor) : florian.bischoff@hu-berlin.de
- **Prof. Dr. Luca Frediani** : luca.frediani@uit.no
- **PD Dr. Denis Usvyat** : denis.usvyat@hu-berlin.de