



Postdoctoral opportunities in the field of solution-phase photochemistry and ultrafast x-ray methodology are available in the [‘Solution Phase Chemistry’ group at the Stanford PULSE Institute](#), led by Prof. Kelly Gaffney and Dr. Amy Cordones-Hahn. Our group focuses on understanding, with the goal of controlling, electronic excited state dynamics of transition metal coordination complexes relevant to solar energy applications. Many of the light driven phenomena of direct relevance to efficient solar energy conversions occur on the femtosecond time scale (time-scale for bond vibration) and involve rearrangements of electronic and nuclear structure on the Ångström length scale (length-scale of the molecular bond). This makes ultrafast x-ray methods ideally suited to advancing our understanding of these ultrafast chemical processes. Specifically, we develop and exploit ultrafast x-ray methods to track charge, spin, solvation, and coordination dynamics with atomic specificity and resolution following optical excitation. These methods are combined with complementary ultrafast optical spectroscopy methods, simple inorganic synthesis, and simulation to identify the molecular properties that dictate excited state and photochemical processes.

Multiple postdoc opportunities are currently available. Projects will focus on the use of time-resolved x-ray methods to understand the excited state reaction mechanisms of first row transition metal photoredox catalysts.

Desired skills: Expertise in ultrafast optical science or advanced x-ray characterization methods, including steady state or time resolved. We are looking for people with an ability to work in a dynamic team setting, and an enthusiasm for developing new skills.

Education: A recently or soon to be completed Ph. D in chemistry, physics, or a related field is required.

Contact: Applicants should send their CV, a list of potential references, and date of availability to [Kelly Gaffney](#) and [Amy Cordones-Hahn](#).

Stanford is an equal opportunity employer and all qualified applicants will receive consideration without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, veteran status, or any other characteristic protected by law.