

# Sigma Xi Today

A NEWSLETTER OF SIGMA XI, THE SCIENTIFIC RESEARCH HONOR SOCIETY

## Important Upcoming Dates for Sigma Xi

**DECEMBER 2019:** Consider making an end-of-year gift to Sigma Xi to support a strong research enterprise, integrity in science and engineering, and the public's understanding of science. [www.sigmaxi.org/give](http://www.sigmaxi.org/give)

**HAPPY HOLIDAYS:** Sigma Xi wishes you and your family a joyous holiday season and a happy new year!

**MARCH 1:** Chapter leaders may apply by March 1 for funding from Sigma Xi headquarters to support their programs and events. [www.sigmaxi.org/chapter-grants](http://www.sigmaxi.org/chapter-grants)

**MARCH 6:** Students in high school through graduate school may submit an abstract by March 6 to compete in the online Student Research Showcase in April. [www.sigmaxi.org/srs](http://www.sigmaxi.org/srs)

**MARCH 15:** Undergraduate and graduate students may apply by March 15 for research funding from the Grants in Aid of Research program. [www.sigmaxi.org/giar](http://www.sigmaxi.org/giar)

**SPRING INDUCTION CEREMONIES:** Current Sigma Xi members and chapter officers can nominate qualified individuals for membership in the organization. [www.sigmaxi.org/become-a-member](http://www.sigmaxi.org/become-a-member)

**SAVE THE DATE:** The Annual Meeting and Student Research Conference will be held November 5–8, 2020, in Alexandria, Virginia.

Sigma Xi Today is  
edited by Heather Thorstensen  
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## Mentoring for Success

There is considerable buzz about mentorship in science, technology, engineering, and math (STEM). Departments are assigning new hires a more senior staff or faculty member, students are encouraged to find a mentor for career advice, and funding agencies increasingly require a mentorship plan for graduate students and postdocs involved in a proposed funding project. Mentoring has always been a centerpiece of Sigma Xi's mission, and members can help carry on this tradition!

Mentorship can take several different forms. The mentor may coach the mentee for a short-term task or may be an advocate with award nominations, promotions, or new job opportunities. Both are less time intensive than the more traditionally viewed, long-term mentorship. All roles are invaluable to the mentee and can be served by one or several mentors. In all cases it is valuable to set expectations on time commitment.

But first, what factors contribute to effective mentorship? First and foremost is trust, which may take time to build, given the confidential nature of the partnership. Build trust with consistency, confidentiality, reflective listening, and respect. Open-ended questions designed to encourage meaningful responses are especially effective.

Effective mentorship is mutually beneficial to both the mentee and mentor. The benefits to the mentee are many: assistance in making career choices, adjusting to a new position, learning about the formal and informal workings of the organization, and connection to the mentor's network. For the mentor, the benefits include learning the views of others less senior, sharing insights, improving interpersonal advisory, supporting skills in a safe environment, and passing the torch to the next generation.

Effective mentorship fosters independence and self-confidence in the mentee. A long-term mentor is a guide. The mentee should not expect to receive solutions to a career-related problem or directives on where his or her career should go. It's also important that the mentee takes responsibility for selecting topics to be discussed, rather than relying on the mentor to develop a discussion agenda.

"Will you please be my mentor?" is not an easy ask if you don't know the potential mentor well. A way of "testing the waters" is to reach out to someone to play the role of coach or advocate, and if that works well, the relationship could evolve into a long-term mentorship. Although there is a tendency to choose a mentor who is similar in gender identity, race, and ethnicity, there is value in finding a mentor who might provide a very different perspective. Near-peer, peer-mentoring, and mentorship networks can also be invaluable, especially with those in underrepresented STEM groups.



Geraldine Richmond

*Geraldine Richmond*  
Geraldine Richmond

## Grants in Aid of Research Recipient Update: Matt Napolitano

**Grants:** \$991 in spring 2018 and \$1,000 in spring 2019

**Education level at the time of the grants:** PhD student

**Project:** Human dispersals across Remote Oceania were some of the most remarkable long-distance voyages in history. Recent collaborative and interdisciplinary research has focused on the timing, drivers, and complexity of these voyages and has enhanced our understanding of these movements. Many questions about the homelands of the island colonizers, however, as well as the environmental conditions during initial settlement remain unanswered. This is especially true for Yap, a group of four small islands between Palau and the Mariana Islands in western Micronesia. Multiple conflicting lines of evidence have resulted in major discrepancies that place the colonization of Yap between 3,300 and 2,000 years ago. We understand even less about the original homeland of the first Yapese. This study attempts to trace evidence for Yap's early settlement by conducting an archaeological survey and excavation as well as reconstructing sea-level position and local ecological conditions 3,000 years ago and how they changed over time. In doing so, this study will expand our understanding of early Yapese settlement patterns and may identify or rule out a point of origin for Yap's colonization. These data will allow the research team to test models of the dispersal and dynamics of human colonization in the western Pacific.

