Position: University Administrative Fellow (UAF), Education Outreach and Science Communication at the Princeton Center for Complex Materials (PCCM)/Princeton Institute for the Science and Technology of Materials (PRISM)

Position Start Date: Negotiable, based on candidate preference

Position End Date: January 25, 2020

Applicants should submit a brief cover letter and resume via email to Dan Steinberg (dsteinbe@princeton.edu)

Reporting To: Dan Steinberg, Education Director

Do you believe that we can improve people’s lives and the world through science, technology, engineering and mathematics (STEM)? Are you called to help the general public have a deeper and better appreciation of STEM? Do you believe that people’s race, gender, culture or sexual orientation should not be a barrier to learning STEM? Do you love sparking the interest of young people in learning STEM? Are you passionate about helping individuals with disabilities succeed in science and engineering? Are you drawn to the intersection of science and the arts? If so, come work with us on the Education and Outreach (EO) team at the world-renowned Princeton Center for Complex Materials (PCCM)/Princeton Institute for the Science and Technology of Materials (PRISM)!

Learning objectives:

As a member of our team, you will support the PCCM/PRISM’s mission of improving public understanding and appreciation of STEM. We plan and organize multiple EO efforts throughout the year to improve the public understanding and appreciation of STEM, ranging from: science festivals (e.g. Dia de la Ciencia); public lectures (e.g. Holiday Lecture); summer academies for minority students in the region (e.g. PUMA); diversity focused conferences (e.g. IsLAND); public-scientist interactions; and research experiences for high-school and undergraduate students. Through our programs and events we seek to increase the participation of under-represented minority (URM) populations in STEM. Every year, we reach thousands of people and connect students, teachers, and the community to award-winning scientists and engineers and cutting-edge advances in materials science. Our initiatives involve scientist and engineer volunteers from industry, faculty, post-doctoral students, graduate students, undergraduates, and staff from Princeton University and partner organizations across the region. We also evaluate, improve and disseminate our initiatives.

We offer a wide range of different STEM outreach projects you may explore, which help students, teachers and the public connect to the Princeton University’s cutting edge research and top scientists, engineers and researchers:

**Project 1: Diversity initiatives in Science, Technology, Engineering and Mathematics (STEM).**

Do you believe that people’s race, gender, culture or sexual orientation should not stop them from having opportunities to understand and appreciate STEM? In this portfolio, you will collaborate with the education director, community partners and others, to help organize opportunities for Princeton University researchers to interact with the general public and K-12 audiences, with a focus on engaging URM populations. This may include our bilingual Dia de la Ciencia weekend to reach all members of our local community, with a focus on the Latino/Latina population.

**Project 2: K-12 STEM programs for under-served URM students in the region**
Do you love STEM and seek to help spark the interest of young people in science and engineering? In this project, you will collaborate with the education director, community partners and others to organize and evaluate K-12 education programming. This may include the Princeton University Materials Academy (PUMA) which engages truly under-served URM high-school students, in Trenton and Princeton, with cutting-edge materials science and engineering research and scientists.

**Project 3: STEM outreach initiatives to individuals with disabilities**

Are you passionate about access and inclusion of individuals with disabilities in science and engineering education and workplaces? You will collaborate with the education director, community partners such as a National Federation of the Blind New Jersey, and others, to organize opportunities for PCCM/PRISM researchers to bring hands-on science learning to K-12 students with disabilities, such as those who are blind and low vision. This population of learners is highly under-represented within the STEM fields of study and often discouraged from pursuing hands-on science learning. Outreach events may include workshops in collaboration with the National Federation of the Blind and the IsLAND conference.

**Project 4: Science, Technology, Engineering, Arts and Mathematics (STEAM) initiatives for the general public and K-12 audiences**

Are you drawn to the intersection of science and the arts, whether it is the stories of great scientists and engineers, or wearable electronics? In collaboration with the education director, community partners and others, you will help support and expand initiatives at the nexus of STEM and the fine arts. This may include, various STEM-on-stage performances like Humanity Needs Dreamers: A conversation with Marie Curie, Mary Shelley – a Living History, Frankenstein Day, as well as collaborations with internal and external partners such as the Princeton Council for Science and Technology, the award-winning Princeton Public Library and the McCarter Theatre.

**Project 5: Science Communication and Education (ScENe) workshops.**

Do you enjoy helping others engage in professional development? Researchers receive many invitations, formal and informal, to speak with general audiences. These range from expert panels, to talks for community organizations, and in the media. ScENe workshops introduce young researchers at Princeton University to best practices in communicating science, during face-to-face interactions with the general public. You will work with the education director to help with all aspects of planning and delivering (ScENe) workshops to undergraduate students, graduate students, and post-doctoral fellows from the PCCM/PRISM as well as other departments. The workshop format consists of a series of guided discussions and activities. The fellow will be provided training to facilitate these tasks.

**Learning objectives:**

You will impact the broader community through education programming, university-community partnerships which engage the public and URM populations in STEM, and effective communication. Given the importance of broader impacts in research grant applications, this portfolio is expected to strengthen candidacy for faculty positions, and open career possibilities in administration, industry, and in the field of education and outreach.

Reporting to the Education and Outreach Director, you will learn how EO offices function to support university-community partnerships. You will dive into EO pedagogy, programming and evaluation, and gain experience in developing and organizing a range of EO programs for a broad audience (students from K-12 to graduate level and the general public). You will have opportunities to plan and deliver one or more EO initiatives, in collaboration with the EO team and partners. You will provide creative input on your project(s).
You will also attend meetings, and represent the EO office to university and community partners. In addition, you may have other duties as assigned in collaboration with PCCM/PRISM.

About Us

The PCCM/PRISM pushes the frontiers of materials science, and seeks to bring the excitement of materials research to the larger community, so that we may inspire and engage new generations to study science and engineering.

Established in 1994, we are one of only 21 Materials Research Science and Engineering Centers (MRSECs) across the United States, along with academic institutions such as Massachusetts Institute of Technology, University of Pennsylvania, Harvard University, Pennsylvania State University, New York University, and Columbia University. We are funded by the National Science Foundation (NSF) through a highly competitive process. We conduct “interdisciplinary and multidisciplinary materials science research and education of the highest quality, while addressing fundamental problems in science and engineering that are important to society”. Our faculty of scientists and engineers are world leaders in their fields, who are pushing the boundaries of materials science through excellence in interdisciplinary science and engineering research.

The Education and Outreach Office (EOO) supports the PCCM/PRISM and Princeton University mission of growing interest in Science, Technology, Engineering and Mathematics (STEM) across the nation, increasing the diversity of STEM and improving STEM education. We:

- help scientists and engineers engage the public’s interest in materials science and engineering (MSE) and STEM research
- assist researchers with the broader impact requirements of many research grant proposals, such as NSF proposals
- serve as a resource for MSE and STEM education and outreach within the Princeton and surrounding communities, and in the region

Daniel Steinberg

A former operations astronomer for the Hubble Space Telescope at the Space Telescope Science Institute, Dan Steinberg holds a Ph.D. in geophysics from Binghamton University. He is the education director for the Princeton University Materials Research Science and Engineering Center (MRSEC) and the Princeton Institute for the Science and Technology of Materials. Dan is the creator and leader of dozens of educational initiatives working with materials scientists and engineers to bring science, technology, engineering and math (STEM) to a broad public each year, including K-12 teachers and students, undergraduates and families.