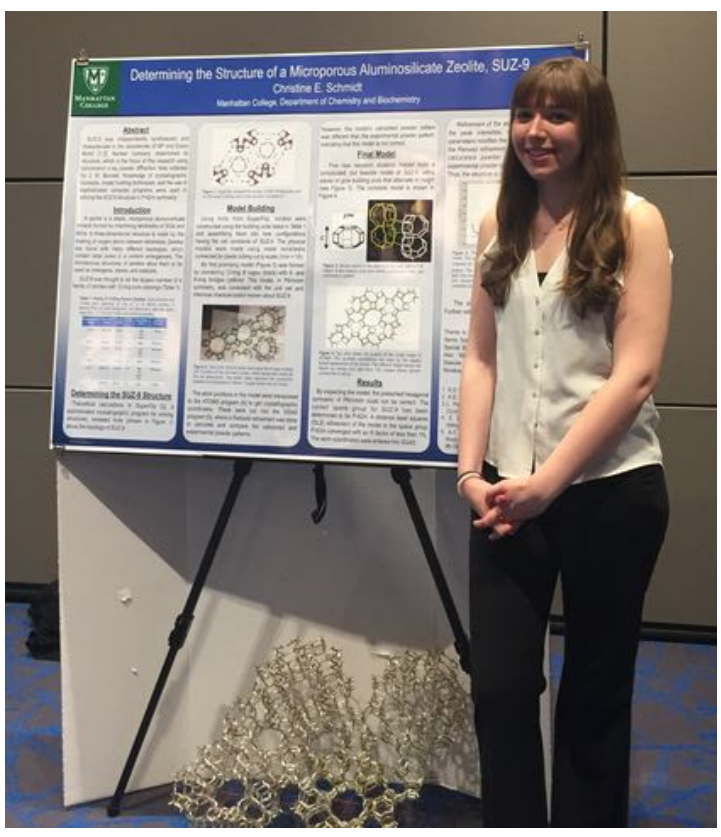
Undergraduate Research

Student research
with Dr. Kirchner

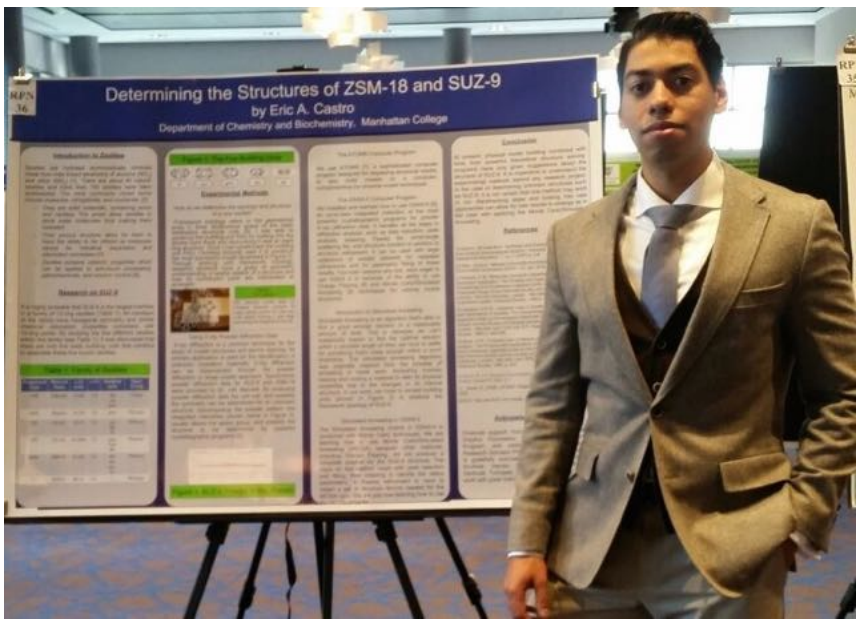
Students with a lively three-dimensional imagination (for model building and interpretation of structures) and an interest in computers enjoy this type of research. We solve structures of interesting new zeolite materials by determining exactly the atomic positions of all atoms in the crystal. Research students usually start by building physical models. This enables them to understand the fundamental units that come together to make the material of interest. Occasionally it is possible to predict the structure of a new material only by creative model building. Usually the structure is determined using sophisticated crystallographic programs that analyze X-ray diffraction data.

