



EMORY
UNIVERSITY

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Editor-in-Chief, the Journal of Chemical Physics

Research Associate (postdoctoral fellow) positions available in the Lian group at Emory University, USA

Research: Developing efficient and low-cost technologies for energy conversion and storage is one of the most important scientific challenges today. The research program in the Lian group is focused on advancing fundamental understanding of interfacial structure and dynamics that governs charge transport, energy conversion and chemical transformation in these devices. One of our key research activities is *the development and application of state-of-the-art ultrafast and nonlinear spectroscopy techniques for the in situ study of these interfacial dynamics* under photocatalytic, photoelectrochemical and electrocatalytic conditions. Further details of our research can be found in our web site (<https://scholarblogs.emory.edu/lianlab/>) and in our recent publications (<https://scholar.google.com/citations?hl=en&user=Kv8AxG8AAAAJ>).

Unique training and networking opportunity. A unique aspect of research in the Lian group is the extensive collaboration with top research groups in the US through multiple joint grants and collaborative projects. For example, the Lian group is a member of the multi-institution DOE Solar Fuels Hub, Center for Hybrid Approaches in Solar Energy to Liquid Fuels (CHASE, <https://solarhub.unc.edu/>) and leads a multi-institution DOD MURI program on fundamental study of electrochemical interfaces for energy conversion (<https://scholarblogs.emory.edu/echemmuri/>).

Requirement: Applicants should be highly motivated researchers with experience in ultrafast and nonlinear spectroscopy and/or electrochemistry/photoelectrochemistry; and have a PhD in chemistry, physics, optics or related fields.

Starting date: ASAP

Details of the position: Starting salary > \$48,000, including standard benefits for postdoctoral fellows. Appointments are for one year and can be renewed annually upon mutual agreement. Emory University (<https://www.emory.edu/home/index.html>) is a highly ranked private university located in Atlanta, Georgia, which is a major US city with relatively low cost of living.

How to apply: please contact Tim Lian at tlian@emory.edu

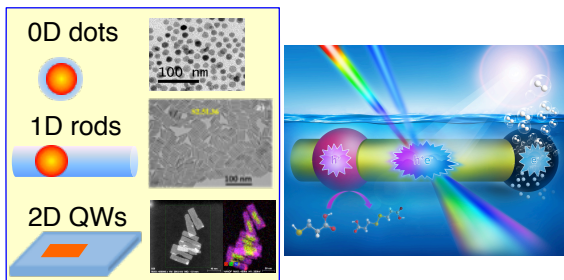
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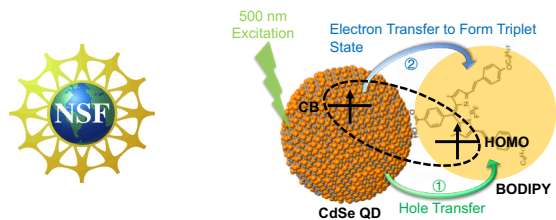
An equal opportunity, affirmative action university

Overview of Research Projects

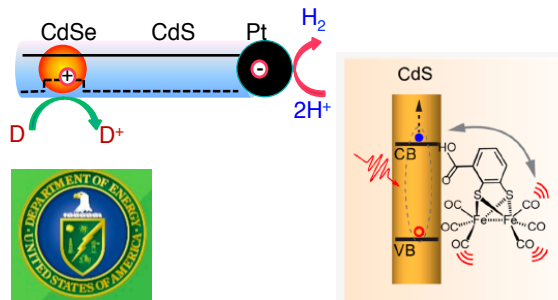
Colloidal low-D nanocrystals



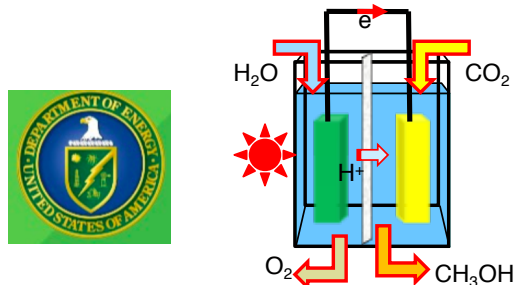
1) Triplet energy transfer + Polarons in Perovskite



