

UCGSA Invited Speaker: Dr. Alison Tamasi

9/11/2018

0 Comments

**Chief Scientist****National Analytical Radiation Environmental Laboratory (NAREL)****Montgomery, AL****Nukes in the City: The Forensics of Urban Nuclear and Radiological Incidents**

Abstract Have you ever wondered what happens if a nuclear weapon goes missing, or uranium is smuggled across a border, or a medical x-ray source gets turned into a radiological dispersal device? With approximately 15,000 nuclear weapons, not to mention around 4000 tons of fissile material being stored worldwide, in countries with varying commitments to safeguarding them, a nuclear or radiological event on US soil remains an ever-present possibility. Nuclear forensic science aims to provide clues that can be used alongside information from intelligence and law enforcement to aid decision-makers in the aftermath of those (or many other) scenarios. Since it is more likely that a radiological or nuclear incident will happen in a large city, one of the key challenges in nuclear forensics is assessing isotopic data from across the periodic table while minimizing interferences from ubiquitous urban matrices such as brick, asphalt, concrete, and glass. The role of the Environmental Protection Agency (EPA) in helping to develop response capabilities for nuclear incidents in cities (from post-detonation scenarios to radiological dispersal scenarios) will be discussed, especially the development of both rapid radiochemical analysis methods and reliable urban matrix reference materials.

Biography Dr. Alison Tamasi is the Chief Scientist for reference laboratory operations at the National Analytical Radiation Environmental Laboratory (NAREL) at Maxwell Air Force Base in Montgomery, Alabama. She is a radioanalytical chemist and amateur glitter enthusiast, whose primary expertise is in technical nuclear forensics, where she has published many studies and received awards for her work on the pre-detonation forensics of uranium compounds. Alison received her PhD in radiochemistry in 2015 from the University of Missouri, where she was a Nuclear Forensics Graduate Fellow and a Seaborg Institute Fellow. She has worked as a scientist throughout the nuclear enterprise, including the Environmental Protection Agency, the Department of Defense, and Los Alamos National Laboratory. Her broad experience across the spectrum of chemical, biological, radiological, and nuclear (CBRN) science, has led to collaborations spanning even more disciplines including statistics, big data analytics, and computer science. Throughout her diverse career Alison has had the opportunity to experience working in a wide variety of specialized research settings including radiation labs, clean rooms, accelerator beamlines, and a broom closet in Jamaica. In addition to being a technical subject matter expert, she is passionate about the nexus between nuclear deterrence and nuclear science and has interfaced extensively with the nuclear policy community, including participating in moot court and war gaming exercises.

**Archives**

September 2018
March 2016
February 2016
January 2016
November 2015
September 2015
August 2015
July 2015

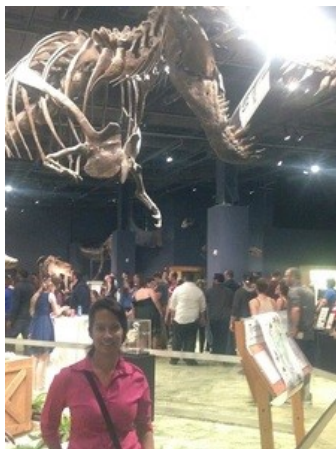
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UCGSA Attends Science Night at the Orlando Science Museum

3/25/2016

0 Comments





0 Comments

General Meeting 3/24/2016

3/25/2016

0 Comments

- 5 USGSA members attended the ACS National Conference in San Diego, California. They had a blast. Pictures can be found of their travels on the UCGSA Facebook group as well as their respective Facebooks. Hope to have more attending next year or more attending other conferences.
- Awards Picnic for the Chemistry Department will be on April 18th, 2016. It is a potluck. Please attend.
- Nominations were held. Nominees are:
 - President: Katie McCormac
 - Vice-President: Julie Donnelly
 - Treasurer: Danielle Green
 - Secretary: Bryan McCullough
- Get to know your nominees. Voting will be held at the next meeting on April 26,

2016

- Next Social is 3/25/2016 at World of Beer on University.

