



# science connect

Spring 2016

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## ALUMNI SPOTLIGHT: DOMINIC RUCCO, BIOCHEMISTRY



### **DOMINIC RUCCO, B.S. BIOCHEMISTRY, '15**

**Dominic Rucco** is a graduate student researcher and lab instructor at the University of Florida's Butler Polymer Lab. He views his current work as "laying the science foundation" for future scientists. His face lights up as he talks about his behind-the-scenes work developing polymers that, one day, might deliver cancer drugs in a biologic system. Those drugs might be a long way off, but the knowledge that he has laid the groundwork for other scientists is very gratifying to him.

Dominic graduated from FAU in 2015 with a B.S. in biochemistry. During his time at FAU, he was a student chemistry researcher in **Dr. Evonne Rezler's** lab, a member of the American Chemical Society, the Sigma Chi Fraternity, and on the Dean's list for his high gpa. He still made

time to volunteer for Habitat for Humanity, Coolers for a Cure, and the A1A road cleanup. He also presented at the 4<sup>th</sup> FAU Annual Undergraduate Research Symposium. It is no surprise that scholarships, grants, and research funding followed this enthusiastic student's hard work.

**Since you were such a successful undergraduate student and that success has continued in your graduate work, what advice would you offer to others?**

*"The biggest thing that you have to do is get involved. There are activities for everything. Embrace the environment you are in. Anything you want to do here you can. There's something for everyone."*

**What would you say to students that plan on going to graduate school?**

*"You need to do research at FAU if you want to go to graduate school"*

**What do you hope to do in the future?**

*"I want to work for the Department of Defense doing chemical defense program research. Our nation's biggest threat isn't nuclear weapons. It's not dramatic. It's the tiniest chemical in the wrong hands. That can do so much damage. I want to learn to safeguard our country and develop solutions in case we are attacked chemically."*

**Last word?**

*"There are people at FAU that want to help you! Get involved!"*

## ON THE COVER: \$2.9 MILLION NIH GRANT TO CONTINUE UNIQUE LONGITUDINAL STUDY OF BILINGUAL DEVELOPMENT IN CHILDREN FROM SPANISH-SPEAKING HOMES.

**Dr. Erika Hoff, Ph.D.** was awarded a \$2.9 million grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development of the National Institutes of Health (NIH). The funds will enable her to continue a longitudinal study of bilingual development in children from Spanish-speaking homes. The pilot program has already been a success.

Read more [here](#).

## DISTINGUISHED ALUMNI RECOGNIZED



In an event hosted by **President John Kelly** this May, **Andrew S. Horowitz, B.S. '15** was recognized as the Charles E. Schmidt College of Science Distinguished Alumni. He was introduced by current biochemistry student **Aida Gonzalez** (right). **Dr. Evonne Rezler**, (left) **Associate Dean for Student Services & Director of Program Assessment** presented him his award. Andrew and his family were joined by over 200 people celebrating the new inductees. Deans, faculty and staff, members of the FAU Alumni Association Board, the Foundation Board, and members of the Board of Trustees were among the guests present.

## FACULTY AND STAFF ACCOMPLISHMENTS



### ADVISOR ELECTED TO NACADA

**Erika Velarde** has been elected to the leadership position of Advising Students with Disabilities Commission Chair within NACADA: The Global Community for Academic Advising.

The NACADA: The Global Community for Academic Advising was chartered as a non-profit organization in 1979 to promote quality academic advising and professional development of its membership to ensure the educational development of students.

Being elected to this NACADA leadership position is not only a fine tribute by one's peers but is also recognition of significant professional contributions to and excellence in the field of academic advising. Please accept our thanks as well for your support of NACADA as we continue to promote the development of students through effective advising programs and personal attention. The impact of advising on student satisfaction and retention is well documented and it is through NACADA that we are able to share new advances with others.