My research group usually has between one and four undergraduate students (a mixture of sophomores, juniors and seniors). Students are usually chemistry, biochemistry or chemical engineering majors. A few have been biology, computer science, or other majors. They often join as sophomores, and work as much as they like. Initially, students are not expected to know anything about crystallography. We work together and learn by doing. After students gain some experience, they present their results at undergraduate research symposia (URS). These are excellent pre-professional experiences, preparing students well for successful job interviews, and graduate or professional school interviews. Past students have always cited their undergraduate research to be among their best experiences at the College.

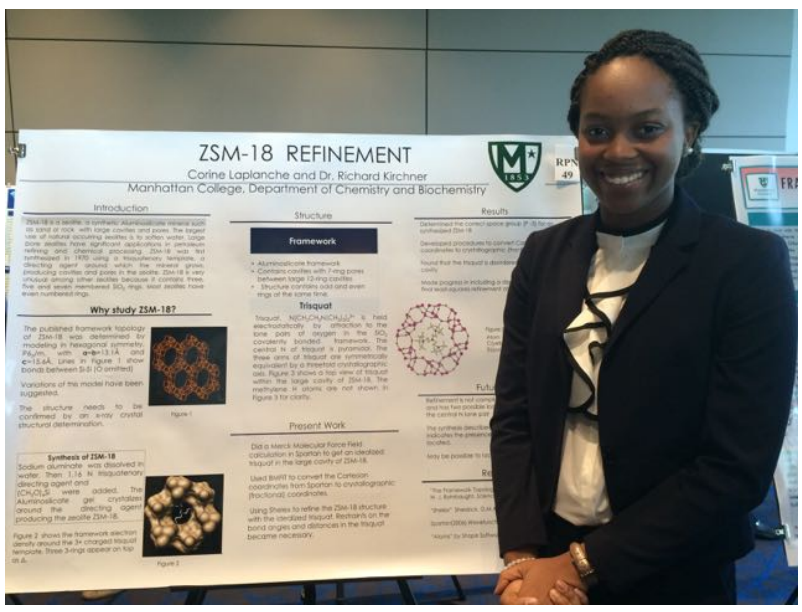
L to R: Chris Kim, Anthony O'Mara, Jessi Dolores, Dr K and Daisuke Kuroshima at URS, Fordham Univ. May 6, 2017

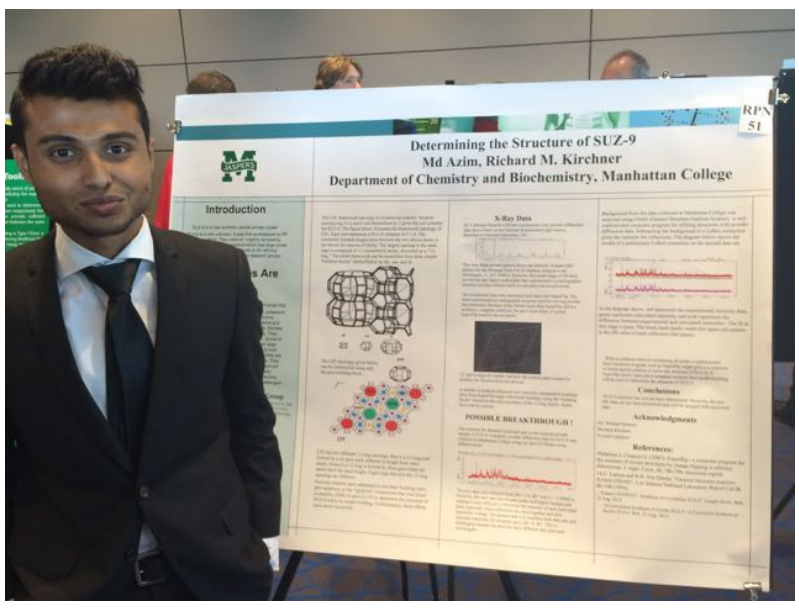


Christine Schmidt presenting her poster at the Sigma Xi Induction, April 28, 2017