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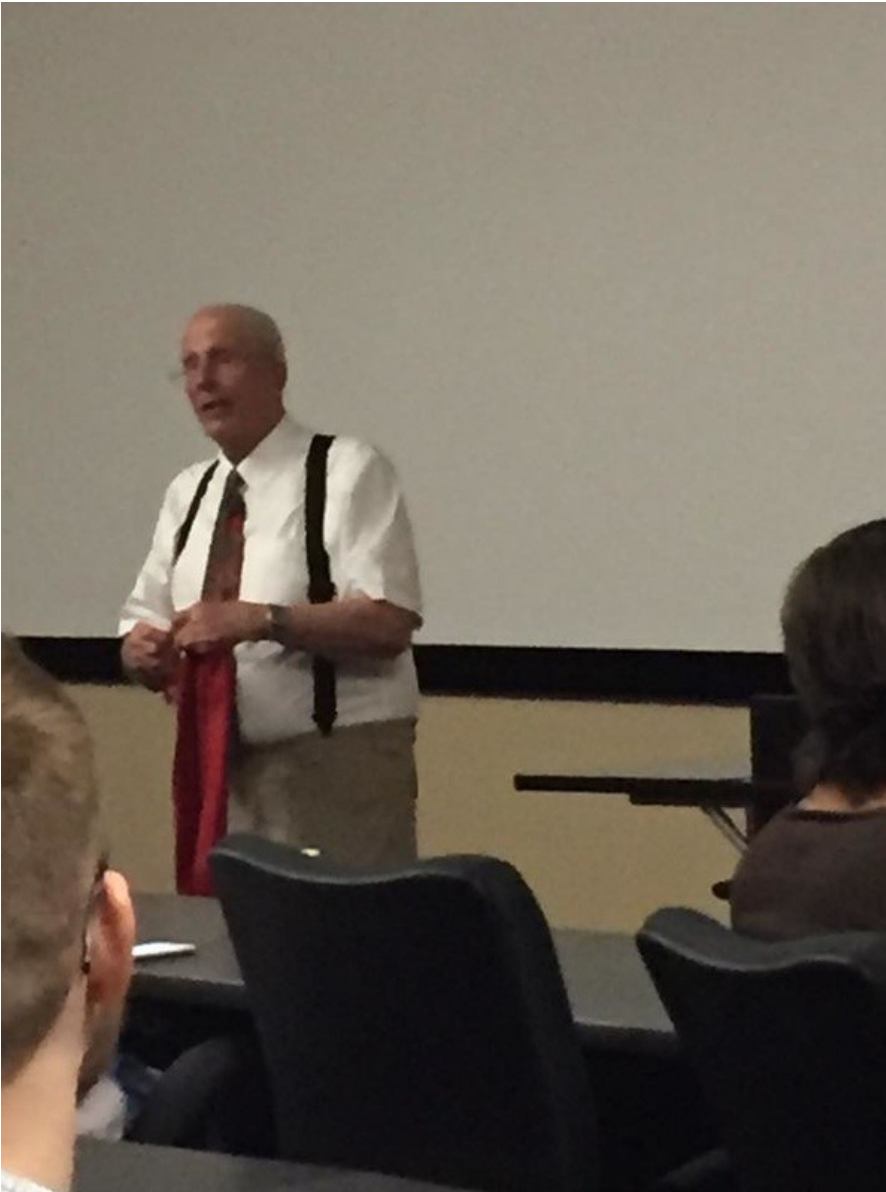
Invited Speaker Dr. Gary Strobel from Montana State University

3/25/2016

7 Comments

Dr. Gary Strobel from Montana State University gave a great talk entitled "Microbial Jewels of the Jungle"

It was a packed house and an engaging talk! We can't wait for our next speaker. Special thanks to Dr. Harper and Dominic Valenti for hosting our speaker, to SGA, the Department of Chemistry, and the College of Sciences at UCF for helping fund our guest and our luncheon with him after the talk and also to José Vazquez Perez for hosting a cocktail hour with our guest.





7 Comments

General Meeting Minutes from 2/5/2016

2/7/2016

0 Comments

- Don't forget we have nominations in our next meeting!! March 24 2016
- Congratulations Dawn on your travel award!
- Budget was voted: all in favor (16)
- We have an invited speaker!!! He will be with us on March 21.
- Thank you Danielle for your talk!
- We have a new historian committee chair!!! Danielle you git this one!!!!
- Rebekah and Jared are having lunch with 2nd Biochem candidate
- Nanami and Ashley are having lunch with the 3rd Biochem candidate

0 Comments

General Meeting Minutes from 1/27/2016

1/29/2016

0 Comments

- We have nominations of UCGSA officers in March and elections in April :-)
- Faculty meeting: Seminar is finally changing. The proposed changes by faculty are that we do not have anymore graduate seminar (just the dissertation seminar). As graduate students, we will be required to assist certain number of seminars per semester and you select them.
This change is tentative as of now!