### STAFF MEMBER ENJOYS PROFESSIONAL DEVELOPMENT

Congratulations to **Susan L. Prince of the Department of Geosciences**, on her earning Honors for the Center for E-Learning's eCertification Designer/Facilitator Training Workshop. During Susan's training she began designing an eLearning course she calls, "Public Speaking without Fear." Susan enjoys achieving her professional development goals. This eCertification follows from the Competent Communicator Certification she earned from Toastmasters International in November, 2015. Toastmasters International is a non-profit, educational organization providing members a supportive environment to develop public speaking and leadership skills. Susan's next goal is taking the GRE and seeking a Master's degree program at Florida Atlantic University. Susan hopes to teach the public speaking course once finalized.



### FACULTY AND STAFF HONORED AT SERVICE AWARDS CEREMONY

The College of Science Congratulates the employees who were honored at the Service Awards Ceremony. **Tomas Schonbek, Department of Mathematical Sciences**, was honored for his dedication to FAU and 45 years of service! If you weren't able to attend the ceremony, you can view photos from the event [here](#).

## STUDENT SCHOLARSHIPS

### THE CHARLES E. SCHMIDT COLLEGE AWARDED OVER \$61K IN SCHOLARSHIPS



Scholarships were awarded to College of Science students in the fall of 2015 and again in spring 2016. **Interim Dean Janet Blanks** hosted an informal luncheon April 18th to recognize these students. Many students participated in a 30-second video "thank you" that was emailed to donors. Photos from the event can be viewed [here](#).

## DID YOU KNOW?

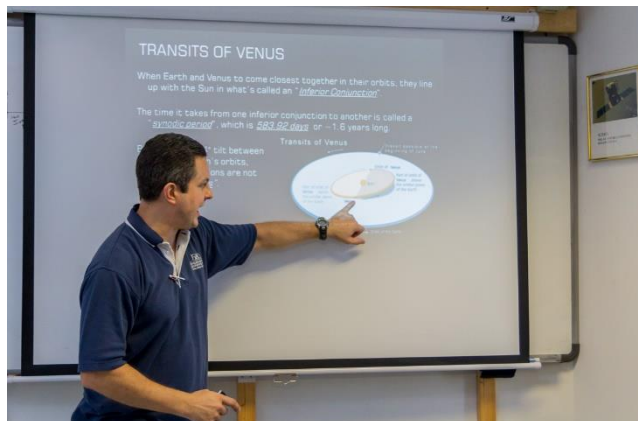
### FAU ASTRONOMICAL OBSERVATORY



Did you know that The Charles E. Schmidt College of Science is home to the FAU Astronomical Observatory? Or that it is staffed by a NASA Solar System Ambassador? The observatory has regular public viewing hours and is open for special events.

**Eric Vandernoot**, Astronomy and Physics Lab Coordinator and NASA Solar System Ambassador, opened the observatory Monday, May 9<sup>th</sup> for the transit of Mercury. An unusual day time event. During the morning and early afternoon hours, Mercury passed in front of the sun and appeared as a small black dot. Visitors were able to view Mercury and enjoyed a lecture on the significance of the event. As Eric pointed out, “we can view space on our computers or television, but it is no substitute for looking through a telescope and seeing the mechanics of space for yourself”. The next transit of Mercury will not happen until November 2019, but stay tuned for other celestial events. More [here](#).

Thank you to Jaime Paredes for these remarkable images!



## COLLEGE OF SCIENCE NEWSMAKERS

### FPL OPENS FREE MANATEE VIEWING CENTER IN RIVIERA BEACH

“Manatee Lagoon – An FPL Eco-Discovery Center™ is Palm Beach County’s latest educational attraction, providing residents and tourists alike the perfect spot to view the iconic creatures. And tourist officials appreciate the commitment FPL has made to caring for the manatees, as well as the surrounding coastal landscape.”

Plan your visit and find out more [here](#).





And, the friendly and informative Manatee Masters are actually FAU students!



From right to left: Rachel Shanker, Hannah Cooper, Samantha McGuire, Chelsea Bennice, Jessene Aquino-Thomas, and manager Laura McCarthy.