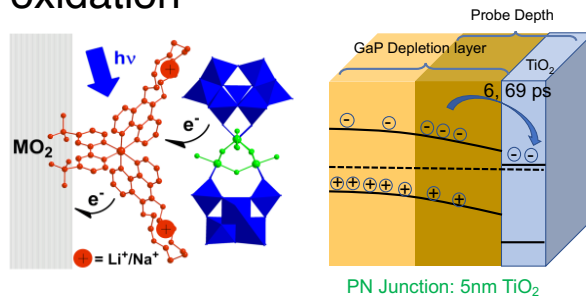
2) Nanohybrid photocatalysts: charge separation, solar H₂, plasmon induced hot electrons



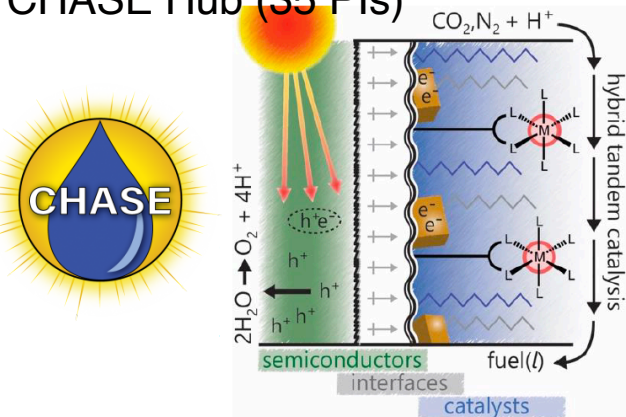
Photoelectrochemistry



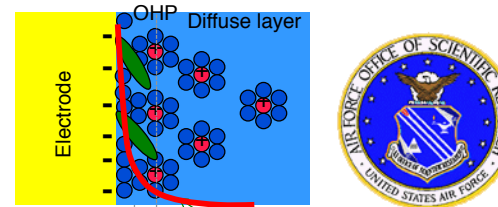
3) Photocatalytic Water oxidation



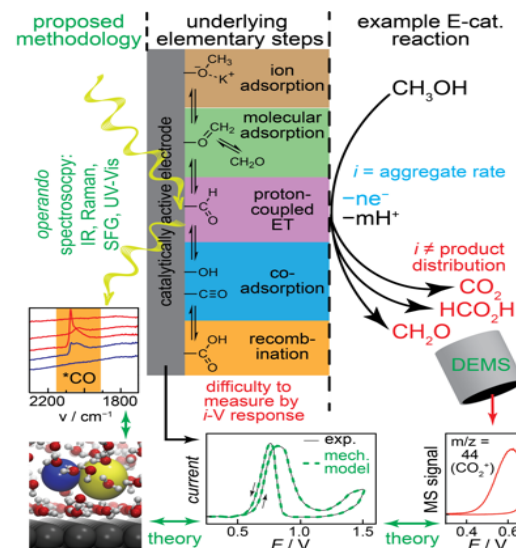
4) Liquid Solar Fuels CHASE Hub (35 PIs)



Electrochemistry



5) MURI: Molecular view of electrochemistry (8 PIs)



6) In situ electrochemical SFG study of interfacial electric field effects on catalytic reactions

Key fundamental questions:

- Efficient conversion of absorbed photons to separated charges
- Effective coupling of charges with catalytic reactions
- Effect of interfacial environment on catalytic reactions

Key techniques:

- Transient absorption/reflectance
- Time-resolved SFG and SHG
- Time-resolved surface enhanced Raman

How to apply?

- Contact Tianquan (Tim) Lian: tlian@emory.edu
- Lian group page: <https://scholarblogs.emory.edu/lianlab/>
- Google Scholar: <https://scholar.google.com/citations?user=Kv8AxG8AAAAJ&hl=en>