Plasmonic Catalysis and Surface Chemistry Post-doctoral Opportunity

The post-doctoral fellow will contribute to a collaborative project that seeks to design nanoparticle-MOF hybrids to capture, sense and to catalytically transform target molecules in the presence and absence of light (Day-Night Photocatalysis). The Borguet group will focus on the spectroscopic characterization of the catalytic, plasmonic and sensing properties of the materials to understand the mechanisms of action and to provide feedback to our synthetic and computational collaborators. Research will involve vacuum equipment as some analytes will be gaseous.

Candidates should preferably have surface chemistry/catalysis/spectroscopy experience. Expertise in the following areas would be useful; high vacuum techniques (including TPD), spectroscopic characterization (Raman, IR, ..), plasmonics, lasers, optics, catalysis, sensing, microscopy (AFM, SEM, TEM, STM,..). A strong record of publication in peer-reviewed literature attesting to these capabilities is required. A Ph.D. in Chemistry or related discipline, awarded in the last five years, is necessary. A strong background in physical/surface chemistry is desirable. Strong communication skills are **essential**.
Competitive compensation is available for well qualified individuals.

Temple's Chemistry Department has seen dramatic growth in photonics: six experimental groups (Borguet, Dai, Levis, Stanley, Sun, Willets) span diverse areas including plasmonics & ultrafast lasers as well as two theory groups (Matsika, Spano) focus on light-matter interactions. The Borguet group is part of Temple's Center for Computational Design of Functional Layered Materials (CCDM) (https://templeefrc.org/) and Temple's Materials Institute (https://tmi.temple.edu/). Philadelphia, the 6th largest city in the US, is one of the most livable and inexpensive cities on the US East coast.

Interested candidates should send a CV to: Professor Eric BORGUET, Department of Chemistry, Temple University, Philadelphia, PA, USA
eborguet@temple.edu • https://sites.temple.edu/borguet/

Temple University is an Equal Opportunity/Affirmative Action Employer, and specifically invites and encourages applications from women and minorities (AA, EOE, m/f/d/v.).

Recent related publications

Optimizing the Nodes of Metal-Organic Frameworks for the Hydrolysis of a Nerve Agent Simulant, Venkata Swaroopa Datta Devulapalli, Melissandre Richard, Tianyi Luo, Mattheus De Souza, Nathaniel L. Rosi and Eric Borguet, Dalton Transactions, 50 (9), 3116-3120 (2021) DOI: 10.1039/D1DT00180A (Front cover)

Identifying UiO-67 Metal-Organic Framework Defects and Binding Sites through Ammonia Adsorption, Venkata Swaroopa Datta Devulapalli, Ryan McDonnell, Jonathan P. Ruffley, Priyanka B. Shukla, Tian-Yi Luo, Mattheus L. De Souza, Prasenjit Das, Nathaniel L. Rosi, J. Karl Johnson and Eric Borguet, ChemSusChem, 15(1) e202102217 (2022) DOI: 10.1002/cssc.202102217