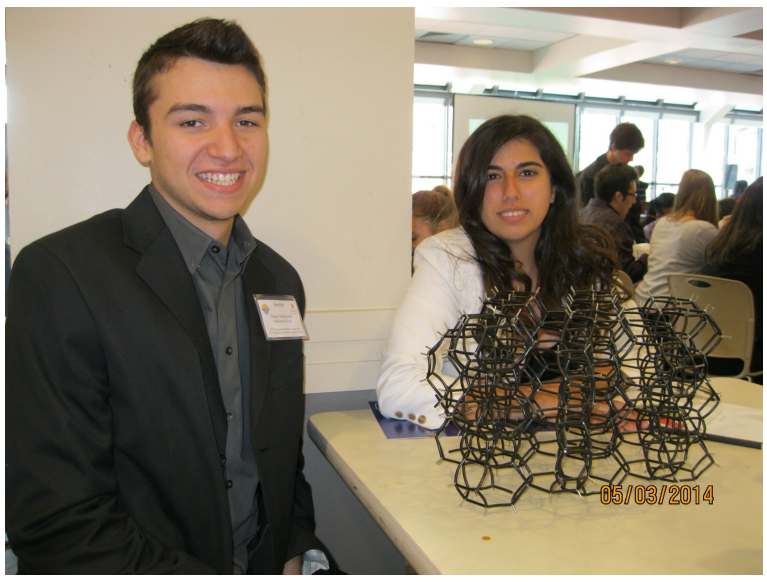
Eric Castro (left) and Gertrude Turinawe Hatanga (right) presenting at Research Scholars Presentation Day, MC, 9/22-23/16





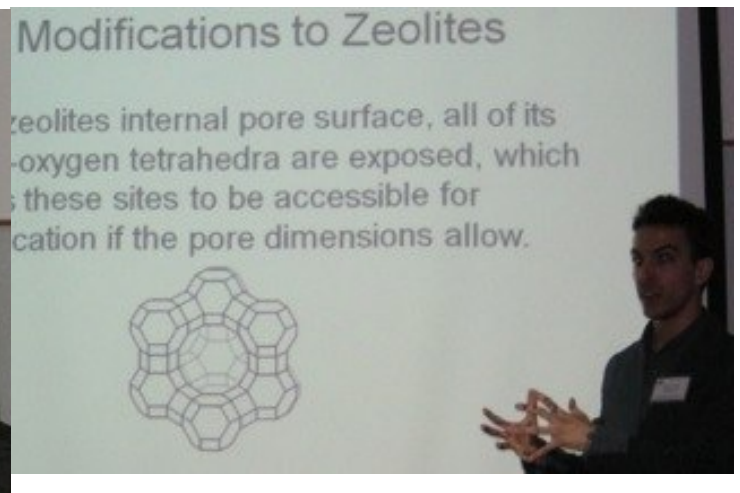
Corine Laplanche (’16) and Md Azim (’16) at Research Scholars Presentation Day, MC, 9/18/15

Dr. Indiana, Michelle Annabi (’14), Michelle Lam (’14) and Matt Popp (’14) eating lunch at the NY ACS Undergraduate Research Symposium, City College, 4/27/2013.



Danny Schiavone (’14) and Michelle Annabi (’14) after presenting their research at the NY ACS URS, St, John’s Univ., 4/3/14

Matt Popp (left) and Danny Schiavone, assembling a model for a new molecular sieve material, 2011-12.



Danny (left) and Matt (above) presenting their research at the NY ACS URS, SUNY at Old Westbury, 5/5/2012

Chris Babino, Dr K and Qinqin Gao (with the zeolite models they built) after presenting their talk at the NY ACS Undergraduate Research Symposium, College of Mt. St. Vincent, 5/7/11

Dr. Corfield, Sophia Hirackis (’11), Qinqin Gao (’13) and Dr K at the ACS Nichols Symposium, White Plaines, 3/18/11