

## **Workshop on Proposal Writing Skills for Scientific User Facilities**

### **At the 11th African Materials Research Society Conference**

**Dakar, Senegal, December 10-11, 2022**

**Organizer:** Zachary D. Hood, Materials Scientist at Argonne National Laboratory

**Co-organizer:** Abdou Lachgar, Professor of Chemistry, Wake Forest University, Center for Energy, Environment and Sustainability

**Title:** Proposal Writing Skills for Scientific User Facilities

**Date and time:** Saturday Dec. 10 (9:00-12:30 and 14:00-15:30), Sunday Dec. 11 (13:00-18:30)

#### **Workshop Description and Objective:**

Proposals are critical in science; however, most if not all senior-level undergraduate and graduate-level courses overlook teaching practical skills in proposal writing. There is a very big difference between learning to write proposals and learning to write successful proposals. In this workshop, you will not only learn how to write an effective proposal, but more importantly learn how to write successful proposals. Participants in this workshop, will develop proposal writing skills by preparing a 2-page proposal to access Scientific User Facilities both in the United States and in Europe. You will learn strategies to prepare proposals that detail an experiment (or series of experiments) to be performed at a Department of Energy (DOE) Scientific User Facility and/or a European User Facility. Many of these user facilities provide free access to complete high-level experiments and characterizations upon successful review of a proposal. In fact, some of these facilities may be of use to students during graduate studies. This workshop will 1) expose participants to Scientific User Facilities in the United States and Europe, 2) teach participants how to write effective user proposals, and 3) show participants how user proposals are generally reviewed. More specifically, participants will choose a User Facility and prepare a proposal that describes one or more experiments that will advance our fundamental chemical and physical understanding of a specific material for a defined application. Prior to the workshop, participants will be provided readings on the most recent perspective and review articles from the following academic journals: [Chemistry of Materials](#), [Accounts of Chemical Research](#), [Chemical Reviews](#), [JMCA](#), [JMCA](#), [JMCC](#), [Nature Materials](#), [Nature Energy](#), and [Nature Catalysis](#).

#### **Sample topics include materials for the following applications:**

- Biomaterials & Materials for Health
- Materials for Water & Environmental Monitoring
- Materials for Agriculture
- Materials for Energy
- Materials for Mining & Manufacturing
- Nanomaterials, Quantum Materials, Photonic Materials, & Nanotechnologies
- Computational Materials Science
- *A topic of your choice*

**Participation:** About 30-participants (max)

**Audience:** Undergraduate, Graduate, Postdoctoral/Postgraduate, Faculty

Due to the interactive nature of this workshop, the organizers designed the program for a limited number of participants. This workshop is particularly ideal for graduate students, postdoctoral/postgraduates, or faculty members who are interested in learning about Scientific User Facilities in the United States and Europe as well as the proposal writing and review process. Participants from all branches of science and engineering are invited to apply for participation in the Workshop. Women candidates are strongly encouraged to apply. Participants are expected to register at least two weeks before the workshop. They must choose a specific topic and complete 1) a GoogleForm, 2) a pre-proposal survey, and 3) suggested readings prior to the workshop. Participants are expected to attend all sessions on both days.

## **Tentative Agenda: “Proposal Writing Skills for Scientific User Facilities” Workshop**

### **To be completed before the workshop (by December 8, 2022):**

1. **\*\*Complete a GoogleForm that includes the following information:**
  - Name, Institution, Nationality
  - Stage of career (undergraduate, graduate, postdoctoral, professor, etc.)
  - Materials of interest
  - Description of what you hope to from this workshop (3-4 sentences)
  - Description of what you hope to learn about your chosen topic (3-4 sentences)
2. **\*\*Background reading on Scientific User Facilities**
3. **\*\*Pre-proposal survey**

### **Workshop agenda (December 10, 2022):**

9:00 – 9:30	Introduction, review of pre-proposal survey, organization of material teams (3-4 participants per team)
9:30 – 10:00	Discussion with team members to decide on a specific topic
10:00 – 10:30	Share material with participants of the workshop
10:30 – 11:00	Coffee break
11:00 – 12:30	Interactive lecture on proposal writing and overview of the proposal writing canvas
12:30 – 14:00	Lunch break
14:00 – 15:30	Interactive session with the proposal writing canvas, research at scientific user facilities, and feedback to students

**[Submit proposals by 12 pm local time on Dec. 11, 2022]**

### **Workshop agenda (December 11, 2022):**

13:00 – 14:00	Interactive peer review session
14:00 – 14:30	Share reviewer feedback
14:30 – 15:30	Preparation for group presentation
15:30 – 16:00	Coffee break
16:00 – 18:00	Presentation and defense of proposals (~10 minutes/team)
18:00 – 18:30	Certificate of completion

### **To be completed after the workshop (by December 20, 2022):**

1. **\*\*Post-proposal survey**

*\*\*To be provided by the organizers via e-mail*