

Postdoctoral Position, Reaction Dynamics & Materials in Extreme Environments, UH Manoa

The Reaction Dynamics & Materials in Extreme Environments Group, Department of Chemistry, University of Hawai'i at Manoa, invites applications for two Postdoc and/or Visiting Scientist positions in the areas of gas phase reaction dynamics. The prime directive of the experimental gas phase studies is to investigate the formation of (precursors to) polycyclic aromatic hydrocarbons (PAHs) (project I) and silicon carbides (project II) exploiting crossed molecular beams coupled with atom/radical sources along with universal, ion-imaging, and laser induced fluorescence detection. The experimental results are merged with electronic structure calculations, dynamics simulations, and astrochemical modeling to eventually untangle the roles of these bimolecular gas phase reactions in the formation of nanoparticles (soot, grains) in combustion flames and deep space (interstellar medium, circumstellar envelopes). Recent works on our gas phase projects can be found at: *Sci. Adv.*, 7, eabg7003 (2021). *Sci. Adv.*, 7, eabf0360 (2021). *Sci. Adv.*, 7, eabd4044 (2021). *JACS*, 143, 14227-14234 (2021). *Nat. Commun.* 13, 786 (2022). *JACS*, 144, 22470-22478 (2022). *JACS*, 144, 8649-8657 (2022). *JACS*, 145, 3084-3091 (2023). *Angew. Chem. Int. Ed.* 62, e202216972 (2023). *Chem. Sci.*, 14, 5369-5378 (2023). *Nat. Commun.*, 14, 1527 (2023).

The appointment period is initially for one year, but can be renewed annually based on availability of funds and satisfactory progress as defined by first author publications. The salary is competitive and commensurate with experience. Successful applicants should have a strong background in experimental reaction dynamics and laser systems. Experience in labview, programming, and/or Autocad/SolidWorks is desirable. Solid communication skills in English (written, oral), a publication record in internationally circulated, peer-reviewed journals, and independent working skills are mandatory. Please send a letter of interest, three letters of recommendation, CV, and publication list to Prof. Ralf I. Kaiser, Department of Chemistry, University of Hawai'i at Manoa, Honolulu, HI 96822, USA [ralfk@hawaii.edu]. Applicants must demonstrate their capability to prepare manuscripts for publications independently. The review of applications will start December 1, 2023, and continues until the position is filled. A description of our research group can be found at <https://www.uhmreactiondynamics.org/>. Only complete applications will be reviewed.