Hannah Cooper and Donna Selch



### VIRTUAL PARTNER ELICITS EMOTIONAL RESPONSES FROM A HUMAN.

Can machines think? That’s what renowned mathematician Alan Turing sought to understand back in the 1950s when he created an imitation game to find out if a human interrogator could tell a human from a machine based solely on conversation deprived of physical cues. The Turing test was introduced to determine a machine’s ability to show intelligent behavior that is equivalent to or even indistinguishable from that of a human. Turing mainly cared about whether machines could

match up to humans’ intellectual capacities.

But there is more to being human than intellectual prowess, so researchers from the Center for Complex Systems and Brain Sciences (CCSBS) in the Charles E. Schmidt College of Science at Florida Atlantic University set out to answer the question: “How does it ‘feel’ to interact behaviorally with a machine?” Read more [here](#).

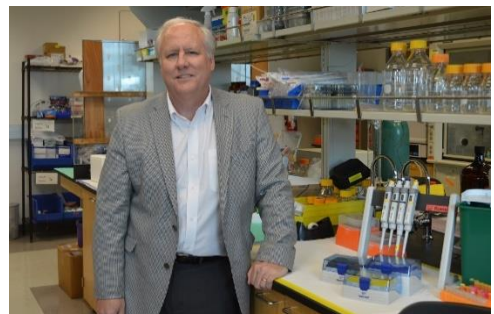
### FLORIDA CENTER FOR ENVIRONMENTAL STUDIES HOLDS 3<sup>RD</sup> SEA LEVEL RISE SUMMIT



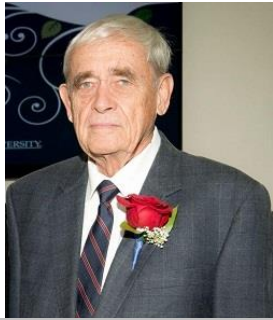
“South Florida is one of the world’s most vulnerable areas to climate change, especially sea-level rise,” said **Colin Polsky, Ph.D., director of the Florida Center for Environmental Studies at FAU**. “In Florida, potential adaptation to sea-level rise is complicated by the porous limestone geology of the region, permitting salt water intrusion into important aquifers. The low level terrain in many areas makes even a relatively small sea-level rise problematic.” Read more [here](#).

### FAU WELCOMES DR. RANDY D. BLAKELY

**Dr. Randy D. Blakely** joins the Charles E. Schmidt College of Science as Executive Director of the FAU Brain Institute. When asked what drew him to FAU, he said, “It caught my attention that FAU was poised to make great strides in brain research,” Blakely said. “I think the opportunity is greater here.” Read more [here](#).



## GENEROUS GIFT CREATES PHYSICS ENDOWMENT



### **BJORN NILS ANDERS LAMBORN, PH.D. LEAVES \$1.1 MILLION ENDOWMENT**

**Dr. Bjorn Nils Anders Lamborn, Ph.D.**, former retired professor and chair of the Department of Physics (1970-74 and 1979-91) passed away earlier this year. He is remembered as “a kind and compassionate man whose contributions to society are boundless,” said **Janet Blanks, Ph.D.**, interim dean and professor in FAU’s Charles E. Schmidt College of Science. “We are deeply touched by his generosity and continued support of our Department of Physics. He will be greatly missed by his FAU family and friends.” More [here](#).

## IN PRINT



**Kuo-Sheng Lee, a graduate student** in the IMPRS and IBAN programs was published in the journal Nature. The article, “Topology of ON and OFF inputs in visual cortex enables an invariant columnar architecture”. Read it [here](#).



**Dr. J.A. Kelso and Dr. Emmanuelle Tognoli**, Center for Complex Systems and Brain Sciences published in the International Journal of Psychophysiology. The article, “Enhanced Emotional Responses during Social Coordination with a Virtual Partner” can be read [here](#).

## WELCOME!



The College of Science is pleased to welcome **Sarah Sinett, Program Assistant and Jackie McNeil, Receptionist** to the Science Student Advising Office. Be sure to stop in and welcome them.

