LTER Higher Education Group

January 10, 2018

1. Undergraduate (primarily REU) programming ideas
   1. Supporting sites’ REU and other undergraduate programming by sharing resources and best practices.
      1. Mentor training.
      2. Recruitment.
      3. Program design and implementation.
      4. Assessment and research about participants.
   2. Enhancing the experience of students in existing LTER-based REU programs.
      1. Coordinating LTER undergraduate student exchanges (virtual, physical) to build understanding of the broader LTER context of their work and foster interest in LTER for graduate school.
      2. This could culminate in bringing students to the ASM.
      3. The could entail virtual exchanges among students across sites for professional development and cross-LTER cohort-building.
      4. Participants could include
         1. Individual students with REU supplement support
         2. Students participating in LTER-based or associated REU Site programs
   3. Coordinating existing REU projects for cross LTER site research.
      1. Option 1 - Gather topics and projects being offered to undergrads at LTER sites via REU site, supplement and core LTER grants and other sources to identify possible areas of overlap, synergy and/or coordination. We could then identify common topics for sharing and/or coordination across sites. Ultimately, this could lead to new proposals for coordinated research across sites with undergraduates. I have started a google sheet in the Cross-Site REU folder called LTER REU Programs for 2018 and populated it with information for the two REU slots BES is offering this summer.
      2. Option 2 – Identify common themes for cross-site REU coordination and recruit participating mentors and sites. Kay Gross and Julie Doll (KBS) have drafted a proposal for this option, see Cross-site LTER projects from Kay and Julie.
   4. Developing new cross-site REU programs. Ideas and models we’ve discussed include:
      1. Partnering across LTER, NEON, Field Stations and Marine Labs, ESA.
         1. From Teresa: NEON’s INCLUDES workshop proposal. You may be aware that NEON is planning to lead an INCLUDES workshop proposal on data science skills (Big Data Skills in Ecological and Environmental Sciences Conference: Recruitment, Training and Retention of Underrepresented Groups in Data Science Careers) and might be involved in it.  I see Wendy included here. I will be involved as well. We could think about connecting with that effort (although that’s not happening till 2019 if funded).
      2. Planning workshop proposal, e.g., the Digital STEM Learning Environments Dear Colleague Letter (deadline for workshop proposals: January 22, 2018)

<https://www.nsf.gov/pubs/2018/nsf18017/nsf18017.jsp?WT.mc_id=USNSF_25&WT.mc_ev=click>

* + - 1. Aaron – a workshop on using technology for cross-site REU programming.
      2. From Teresa (10.26.17): This is indeed an intriguing opportunity.  I would love to see a design workshop on how to run virtual cross site REUs. I imagine this would not be based so much on students collecting data at a field station but on using existing LTER data to generate and investigate questions. For too long, I have heard that many students do not have the opportunity to participate in residential summer experiences for a variety of reasons. Some students cannot leave their families for long periods and others need to work during the summer etc.   I think it would be very helpful to ask what type of experience a virtual REU might look like, what technology and administrative infrastructure is required, what mentoring supports are needed, what potential there might be to engage faculty along with students at their institutions etc. Seems there is a lot of scope for cross-site collaboration on building essential data skills among students, for thinking about tools that might be needed, shaping engaging learning environments that motivate students to pursue a career in ecology etc.
    1. A distributed REU blending field-data collection and working with existing data.
       1. From Teresa: In ESA’s INCLUDES pilot project … I am working with TWS on a limited virtual REU. We will identify 3-4 students to travel to the mentor site for 2-3 days. Then students will be working remotely using TWS data to answer policy /management questions. They will present findings in DC to TWS policy staff and possibly decision-makers.  So that’s one approach.
       2. From Marty: This is an intriguing idea, Teresa. I'll run it by our data science team here and see if there's any role they see for themselves in it. I've also reached out to the Palmer folks -- who, as I recall--do something along these lines for their REUs. It strikes me as a better fit for an academic-year REU opportunity -- as most LTERs are flat out with field work in the summer and I worry that a data experience might get short shrift.  Or maybe we could try pairing a field REU with a data REU -- so they would at least get a vicarious field experience. Although we'd have to be really careful to avoid the appearance of a difference in status. I can think of a few advantages of that kind of arrangement:
          1. reduce isolation of off-site REUs
          2. provide near real-time feedback on the quality and content of the data being collected
          3. huge help in teaching about the complexities of data collection
       3. From Caitlin. It does sound like it might be a natural extension of the [Sci-I programs](https://polar-ice.org/educator-resources/sci-i-workshops/).... It would be great to expand that model to more sites and older students. I think there is definitely an interest in more data-driven experiences, particularly of the open-ended variety. If there was a way to pair with a field experience, that could be really cool and meaningful! I'm definitely interested in the possibilities.
       4. From Teresa: Good to know we have a working model to draw from! And yes, I agree, Marty.  The remote research I am planning with TWS is also going to be semester long as well. We should explore that option for sure. And perhaps even have their institutions allow course credit.  Love the thought of pairing with field experience if we can figure that one out. I was also thinking of the EcoTrends project which pulled together all the LTER data into a single portal. Is that still in operation? That might be a good resource for something like this.

1. Graduate
   1. NSF Research Traineeship (NRT) Program – letter of intent due Nov 25, 2019
      1. FAQ

<https://www.nsf.gov/pubs/2018/nsf18019/nsf18019.jsp?WT.mc_id=USNSF_25&WT.mc_ev=click>

* + 1. RFP

<https://www.nsf.gov/pubs/2018/nsf18507/nsf18507.pdf>

* + 1. Ideas
       1. Teresa: interdisciplinary training, data, INFEWS. Aaron? Involve ACS, AGU, AAA (Anthropology)
  1. AGEP – Teresa … focused on grad students, taking SEEDS to the next level post undergrad anchored in LTER