**How the project influenced Napolitano as a scientist:** "Prior to this project, I did not have much experience with science communication," Napolitano said. "I helped develop a comic book, *Footprints of the Ancestors: Looking for Archaeological Evidence of Early Settlement on the Islands of Yap*, with archaeological illustrator John Swogger that shares the results of my fieldwork with



Sigma Xi member and grant recipient Matt Napolitano

general audiences at home and on Yap. This project has taught me invaluable ways of involving the general public who want to know more about this type of research."

**Where is he now?** In November 2019, Napolitano traveled to Yap, where he shared the comic during talks in schools and participated in workshops about how to draw comics. After the trip, he planned to return to the University of Oregon to analyze his data and write his dissertation.

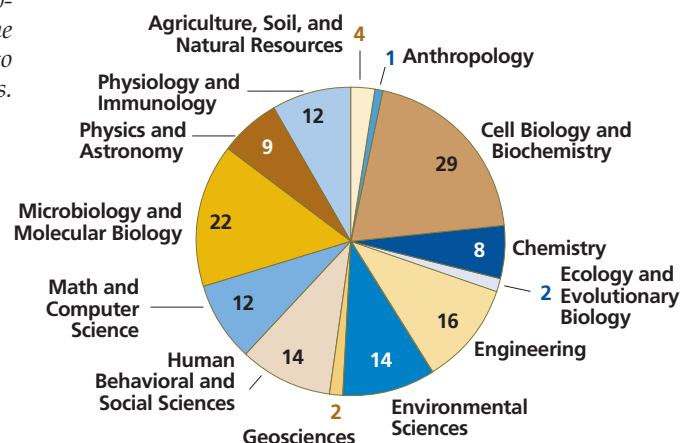
## Call for Abstracts: 2020 Student Research Showcase

High school, undergraduate, and graduate students who would like to participate in a competition to explain their research may submit an abstract by March 6 for the 2020 Student Research Showcase. This online competition builds science communication skills that enable students to convey the value of their work to technical and nontechnical audiences. Learn more at [www.sigmaxi.org/srs](http://www.sigmaxi.org/srs).

### 2019 Student Research Showcase

**145** students  
**13** research categories  
**30** judges  
**\$2,250** prize money

### 2019 STUDENTS PER CATEGORY





## Sigma Xi Installs New Chapter at Nova Southeastern University



From left: Chapter secretary Victor Lopez, Nova Southeastern University Vice President of Research and Technology Transfer Gary Margules, chapter founding member Emily Schmitt Lavin, chapter vice president Avidor Gerstenfeld, chapter president Veronica Fortino, and chapter student representative Allan Barraza celebrate at the installation ceremony of the Nova Southeastern University Sigma Xi Chapter.

On September 19, Sigma Xi installed its newest chapter at Nova Southeastern University (NSU) in Fort Lauderdale, Florida. The ceremony celebrated the new chapter's officers and members and showed appreciation for the support they have received from university leaders and nearby Sigma Xi chapters.

NSU osteopathic medical student Avidor Gerstenfeld, the chapter's vice president, helped to create the new chapter. While working on a re-

search project early in his undergraduate term with Emily Schmitt Lavin, a professor and chair of the biology department who later became a founding member of the new NSU Sigma Xi chapter, Gerstenfeld noticed that his classmates wanted more opportunities for research projects like his. He said the Sigma Xi chapter will address this need by connecting and developing young researchers. It will also bring together other chapters and research communities on and off campus at

NSU, which is a federally designated Hispanic-Serving Institution.

The chapter's three-year plan calls for connecting students with renowned faculty, developing skills that students can use to obtain research opportunities and funding, and facilitating opportunities for professional development.

"The excitement of the local Sigma Xi chapters and the NSU research community has been amazing," Gerstenfeld said.

## Chapter Honors 2019 Ferst Award Recipient

The Georgia Institute of Technology Sigma Xi Chapter in Atlanta hosted a symposium on November 8 to honor engineer Nicholas A. Peppas for his contributions to research through his efforts to mentor and support several generations of graduate students.

Peppas is the 2019 recipient of the Sigma Xi Monie A. Ferst Award, which is sponsored by the chapter. The award consists of \$10,000, a medal, and a day-long symposium focused on the achievements of his former graduate students and collaborators.

The Cockrell Family Regents Chair in Engineering and a professor of biomedical engineering and chemical engineering at The University of Texas at Austin, Peppas is a leading researcher and inventor in the fields of biomaterials, drug delivery, and therapeutic protein-controlled release. He is also a Sigma Xi member.

He has supervised the theses of 115 doctoral students and has been the research mentor of 990 postdoctoral

associates, visiting scientists, graduate students, and undergraduate students who have worked in his laboratories and in the Institute for Biomaterials, Drug Delivery, and Regenerative Medicine, of which he is director.

"I believe that education is a continuous process that never stops," Peppas said. "I teach my students, who affectionately call themselves *Peppamers*, to study the fundamentals of their profession and to use their enthusiasm and creativity to achieve their goals and to improve the quality of life of our citizens and our patients through their successful contributions to science."



Nicholas A. Peppas