Have new people joined your Department? Let us know!

## AWARDS AND HONORS

### **HONORS CONVOCATION**

Faculty and staff of The Charles E. Schmidt College of Science were honored at FAU’s 47<sup>th</sup> Annual Honors Convocation.

**Emily Acosta**, University Scholar

**Brian Cooney**, Undergraduate Researcher of the Year

**Dr. Ryne Sherman**, Researcher of the Year, College of Science

**Dr. Daniel de Lill**, Distinguished Mentor of the Year in Undergraduate Research

## 2016 FAU EXCELLENCE IN ELEARNING AWARD

Congratulations **Dr. Charles Roberts!** Saturday, April 9th at the FAU Teaching with Technology Showcase, Dr. Victoria Brown proudly announced the recipients of the 2016 Excellence in eLearning Awards.

Dr. Charles Roberts received the Leadership Award.

## GRANTS AWARDED\*

**Dr. Dale Gawlik** received a \$94,430 grant from the U.S. Army Engineer Research & Development Center to study *“Wading Bird Colony Location, Size, and Timing in Lake Okeechobee”*; \$59,650 from Everglades National Park for FAU’s Environmental Sciences Everglades Fellowship Program; and \$23,600 from the Joseph W. Jones Ecological Research Center for the Jones Ecological Center Graduate Student Support (JWJERC).

**Dr. James Hartmann** received \$219,896 from Tapimmune Pharmaceuticals for *“Immune Monitoring for Study Protocol”*.

**Dr. Marguerite Koch-Rose** received \$40,000 from the South Florida Management District for *“Seagrass Die-Off in Florida Bay: Microsensor Study”*.

**Dr. Sarah Milton** received \$4,353 from the FAU foundation for *“Climate change interactions that impact sea turtle nesting beaches”*.

**Dr. Jeanette Wyneken** was awarded \$19,500 from FAU Foundation for *“Measuring Nest to Surf Mortality in Loggerhead Sea Turtles”* and \$2,600 from National Geographic Society for *“Methods to Satellite Tag Neonate Flatback Turtles”*.

**Dr. Mare Cudic** received \$205,756 from the National Institutes of Health for *“Novel Synthetic Tools for Mucin Glycobiology”*.

**Dr. Greg Fields** received \$270,125 from the National Institutes of Health to study *“Mechanism and Inhibition of Collagenolytic Activity”*.

**Dr. Xavier Comas** received \$11,374 for *“Luquillo CZP: The role of hot spots and hot moments in tropical landscape evolution and function of the critical zone”* from the University of New Hampshire.

**Dr. Frederick Hoffman** received \$17,994 for *The Forty-Sixth and Forty-Seventh Southeastern International Conferences on Combinatorics, Graph Theory and Computing* from the National Security Agency.

**Dr. Mario Milman** received \$7,000 from the Simons Foundation to study *“Sobolev Inequalities and Isoperimetry”*.

**Dr. Markus Schmidmeier** was awarded \$7,000 from the Simons Foundation for his work, *“A Degeneration Problem for Invariant Subspaces”*.

**Dr. Rainer Steinwandt** received \$26,250 from the United States Air Force for his work on *“Quantum Technology, High-Speed Encryption and Global Analysis of Networks”*.

**Dr. Erika Hoff** was awarded \$612,652 from the National Institutes of Health for *“Early Dual Language Development in Children from Spanish-Speaking Families”*.

**Loisa Kerwin** received \$169,960 from the South Florida Water Management District to support the Riverwoods Field Lab.

**Dr. Colin Polsky** was awarded \$4,000 from Oak Ridge Associate Universities to support FAU’s 2016 Sea-Level Rise Summit.

**Dr. Rodney Murphy** received \$43,695 from Max Planck for Integrative Biology and Neuroscience (IBAN); a joint graduate program between Max Planck Florida Institute and FAU and also \$20,050 from Scripps Florida.

