



U.S. DEPARTMENT OF

**ENERGY** Office of Science

# **AAAS**

**Undergraduate Poster Session**  
*Research Interns Supported by*  
*the Office of Science*

**Student Biographies**

**2009**



### **Mohammed (Moin) Baig**

**Research Experience:** FaST Program at Brookhaven National Laboratory

**Paper Title:** Crystal Structure Analysis of a Putative Oxidoreductase from *Klebsiella pneumoniae*

**Hometown:** New York, NY

**Undergraduate Institution:** Medgar Evers College (Brooklyn, NY)

**Undergraduate Major:** Biology

**Hobbies/Interests:** Research, work out, movies, ping pong, and cricket



### **Ross Barnowski**

**Research Experience:** SULI Program at Argonne National Laboratory

**Paper Title:** Remote Sensing of radioactive plumes using millimeter wave technology

**Hometown:** Barrington, IL

**Undergraduate Institution:** University of Michigan (Ann Arbor, MI)

**Undergraduate Major:** Nuclear Engineering and Radiological Science

**Professional Societies:** Tau Beta Pi, Alpha Nu Sigma, American Nuclear Society (outreach chair for student chapter)

**Hobbies/Interests:** writing and playing music as the drummer in several local bands



### **Patrick Brown**

**Research Experience:** SULI Program at National Renewable Energy Laboratory

**Paper Title:** Vertically-Aligned Carbon Nanotube Growth for Energy Storage Applications

**Hometown:** Logansport, IN

**Undergraduate Institution:** University of Notre Dame (Notre Dame, IN)

**Undergraduate Major:** Physics and Chemistry

**Hobbies/Interests:** Frisbee, hiking, and guitar



### **Alejandro Campos**

**Research Experience:** SULI Program at Princeton Plasma Physics Laboratory

**Paper Title:** Advances in Dust Detection and Removal inside Tokamaks

**Hometowns:** San Francisco, CA and Lima, Peru

**Undergraduate Institution:** University of Rochester (Rochester, NY)

**Undergraduate Major:** Mechanical Engineering with a minor in Physics

**Hobbies/Interests:** Running



## **Joseph Cavanagh**

**Research Experience:** SULI Program at Oak Ridge National Laboratory

**Paper Title:** Massively Parallel Latent Semantic Analyses using a Graphics Processing Unit

**Hometown:** Woodbury, MN

**Undergraduate Institution:** University of Minnesota - Morris (Morris, MN)

**Undergraduate Major:** Computer Science

**Hobbies/Interests:** Outdoors, Music, Basketball (watching and playing), and Football (watching)



## **Eliot Chang**

**Research Experience:** SULI Program at Lawrence Berkeley National Laboratory

**Research Topic:** Imidazole-Based Ionic Liquids for Use in PEMFCs: Effect of Electron-Withdrawing and Electron-Donating Substituents

**Hometown:** Seattle, WA

**Undergraduate Institution:** Pomona College (Claremont, CA)

**Undergraduate Major:** Chemistry and Environmental Analysis

**Hobbies/Interests:** playing and watching all kinds of sports



## **Marie Chilton**

**Research Experience:** SULI Program at Pacific Northwest National Laboratory

**Paper Title:** Investigating Ionic Liquids for Biomass Fractionation

**Research Topic:** Understanding Gas Absorbance and Background Emissivity Effects on Gas Detection Sensitivity Using Hyperspectral Imagery

