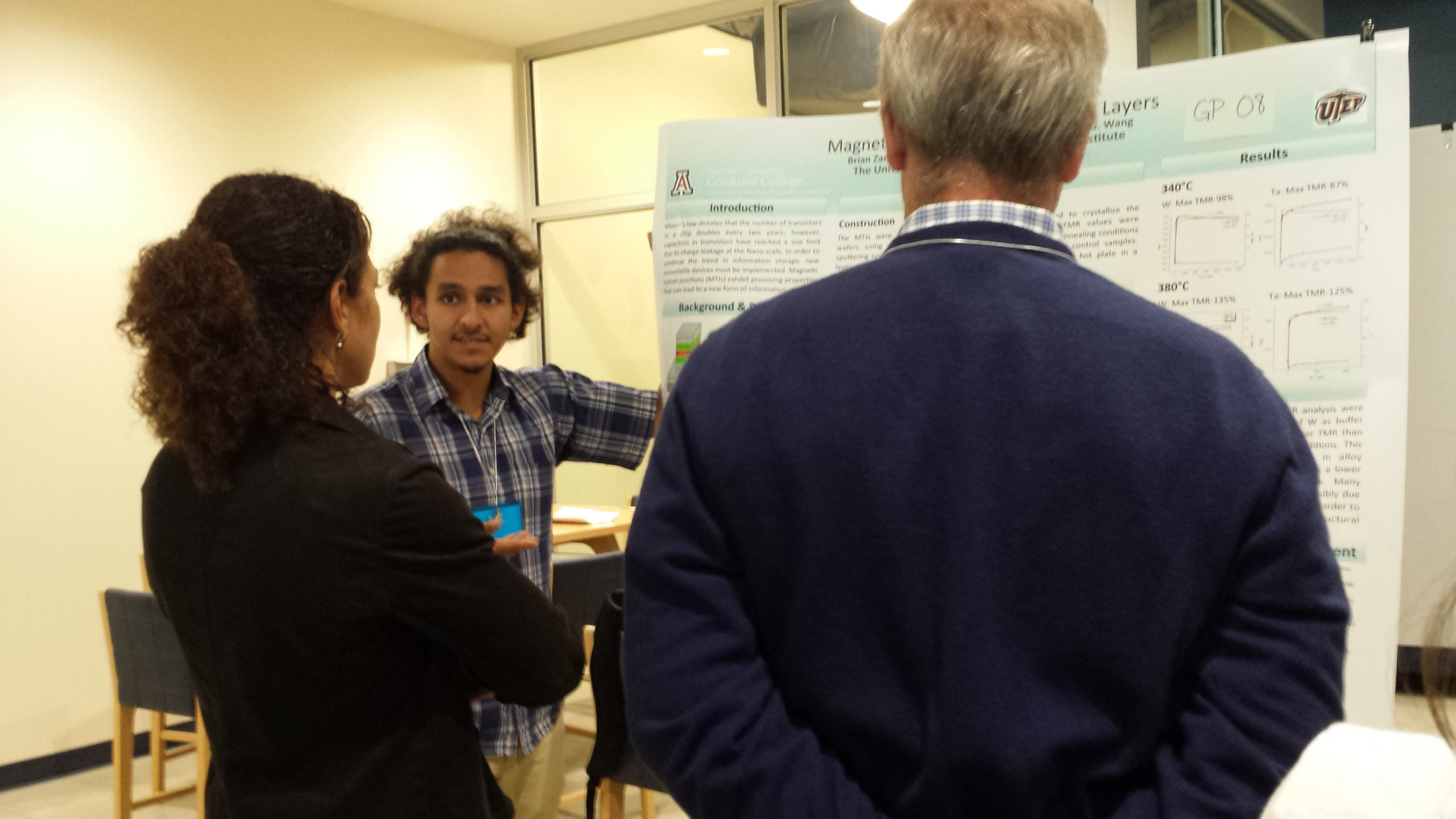
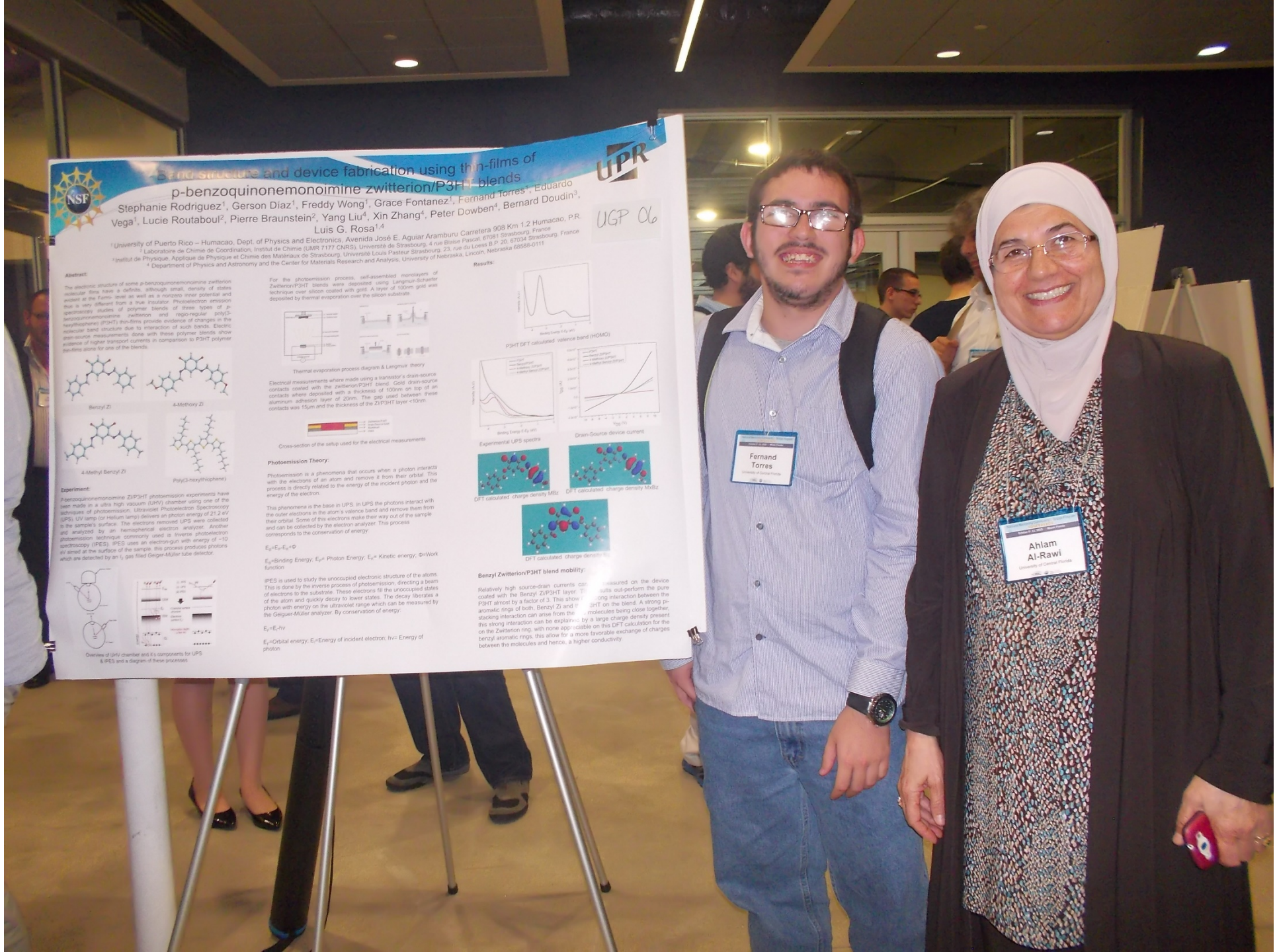
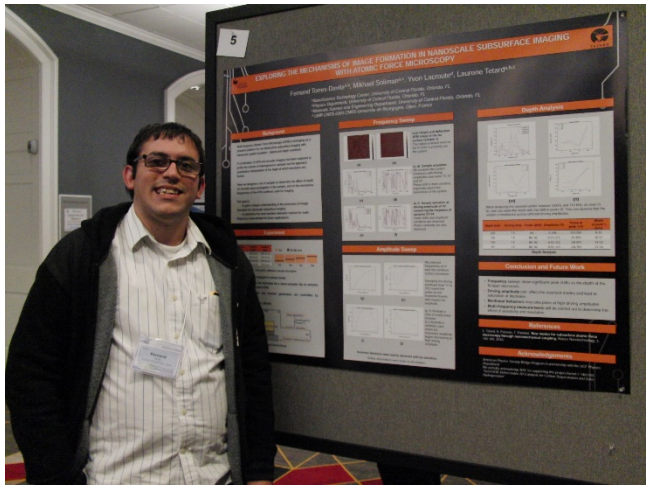
2015 Bridge Program Conference