**\*To include your grant in this section, please forward the information to Mary Beth Mudrick, [mmudric1@fau.edu](mailto:mmudric1@fau.edu).**

## GRANT FACILITATOR SERVICES

**The Division of Research** announces grant facilitation services for FAU investigators. Grant facilitators can assist investigators in a number of ways, including:

- Finding Funding
- Building a Team
- Strengthening Your Proposal
- Identifying Peer Reviewers

Grant facilitators are assigned to individual colleges/units. If you are interested in assistance, please contact the Division of Research to find the appropriate facilitator 561.297.0777 or [fau.research@fau.edu](mailto:fau.research@fau.edu)

## FUNDING OPPORTUNITIES

### 2017 SEARLE SCHOLARS PROGRAM CALL FOR NOMINATIONS

Due: June 27

The Searle Scholars Program is a **limited competition** supporting outstanding junior faculty in their first or second year, who were appointed as tenure-track assistant professors on or after July 1, 2015, and are pursuing independent research careers in biochemistry, cell biology, genetics, immunology, neuroscience, pharmacology, and related areas in chemistry, medicine, and the biological sciences. This program doesn't typically fund purely clinical research; it has supported research programs that include both clinical and basic components.

Applicants with the potential to make innovative and high-impact contributions to research over an extended period of time are of greatest interest. This is a scholar start-up award, not a typical NIH or NSF-style project grant.

To view a sample application, click [here](#). This is for reference only prior to submitting an internal application. For more information, click [here](#).

### INTERNATIONAL RESEARCH SCHOLARS

Due: June 30

The Bill & Melinda Gates Foundation, The Howard Hughes Medical Institute, The Wellcome Trust and The Gulbenkian Foundation are jointly holding a competition to award grants to outstanding early career scientists working outside the United States and other G7 countries. For details, click [here](#).

### GATES FOUNDATION AQUACULTURE

Due: June 30

The Blue Economy Challenge: Launching a Blue Revolution for Aquaculture. This challenge aims to find solutions to three important issues of aquaculture, including rethinking feed. For details, click [here](#).

### NIH DIRECTOR'S PIONEER AWARD PROGRAM

Due: Sept. 2

This NIH award initiative supports individual scientists of exceptional creativity who propose pioneering approaches to addressing major biomedical or behavioral challenges that have the potential to produce an unusually high impact on enhancing health, lengthening life, and reducing illness and disability. To download the RFP, click [here](#).

### NEW INNOVATOR AWARD PROGRAM

Due: Sept. 9

This NIH initiative supports a few early stage investigators of exceptional creativity who propose highly innovative new research approaches that have the potential to produce a major impact on biomedical and behavioral research. To



download the RFP, click [here](#).

### NIH RESEARCH PROJECT GRANT

Multiple deadlines

The NIH Research Project Grant supports a discrete project in areas representing the specific interests and competencies of the investigator(s) in one or more interest areas of participating agencies, including the National Institute on Aging, National Institute of Mental Health and the National Institute on Alcohol Abuse and Alcoholism. To read the RFP, click [here](#).

For More Funding Opportunities Like These:

Visit the Division of Research funding opportunities [page](#).

### EXPLORE SPRINGBOARD

#### HAVE A SMALL PROJECT THAT NEEDS FUNDING?



Consider using FAU's "Springboard". 30, 60, and 90-day time lines let you set up a campaign and "share" it inside and outside of the university. Put your network to work! Find out more [here](#).

"Supplies for Sea Turtles" was successfully funded. View it [here](#).

"Our Land Remembered" summer camp was successfully funded. View it [here](#).

"Mini Math Day" is still in progress. You can contribute [here](#).

### COLLEGE OF SCIENCE EVENTS

Visit <http://science.fau.edu/> daily for our up-to-date calendar of events. Don't see your events listed? Let us know: [mmudric1@fau.edu](mailto:mmudric1@fau.edu)

### WE WANT YOUR NEWS!

If you have any news you would like to include in future editions of *Science Connect*, please email Mary Beth Mudrick, [mmudric1@fau.edu](mailto:mmudric1@fau.edu).

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