**Hometown:** Richland, WA

**Undergraduate Institution:** Brigham Young University (Provo, UT)

**Undergraduate Major:** Mathematics



## **Tiffany Cochran**

**Research Experience:** FaST Program at Argonne National Laboratory

**Paper Title:** Semiconductor Triads: Strategies for Improving Photoconversion on Nanoscale

**Hometown:** Pelham, GA

**Undergraduate Institution:** Valdosta State University (Valdosta, GA)

**Undergraduate Major:** Biology and a minor in Chemistry

**Professional Societies:** Tri-Beta, Golden Key, AED, and LeaderQuest

**Hobbies/Interests:** medicine, reading, music, cooking, bowling, and trying out new things



## **Riley Cumberland**

**Riley declined the Office of Science's invitation to the AAAS Meeting.**

**Research Experience:** SULI Program at Idaho National Laboratory

**Paper Title:** Detailed Simulations of Third Generation Time-of-Flight Neutron Powder Diffractometer, POWGEN3

**Hometown:** Asheville, NC

**Undergraduate Institution:** North Carolina State University (Raleigh, NC)

**Undergraduate Major:** Nuclear Engineering



## **Jason C. Fuller**

**Research Experience:** Pacific Northwest National Laboratory, SULI Program

**Paper Title:** Modeling Wind Turbines in the GridLAB-D Software Environment

**Hometown:** Kennewick, WA

**Undergraduate Institution:** University of Washington (Seattle, WA)

**Undergraduate Major:** Physics

**Graduate Institution:** Washington State University Tri-Cities (Richland, WA)

**Area of Graduate Study:** Electrical Engineering

**Professional Societies:** IEEE

**Hobbies/Interests:** hiking, playing ultimate frisbee, and cycling



## **Tasha Gaylor**

**Research Experience:** FaST Program at Argonne National Laboratory

**Paper Title:** Semiconductor Triads: Strategies for Improving Photoconversion on Nanoscale

**Hometown:** Warner Robins, GA

**Undergraduate Institution:** Valdosta State University (Valdosta, GA)

**Undergraduate Major:** Chemistry

**Professional Societies:** American Chemical Society

**Hobbies/Interests:** Tennis



## **Christine Jonason**

**Research Experience:** SULI Program at Pacific Northwest National Laboratory

**Paper Title:** Use of the cytoskeletal protein  $\alpha$ II-spectrin as a biomarker for head injury in juvenile salmon

**Hometown:** Indianapolis, IN

**Undergraduate Institution:** Purdue University (West Lafayette, IN)

**Undergraduate Major:** Biology



## **Yonatan (Yoni) Kahn**

**Research Experience:** SULI Program at Thomas Jefferson National Laboratory  
**Paper Title:** A New Method for Extracting Spin-Dependent Neutron Structure Functions from Nuclear Data  
**Hometown:** San Jose, CA  
**Undergraduate Institution:** Northwestern University (Evanston, IL)  
**Undergraduate Major:** Physics, Math, and Music Performance  
**Professional Societies:** American Physical Society  
**Hobbies/Interests:** French horn and music composition



## **Kristin Kowolik**

**Research Experience:** SULI Program at Lawrence Berkeley National Laboratory  
**Paper Title:** Electrochemical Remediation of Arsenic Contaminated Groundwater - Results of Prototype Field Tests in Bangladesh  
**Hometown:** Berkeley, CA  
**Undergraduate Institution:** University of California at Berkeley (Berkeley, CA)  
**Undergraduate Major:** Chemistry  
**Hobbies/Interests:** hiking, traveling, and reading books





## **Garrett Marino**

**Research Experience:** SULI Program at Oak Ridge National Laboratory

**Paper Title:** False Spring Occurrence over the Southeastern United States, 1901 – 2007

**Hometown:** Hazlet, NJ

**Undergraduate Institution:** Massachusetts Institute of Technology (Cambridge, MA)

**Undergraduate Major:** Earth, Atmospheric, and Planetary Sciences

**Graduate Institution:** Massachusetts Institute of Technology (Cambridge, MA)

**Graduate Major:** Atmospheric Science

**Professional Societies:** American Meteorological Society

**Hobbies/Interests:** teaching assistant, President of the MIT Weather and Climate Club, forecasting for his school newspaper golf, bowling, biking, and numismatics



## **Jessica Olstad**

**Research Experience:** SULI Program at National Renewable Energy Laboratory

**Paper Title:** Comparison of Sodium and Potassium Carbonates as Lithium Zirconate Modifiers for High-Temperature Carbon Dioxide Capture from Biomass-Derived Synthesis Gas

**Hometown:** Colorado Springs, CO

**Undergraduate Institution:** Colorado School of Mines (Golden, CO)

**Undergraduate Major:** Chemical and Biochemical Engineering

**Professional Societies:** American Institute of Chemical Engineers (AIChE), Society of Women Engineers (SWE), and Beta Beta Beta (National Biological Honor Society)

**Hobbies/Interests:** R&D in thermochemical processes



### **Mariano J. Padilla**

**Research Experience:** SULI Program at Oak Ridge National Laboratory

**Paper Title:** Development of Accelerator Data Reporting System and its Application to Trend Analysis of Beam Current Data

**Hometown:** Los Angeles, CA

**Undergraduate Institution:** Fullerton College (Fullerton, CA)

**Undergraduate Major:** Physics

**Professional Societies:** AAAS (student member), American Physical Society (APS student member), Orange County Engineering Council (OCEC)

**Hobbies/Interests:** Physics, Dancing Salsa and riding off-road motorcycles



### **Brian T. Phelan**

**Research Experience:** PST Program at Argonne National Laboratory

**Paper Title:** *In-Situ* X-Ray Absorption Fine Structure on a Pt/C and PtCo/C Cathode of an Operational Membrane Electrode Assembly

**Hometown:** Downers Grove, IL

**Undergraduate Institution:** University of Illinois at Urbana-Champaign (Urbana, IL)

**Undergraduate Major:** Chemistry

**Professional Societies:** American Chemical Society

**Hobbies/Interests:** Ultimate Frisbee, skiing, and construction



## **Kiran Rangaraj**

**Research Experience:** CCI Program at Lawrence Berkeley National Laboratory

**Paper Title:** Where Multifunctional DNA Repair Proteins Meet: Mapping the Interaction Domains between XPG and WRN

**Hometown:** Milpitas, CA

**Undergraduate Institution:** University of California (Berkeley, CA)

**Undergraduate Major:** Biochemistry

**Hobbies/Interests:** Drawing, weight training, trail biking, fishing, and listening to music. Interests include entomology, sports nutrition, and of course, research!