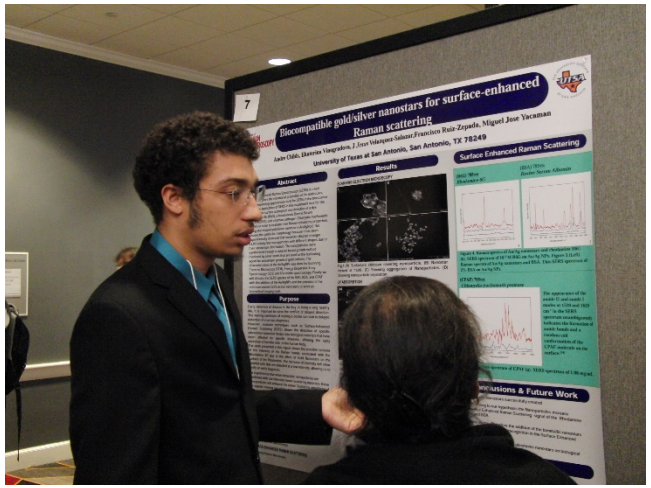

Introduction
Construction
Results
340°C
380°C

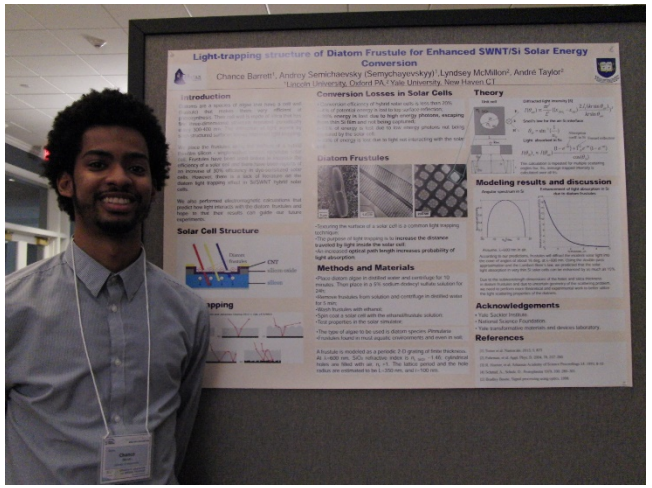

Electronic structure and device fabrication using thin-films of
p-benzoquinonemonoimine zwitterion/P3HT blends
Stephanie Rodriguez[1], Gerson Diaz[1], Freddy Wong[1], Grace Fontanez[1], Fernand Torres[1], Eduardo Vega[1], Lucie Routaboul[2], Pierre Braunstein[2], Yang Liu[4], Xin Zhang[4], Peter Dowben[4], Bernard Doudin[3], Luis G. Rosa[1,4]
[1] University of Puerto Rico – Humacao, Dept. of Physics and Electronics, Avenida José E. Aguiar Aramburu Carretera 908 Km 1.2 Humacao, P.R.
[2] Laboratoire de Chimie de Coordination, Institut de Chimie (UMR 7177 CNRS), Université de Strasbourg, 4 rue Blaise Pascal, 67081 Strasbourg, France
[3] Institut de Physique, Appliquée de Physique et Chimie des Matériaux de Strasbourg, Université Louis Pasteur Strasbourg, 23, rue du Loess B.P. 20, 67034 Strasbourg, France
[4] Department of Physics and Astronomy and the Center for Materials Research and Analysis, University of Nebraska, Lincoln, Nebraska 68588-0111
UGP 06
Abstract:
Benzyl Zi
4-Methoxy Zi
4-Methyl Benzyl Zi
Poly(3-hexylthiophene)
Experiment:
Thermal evaporation process diagram & Langmuir theory
Cross-section of the setup used for the electrical measurements
Photoemission Theory:
Overview of UHV chamber and it's components for UPS & IPES and a diagram of these processes
Results:
P3HT DFT calculated valence band (HOMO)
Experimental UPS spectra
Drain-Source device current
DFT calculated charge density MBz
DFT calculated charge density MxBz
DFT calculated charge density
Benzyl Zwitterion/P3HT blend mobility:
Fernand Torres
University of Central Florida
Ahlam Al-Rawi
University of Central Florida


