**Multi Department Activities**

Science Express-The Chemistry, Biological Sciences, Earth and Atmospheric and Planetary Sciences, and Physics Departments of the Purdue College of Science deliver research-grade instruments to high schools in 17 Indiana counties. Numbers for the month of June are as follows:

Teachers/Classrooms Visited – 0

Student/Instrument Interactions - 0

**Biology Outreach**

1). Scoring 2019 AP Biology Exam; Participated in the June 2019 College Board AP Reading, scoring the AP Biology Exam in Kansas City , Missouri. June 10th thru June 18th.

2). Grand Parents University: June 27th – June 28th.  Presented a Biology Class ‘ DNA: The molecule of Life’ to grandparents and their grandchildren at the Purdue annual “ Grand Parents University” program held on campus June27th and 28th 2019.

3). Community School of the Dunes: Continued discussions and collaboration with  Ms. Tammy Tiede, High Ability Teacher  at the Community School of the Dunes ( A private Charter School) about the development of their Outdoor Classroom site focused on the environment. This project will start in the fall of 2019 and continue throughout the school year 2019 – 2020.

4). Thea Bowman Charter School, Gary:  Biology Outreach was invited to meet with Science teachers at Thea Bowman Charter School Gary. They have a number of projects in mind. Ongoing discussions are now taking place. They are also considering rejoining Science Express.

**Physics Outreach**

Faculty Broader

Worked with two faculty (Dan Milisavljevic and Andrew Mugler) for the creation of broader impact segments on NSF grant submissions.

ICP Lessons

Sederberg, along with Zach Grigsby, met with teacher Cheryl Meyer to review progress for Science Express ICP lessons on the topic of forces.

Physics Inside Out

18 students participated in the annual program for 7th and 8th graders. This year’s program included the participation of 8 faculty members.

**Earth, Atmospheric, and Planetary Sciences Outreach**

* + *Goal 1:* ***Support for K-12 science and mathematics educators***
    - Teacher Professional Development
      * Lafayette Jefferson High School Technology workshop. This was a 2-week workshop in which teachers worked on incorporating new technologies into their curriculum.
      * IGNITE Lafayette Regional eLearning Conference presentations. Co-presented two sessions on How to Incorporate Lockbox activities into the STEM curriculum.
      * Presentation at the Literacy in a STEM World e-Learning conference. Co-presented a session titled: Science, STEM, and Literacy with GLOBE

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* + - Getting information out
      * We have a Facebook for EAPS Outreach <https://www.facebook.com/EAPS.out/>
    - Teacher Resources:
      * We have an EAPS K-12 Outreach Pinterest page to help teachers find resources in our content area.
  + *Goal 2:****Create and facilitate programs that develop scientifically literate K-12 students***
    - Co-facilitated sessions for the Purdue University Grandparents University.
      * We taught atmospheric science concepts to Purdue alumni and their grandchildren.
  + *Goal 3:****Create opportunities for broader impact***
    - Attended meetings for the **GLOBE U.S. Partner Forum**. Steven Smith (EAPS K-12 Outreach Coordinator) is the U.S. At Large Representative and Chair of the forum.
    - Collaborating with **Lafayette Jefferson High Schoo**l to offer a Technology workshop for teachers summer 2019 as part of the Title 4 grant that we co-wrote with them.
    - Collaborating with **Purdue Conferences** to offer Grandparents University.
    - Steven Smith is serving on the advisory board for **National Geographic Education** for Indiana

Additional outreach efforts this month included:

* Earned Amateur Radio Technician License
* Spent time organizing outreach lab and storage areas.

**Chemistry Outreach**

* Professional Development and Support for K-12 Educators
  + Met with Integrated Chemistry-Physics (ICP) teachers to begin planning the development of ICP lab kits for teachers to check out through the Science Express program.
  + Attended IGNITE: Lafayette Regional eLearning Conference.
  + Co-presented on the topic: Science Lock Box Activities at IGNITE: Lafayette Regional eLearning Conference.
  + Met with Emily Hintz, chemistry teacher, to discuss the project she will be completing during her assignment as a Summer 2019 Teacher Fellow with the College of Science.
  + Co-presented on the topic: Science, STEM and Literacy with GLOBE at Pendleton eLearning Conference.
  + Assisted Dr. Brooke Max, Department of Mathematics, with the workshop: Exploring Cognitive Demand of Mathematical Tasks and Assessments.
  + Placed orders for supplies related to the development of ICP kits through funding from Duke Energy.
  + Placed orders for supplies related to an upcoming teacher professional development: Integrating STEM in the Environment.
* Programs to Develop Scientifically Literate K-12 Students
  + Co-taught student participants of Purdue Conferences sponsored Grandparents’ University. Our session was titled Global Learning and Observations to Benefit the Environment and focused on Atmospheric Chemistry.
* Opportunities for Broader Impact
  + Participated with the Global Learning and Observations to Benefit the Environment (GLOBE) 2019 North American Regional Meeting (NARM) planning committee to help organize the meeting scheduled for this coming October at the University of California, Berkeley.
  + Received my Technician Class License through the American Radio Relay League (ARRL).

**Computer Science Outreach**

This year was the 23rd annual CS Summer Camp, and we ended up hosting 14 high school students and 24 middle school students during the week. A total of eight students, all African-American, came to us on scholarship from 21st Century Charter School in Gary, IN. We also had 11 girls in our group which gave us a better than average gender ratio. The kids learned about computer science and programming through old-fashioned board games and card games. We essentially presented some familiar games and broke down the problems within so that they could be programmed. Then we had students work in groups on their own games, using what they had learned to break down the games into pieces at an appropriate challenge level. We had several well designed Uno games, a Monopoly-style game (with restaurants replacing houses and hotels), and a really well-designed video game which involved the dodging of projectiles. The kids were really terrific all week and I was proud of all that they accomplished.

In addition to the positives from the camp for the campers, I will add that we had a local high school teacher, Zach McKeever, come to help me with instruction and that was a big bonus. He did a good job working with the kids, but also benefited from working with the camp counselors from our department that could help him think through some of the technical challenges he faced.

On top of all that, you’ll be happy to know that the kids did manage to solve the Clue-style crime that occurred during the week in which my ninth camp counselor, “Pete”, had been abducted. The kids and parents really got a kick out of the Purdue police captain that came to bring Pete to the luncheon, and they loved when the police officer “arrested” one of my counselors, our own Sean Flannery, who apparently had committed the crime.

As I mentioned above, next month will include a set of teacher workshops, and some of those overlap with work that I am doing for my graduate program. Dr. Aman Yadav and I are delivering the July workshop to K-8 teachers in New York City as part of a grant that he has with Hunter College to help teachers teach computational thinking skills. I’ll make sure to represent Purdue well at these sessions, and I appreciate your support in reaching more teachers in the work that I’m doing.