

Faculty Profile



Dr. B. Azaad, Ph.D
Assistant Professor – Physics

HIGHLIGHTS:

- Number of Journal Publications: 19
- H-Index: 10
- I10-Index: 10

PROFESSIONAL LINKS:

- Scopus ID: 57190573497
- Google scholar link: <https://scholar.google.com/citations?user=l8NFVa0AAAAJ&hl=en>
- Research gate link: <https://www.researchgate.net/profile/Basheer-Azaad>

PROFESSIONAL BACKGROUND:

Research Experience: 3 years 1 month (as Postdoctoral Fellow)

AREA OF SPECIALIZATION:

- Atmospheric reactions (VOCs)
- Metal sensors
- Astrochemistry

ACADEMIC EXPERIENCE:

- Assistant Professor (OG) – Saveetha Engineering College (14/07/2025 to till date).
- Postdoctoral Fellow – Eotvos Lorand University (24/08/2022 to 31/07/2024).
- Postdoctoral Fellow – National Chaio Tung University (07/10/2019 to 31/12/2020).

JOURNAL PUBLICATIONS

- B Keresztes, **B Azaad**, Anita S, Sándor G, Gopi R, G Péter Szalay, G Tarczay, “H-atom-assisted formation of key radical intermediates in interstellar sugar synthesis. New insights from para-H₂ matrix isolation experiments” *Astronomy & Astrophysics*, (DOI: 10.1051/0004-6361/202450649).
- **B Azaad**, A Mano Priya, R Subramani, “Environmental implications of oxalic and malonic acids with tropospheric oxidants, *Journal of Physical Organic Chemistry*, 2024, (DOI: 10.1002/poc.4639)

- Muthaiah S, H. C. Chen, Kamlesh A, **B Azaad**, K. W. Sun, N. Ohta, M. C. Lin, “An AIE active anthracene-based Schiff base probe for “turn-on” detection of Cu²⁺ ions: Demonstrations with nanostructural investigations, DFT, cellular imaging, and real water analysis” *Journal of Molecular Structure*, 1301, 137347, 2024.
- A Mano Priya, **B Azaad**, “Mechanism and kinetics of atmospheric degradation of menthol initiated by hydroxyl radical” *New Journal of Chemistry* 47 (46), 21490-21498, 2023.
- A Mano Priya, **B Azaad**, D M Biju, “A density functional theory investigation on norepinephrine interaction with amino acids and alcohols” *Journal of Molecular Structure*, 1283, 135305, 2023.
- A Mano Priya, **B Azaad**, V P Mythili, L Senthilkumar, “Reaction mechanism and kinetics of H and Cl atom abstraction in Dichloromethane with OH radical” *Computational and Theoretical Chemistry*, 1223, 114082, 2023.
- Muthaiah S, N Thirumalaivasan, **B Azaad**, Kamlesh A, K W Sun, Shu-Pao Wu, M C Lin, N Ohta, “An AIEE Active Anthracene-Based Nanoprobe for Zn²⁺ and Tyrosine Detection Validated by Bioimaging Studies” *Chemosensors*, 10(10), 381, 2022.
- Muthaiah S, Kamlesh A, Sarala C, **B Azaad**, K W Sun, N Ohta, Shu-Pao Wu, M C Lin, “Methylammonium tin tribromide quantum dots for heavy metal ion detection and cellular imaging” *ACS Applied Nano Materials*, 5 (2), 2859-2874, 2022.
- C. Kalalian, A. Grira, J.N. Illmann, I. Patroescu-Klotz, G. El Dib, P. Coddeville, A. Canosa, P. Wiesen, **B. Azaad**, L. Senthilkumar, E. Roth, A. Tomas, A. Chakir, “Experimental and Theoretical Studies of Trans-2-Pentenal Atmospheric Ozonolysis” *Atmosphere*, 13 (2), 291, 2022.
- Muthaiah S, Y T Chen, N Thirumalaivasan, **B. Azaad**, Kamlesh A, K W Sun, Shu-Pao Wu, M C Lin, N Ohta, “Pyrene-Based AIEE Active Nanoprobe for Zn²⁺ and Tyrosine Detection Demonstrated by DFT, Bioimaging, and Organic Thin-Film Transistor”, *ACS Applied Materials & Interfaces*, 13, 24, 28610–28626, 2021.
- Muthaiah S, N Thirumalaivasan, **B Azaad**, Kamlesh A, K W Sun, Shu-Pao Wu, M C Lin, N Ohta, “Novel rhodamine probe for colorimetric and fluorescent detection of Fe³⁺ ions in aqueous media with cellular imaging”, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 242, 118757, 2020.
- R Rajamanikandan, **B Azaad**, L Senthilkumar, M Ilanchelian, “Glutathione functionalized Copper Nanoclusters as a Fluorescence Platform for Specific Biosensing of Cysteine and Application in cellular Imaging”, *Microchemical Journal*, 158, 105253, 2020.
- T Thiruppathiraja, AL Arokiyanathan, **B Azaad**, R Silviya, L Senthilkumar, “H, OH and COOH functionalized magnesium phthalocyanine as a catalyst for oxygen reduction reaction (ORR)—A DFT study”, *International Journal of Hydrogen Energy*, 45, 8540-8548, 2020.

