

# Peter Josue Rosado Flores



**Graduate Institution:** Syracuse University Main Campus

**Graduate Discipline:** Inorganic Chemistry

**Hometown:** San Germán, PR

**Relevant SC Research:** Basic Energy Sciences

## Research Interest:

I am interested in the organometallic chemistry of s-block metals. Mainly the design and synthesis of ligands that serve as cost effective starting materials for 3D MOFs (Metal Organic Frameworks) based on these metals, as they show promise for applications such as gas storage, catalysis and adsorbent materials. After which, these ligands are used in solvo/hydrothermal reactions to produce MOFs. Since the chemistry of MOFs is often unpredictable, knowledge of the crystallographic environment of these materials is important. A keen understanding of this helps not only to elucidate how the material behaves, but opens up possible options on how to modify it further. Thus my research is very intensive in crystallography. Outside of experimental research, I am interested in delivering mentorship to children off lesser resources that are interested in the sciences but do not have access to any type of opportunity that might spark their motivation. I believe an early “push” and motivation is all that is necessary to “hook” a student on science.

## About Me:

I obtained a BS in chemistry from the Interamerican University of Puerto Rico in May 2009. I am currently enrolled in a chemistry graduate program at Syracuse University under the mentorship of Dr. Karin Ruhlandt-Senge. The research work in this laboratory involves the study of s and f-block organometallic compounds.

My current projects are the synthesis of Metal Organic Frameworks (MOFs), for gas storage applications. It is in my interest to be involved in the industrial aspects of this type of chemistry in the future and contribute to expand it further, be it by starting or working for a company that develops materials such as these. On a more personal note, it is my belief that science is a collaborative effort. Scientifically inclined minds must come together with new ideas to push science forward. Thus, I am always open to suggestions as to how to expand my work further, and of course, open to offer ideas. Outside of the laboratory I am interested in literature, music, and art. As literature is my second passion after chemistry, I am hopeful to someday publish a science fiction novel. I am also very much interested in learning different types of dances.



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science