Christopher Tiller
Michael Sagapolutele
Tommy Boykin

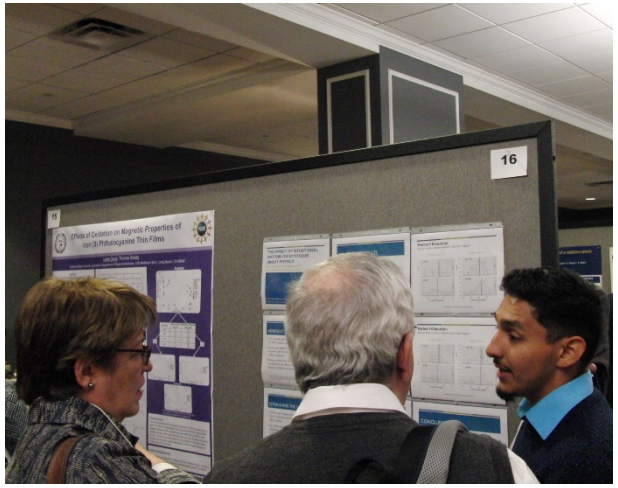
2017 Bridge Program Conference

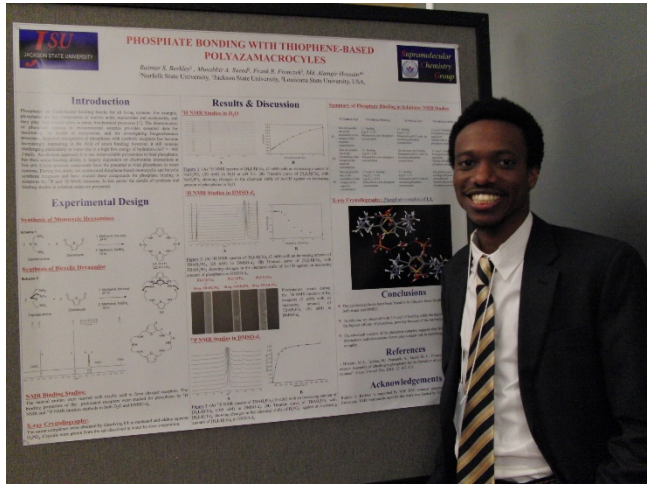


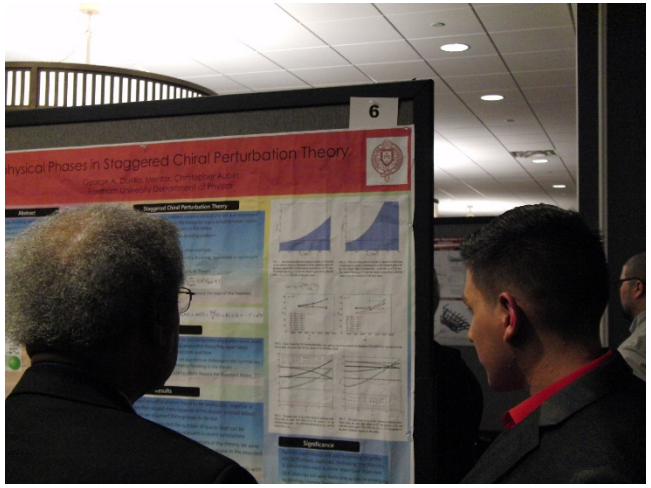




UCF Bridge Fellows did a great job presenting their research work at the conference.







Rainier Berkley was awarded 2nd place. Way to go Rainier!!!

We enjoyed the opportunity to showcase the UCF Physics Graduate Program.