- We have a new budget for 2016.
- We are getting new t-shirts with new color, new design and under \$20. How exciting!!!!
- We had a sign up sheet for people who are interested in being personal tutors.
- Katie, thank you for being our new social and media committee chair!
- We need to have support sessions for Biochem, Organic, and Analytical in order to get extra money for our organization. We are looking for volunteers!!!
- Our social event for February will be held in the Science Center, more details in our next meeting.

0 Comments

General Meeting Minutes 2015-11-03

11/5/2015

0 Comments

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- Spring 2016 speaker / professional development - contact Julie with ideas for local or not local speakers
 - Nominations: March 2016
 - Elections: April 2016
 - Committee chairs: anytime
 - Minutes will posted on our website from now and on
 - T-shirts are being ordered
 - ACS meeting attendees (don't forget to send and email to Rashi to let her know you want to attend)
 - Rock Lake Middle School: December 8th, you will need to sign up 2 weeks before the event in the Seminole County website.
 - State Science and Engineering Fair of Florida STEM Competition: To be judges in this huge event. They need over 400 students to judge elementary, middle, and high school projects.
 - International Potluck: Bring something from your own culture and share with us!!! We will do a white elephant gift exchange, if you want to be part of this buy a gift that is between \$5 and \$15. That will be our last social event of the year.

0 Comments

UCGSA Members talk about stress in Grad School with C&E News

9/14/2015

0 Comments



Opening Up About Stress In Graduate School

0 Comments

Dr. Scott Seminar

9/8/2015

0 Comments

All UCGSA members are invited to have lunch with Dr. Scott at noon on Friday in PSB248. (lunch provided by the Department)

All seminar attendees are welcome to join us at Bar Louie after the seminar for dinner and drinks. (Provided by you :))

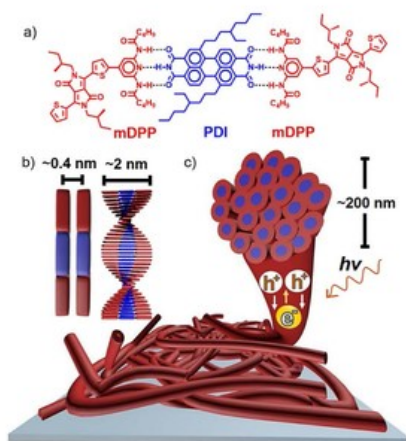


Figure 1. a) Chiral mDPP donor (red) and the PDI acceptor (blue) form 2:1 aggregates as a result of H-bonding. b) π -stacking orthogonal to the H-bonding creates donor-acceptor superstructures with helical chirality. c) Drop-casting of a 2:1 mDPP:PDI solution results in films comprised of hierarchical ropes whose fibers are the chiral superstructures that contain π -channels for transport following photoinduced charge separation.

DR. AMY SCOTT SEMINAR

Abstract

Incorporating singlet fission electron donors into active layer films could increase substantially the efficiencies of organic photovoltaics, but challenges related to film preparation and the characterization of spin and charge interactions within electron donors and acceptors remain. In this talk, I will describe a multicomponent system comprised of a mono-diamidopyridine functionalized diketopyrrolopyrrole (mDPP) electron donor and a perylene derived bis(diimide) (PDI) acceptor that, upon drop casting from solution, assembles into hierarchical films comprised of a mat of ropes whose fibers are 2:1 mDPP:PDI chiral helices (Figure 1). Previously, we used ultrafast transient absorption spectroscopy to show that, following cooperative assembly into chiral helices, this donor-acceptor pair undergoes photoinduced charge separation with a recombination lifetime of 30 ps in solution. The current work extends these studies into the solid state, where we show that films composed solely of mDPP undergo photoinduced singlet fission, whereas in the donor-acceptor films, long-lived radical pairs are formed followed by conversion to a low-lying triplet state that persists for microseconds.



Dr. Scott is an
Assistant
Professor
at the
University of
Miami.
She will be
visiting us on

Friday,
September 11

in CB2 106

at 4:30 PM

All Welcome!



0 Comments

Back to School Picnic

8/6/2015

0 Comments

Hi All,

UCGSA has planned a Back-to-School BBQ on August 29 and we would like to invite all Chemistry Department Faculty, Staff, Graduate Students and their families to attend!

Please see the attached invitation in Zholey's e-mail for more information and RSVP to Yuly (yulita244@knights.ucf.edu) by August 18.

We hope to see everyone there!

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