- **B Aazaad**, L Senthilkumar, “Role of ZnO and TiO₂ clusters in the Addition and Abstraction Reaction of Acrylic Acid with OH Radical”, *International Journal of Chemical Kinetics* 52, 3-15, 2019.
- Gisele El Dib, **B Aazaad**, L Senthilkumar, H Laversin, E Roth, A Chakir, “An experimental and theoretical study on the kinetics of the reaction between 4-hydroxy-3-hexanone CH₃CH₂C(O)CH(OH)CH₂CH₃ and OH radicals”, *International Journal of Chemical Kinetics*, 50, 556 – 567, 2018.
- **B Aazaad**, L Senthilkumar, “Reaction of Pentanol isomers with OH radical–A theoretical perspective”, *Molecular Physics* 116 (9), 1153-1165, 2018.
- **B Aazaad**, L Senthilkumar, “OH initiated oxidation mechanism of monoterpene (linalool)–A first comprehensive theoretical study”, *Atmospheric Environment* 189, 235-243, 2018.
- **B Aazaad**, L Senthilkumar, “Reaction of NO₃ radical with benzyl alcohol-A DFT study”, *Computational and Theoretical Chemistry* 1102, 51-59, 2017.
- **B Aazaad**, A.Mano Priya, L Senthilkumar, “Addition and abstraction reaction mechanism of 2, 4, 5-trimethylphenol with OH radical–A first principle study”, *Computational and Theoretical Chemistry*, 1092, 90-107, 2016.

POSTER / ORAL PRESENTATIONS IN NATIONAL / INTERNATIONAL CONFERENCES

- Presented a poster on “Interstellar reaction mechanisms of Glycolaldehyde and Formamide” in 17th International Congress in Quantum Chemistry, (**17th ICQC**) organised by International Academy of Quantum Molecular Science (IAQMS), Bratislava, Slovakia between 26th June and 1st July 2023.
- Presented a poster on ‘Isomeric Analysis of Pentanols with OH Radical – A DFT Study’ in Symposium on Materials and Research Techniques (**SMART-2017**), organised by Department of Physics and Medical Physics, Bharathiar University, Coimbatore on 28th February 2017.
- Presented a poster on ‘TiO₂ supported reaction of Acrylic acid with OH radical – A DFT Study’ in 5th Modeling of Chemical and Biological (Re)Activity (**MCBR - 2017**), held at CSIR-Central Leather Research Institute (CLRI), Chennai, India on 18th – 21st February 2017.
- Presented a poster on ‘Isomeric Analysis of Pentanols with OH Radical – A DFT Study’ in 15th Indian Theoretical Chemistry Symposium (**TCS - 2016**), held at University of Hyderabad, on December 14th- 17th 2016.
- Presented a poster on ‘Synthesis and Characterisation of Ag/ZnO Nano composite material by thermal decomposition method’ in International Conference and Workshop on New Materials and Devices for Photovoltaic Applications (**ICWNMDP 2011**), held at Madurai Kamaraj University, India, on 10th – 12th February 2011.

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

- Participated in ‘**18th Central European Symposium on Theoretical Chemistry CESTC 2022**’ organized by Hungarian Chemical Society, 7 – 10 September 2022.

- Participated in **‘7th Hydrogen energy generation and CO₂ reduction Conference’** organised by Institute of Atomic and Molecular Sciences and National Taiwan University on 29th July 2020.
- Participated in **‘Taiwan-Japan Workshop on Theoretical Chemistry’** organised by Institute of Atomic and Molecular Sciences, Taipei, Taiwan on 20th December 2019.
- Participated in **‘International mini-symposium on Quantum Chemistry and Emerging Functional Materials’** organised by CEFMS-National Centre for Theoretical Sciences (NCTS) on 29th October 2019.
- Participated in **‘National Science Day 2018’** organised by Department of Physics, Bharathiar University, Coimbatore on 28th February 2018.
- Participated in **‘National Seminar on Advanced Functional Materials’** organised by Department of Physics, Bharathiar University, Coimbatore on 23rd March 2017.
- Participated in **‘National Conference on Computational Biology’** held at DRDO-BU CLS, Bharathiar University, Coimbatore on 27th - 28th June 2016.
- Participated in **‘Workshop on training in Materials Studio’** held at Bharathiar University, Coimbatore on 31st March and 1st April 2016.
- Participated in **‘National Conference on Advanced Materials for Energy and Environmental Applications’** organised by Department of Physics, Bharathiar University, Coimbatore from 18th to 20th March 2015.
- Participated in the **‘Workshop on Theoretical Physics’** organised by Department of Physics, Bharathiar University, Coimbatore from 17th to 20st December 2012.
- Participated in **‘National Conference on Latest Techniques in Electronics for Use in Scientific Research’** organised by University of Madras, Chennai on 25th – 26th February 2010.
- Participated in one-day seminar on **‘Vistas in Physics Research’** organised by MADRAS CHRISTIAN COLLEGE, Chennai on 11th September 2009.
- Participated in QUIZ competition of **‘National Science Day celebrations (SCIENFEST’08)’** organized by Sri Vidya Mandir Arts and Science College, Uthangarai 28th February – 1st March 2008.
- Participated in State level seminar on **‘Understanding, Appreciation and Applying PHYSICS’** organised by MARUDHAR KESARI JAIN COLLEGE FOR WOMEN, Vaniyambadi on 24th January 2007.