

# Research Experiences for Teachers Sites in Biological Sciences (BIORETS)

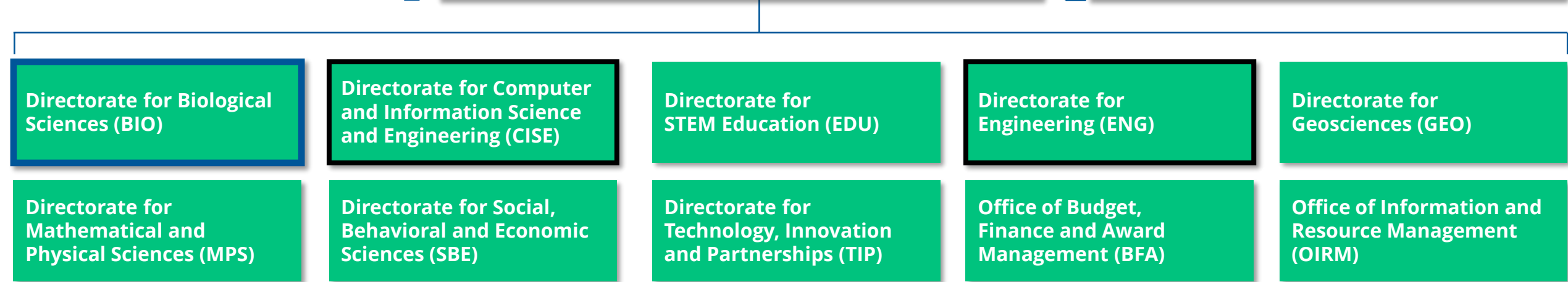
Sally O'Connor, Division of Biological Infrastructure (DBI)

Arcady Mushegian, Molecular and Cellular Biosciences (MCB)

Aruna Kilaru, Integrative Organismal Systems (IOS)

Catherine O'Reilly, Division of Environmental Biology (DEB)

Email: [biorets@nsf.gov](mailto:biorets@nsf.gov)



**BIO, CISE and ENG Directorates offer RET Sites program**



# **BIORETS Research Experiences for Teachers in the Biological Sciences**

---

## **NSF 21-584: Read thoroughly and follow instructions in preparing proposals**

- **Title must start with “BIORETS: ...” and includes theme**
- **Project Summary – list of Project Elements**
- **Project Description – prescribed sections a thru l**
- **Supplementary Documents: required Letters of Collaboration**
- **Up to 12 Biosketches; 12 Current & Pending Support**



# BIORETS Research Experiences for Teachers in the Biological Sciences

---

## Budget – up to \$600k for up to 3 years

- **Participant Support Costs – majority of budget; no IDC**
  - **Teacher stipends**
  - **Teacher subsistence and travel, if needed**
  - **Research materials and supplies**
- **Travel costs to a PI meeting (every 2 years)**
- **Prohibited: charging program application fee; tuition**
- **Evaluation costs should be budgeted**
- **Indirect costs – no cost sharing allowed**



# BIORETS Research Experiences for Teachers in the Biological Sciences

---

## What is BIORETS about?

- Cohort training of teachers/faculty – middle school; high school; community college
  - Teachers – **independent research** in an area under the purview of NSF BIO; discovery of new knowledge
  - Minimum 6 teachers per cohort; Minimum 6 weeks in summer + additional weeks in AY
  - Professional development of teachers
- Project – intellectual/research theme
- **Development of curricula/modules for classroom**
- Evaluation of program





# BIORETS Research Experiences for Teachers in the Biological Sciences

---

## Additional considerations

- Strong emphasis on targeting urm teachers or those from schools serving large number of urm students
- Diversity, Equity & Inclusion (DEI) training must be included
- Forging a strong scientific relationship between host institution and schools/school districts
- Evaluation of program – efficacy of program; impact on classroom teaching; impact on student learning; continued/sustained interaction between teacher and host lab scientists



# BIORETS Research Experiences for Teachers in the Biological Sciences

---

## Additional Review Criteria: Intellectual Merit + Broader Impacts + Solicitation-specific criteria (7)

### **1. Research and Professional Development Experience for Teacher**

**Participants:** Appropriateness and value of the research and professional development experience for the teachers, nature of their involvement in the project, professional development of teachers, and plans for follow-up academic-year activities.

**2. Research Environment:** Quality of research environment, preparedness of the research mentors, the engagement of research-active faculty/other personnel, professional development opportunities available to the teachers. BIORETS aims to increase participation of underrepresented groups - project should be designed to ensure inclusivity and a safe environment for all participants.



# BIORETS Research Experiences for Teachers in the Biological Sciences

---

## Additional Review Criteria: Intellectual Merit + Broader Impacts + Solicitation-specific criteria (7)

- 3. Teacher Recruitment and Selection Plans:** Appropriateness of the teacher recruitment and selection plans, including efforts to include teachers from schools with high proportions of students from underrepresented groups, or teachers from groups underrepresented in STEM. ETAP use is strongly encouraged.
- 4. Translation of Research Experience to Classroom Curricula and Academic-year Follow-up:** . Quality of the plans for development and dissemination of classroom curricula, and follow-through activities to foster continued interactions between teachers and research mentors.





# BIORETS Research Experiences for Teachers in the Biological Sciences

---

## Additional Review Criteria: Intellectual Merit + Broader Impacts + Solicitation-specific criteria (7)

- 5. Project Evaluation and Reporting:** Effectiveness of the plans for evaluating and reporting the outcomes of the project. Evaluation to include impact on teaching; student learning; interaction between teachers and mentors. Use ETAP.
- 6. Budget Cost Effectiveness:** Majority of costs on Participants
- 7. Results of Prior Support, if renewal:** For renewals of previously funded RET Sites: effectiveness of the previous site.





# Questions?

