Department of Chemistry

[Achyut Ranjan Gogoi]
4th Year PhD Candidate
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Dear Recruiter,

I am a Ph.D. candidate in Chemistry with over four years of experience in the interface of computational modeling, synthetic methodology, and spectroscopic analysis, driven by a deep commitment to advancing sustainable catalysis through synergistic approaches. My research philosophy centers on the synergy between computation and experimentation to enable the rational design of novel sustainable catalytic systems.

To date, I have co-authored **18+** peer-reviewed publications (including **two first-author and seven second-author** papers), with three more submitted and **two first-author manuscripts** in preparation. This reflects a sustained and productive research trajectory. Over the course of my Ph.D., I have developed and maintained an extensive collaborative network, working closely with leading academic groups across the U.S. and Europe on diverse topics such as photochemistry, transition-metal catalysis (Pd, Ni, Fe, Cu, Rh), and inorganic synthesis. **Notable collaborators include the Neidig group (Oxford), Martin (ICIQ), Scheidt (Northwestern), Wickens (UW–Madison), Levin (UChicago), Romero (UCSD), Thomas, Powers, and Ozerov (TAMU).**

Currently, I am leading the development of a stereoselective iron-catalyzed multicomponent cross-coupling reaction. This project combines computational design with mechanistic studies, including DFT and Mössbauer spectroscopy, to achieve high enantio- and diastereoselectivity (**>90% ee**) under mild conditions. I had the opportunity to spend Fall 2023 at the **University of Oxford conducting in-depth Mössbauer studies** in collaboration with the Neidig group, where I was able to gain crucial insights into the stereodetermining steps of the reaction mechanism.

My work has been presented at several national and international venues, including an oral presentation at **ACS Fall 2024** (Denver), posters at the **2023 GRC in Physical Organic Chemistry** and **CIC Annual Meeting**, 2024 (Emory University), and **UCLA's Houk Conference**, 2022. I was honored to receive the **Third Best Poster Award** at the 2023 SACNAS Diversity in Science Symposium and was invited to give virtual seminars by Prof. Judy Wu (University of Houston) and Prof. Huw Davies (Emory University) in 2024 and 2025, respectively.

Mentorship and community engagement are integral to my academic path. I have **mentored three undergraduates and five graduate students** in our group, emphasizing research rigor, safety, and inclusiveness. I also co-led the iCarbon initiative (2022–2023), delivering computational chemistry workshops to students from underrepresented community colleges, and I continue to mentor through a related program with Sacramento Community College and Los Angeles City College.

Beyond the lab, I serve as the **student ambassador** for the Catalysis Innovation Consortium (CIC), fostering connections between students and professionals in academia, industry, and national labs. Within the department, I am actively involved in outreach efforts such as Chemistry Open House, Science Olympiad, SALCs STEM events, and recruitment weekends. I served as a student organizer for the ADSE Young Researchers Conference (2022–2023) and currently serve as **Secretary of PLU** (the chemistry honor society of Texas A&M University). I also represent the Physical Chemistry Division on the Chemistry Student Safety Committee, where I help **organize our department's monthly Safety Roundtable Talks**.

What excites me most about transitioning into industry is the opportunity to transform fundamental discoveries into scalable, real-world solutions. I am especially interested in roles that bridge experimental and computational chemistry to drive more efficient, selective, and sustainable chemical processes.

Below are a few highlights that reflect the skills and values I bring to your organization:

- **Strong Research Record**: Co-authored **18 high impact publications** (including 2 first-author, 7 second-author); 3 submitted and 2 additional first-author manuscripts in preparation.
- **Innovative Research Focus**: Developing a asymmetric iron-catalyzed multicomponent reaction using a synergistic computational and experimental approach.
- **High-Impact Collaborator**: Collaborated with world-renowned labs (**10+**) across Oxford, ICIQ, Northwestern, UW–Madison, UChicago, and UCSD etc.
- **Recognized Presenter**: Delivered invited talks and presented at ACS, GRC, CIC, and SACNAS; receiving awards and recognition for research excellence.
- **Passionate Mentor**: Mentored 8 students; co-led iCarbon to teach computational chemistry to underrepresented students from community colleges.
- **Leadership & Service**: Secretary of PLU, CIC Student Ambassador, and active member of the Chemistry Student Safety Committee.
- **Commitment to Community**: Deeply involved in STEM outreach, recruitment, DEI-focused events, and departmental service initiatives.

I look forward to applying these experiences and values as I move into industry, continuing to innovate, collaborate, and contribute meaningfully to science and society.

Thank you for your time and consideration.

Achyut Ranjan Gogoi