# College of Science Outreach updates – July 2020

## Chemistry Outreach

* **Professional Development and Support for K-12 Educators**
  + Co-hosted July 2020 Middle School Teacher Workshops
    - Helped develop content on topics of waves, interactions of the seasons and the moon, states of matter, rocks and minerals, periodic table lockbox, density and water cycle.
    - A total of 201 teachers attended the live sessions associated with each content area.
  + Purdue University K-12 Chemistry Outreach Facebook page(@PurdueChem).
    - Posts from this page reached a total of 4,222 people this month.
* **Programs to Develop Scientifically Literate K-12 Students**
  + Working to develop virtual lab experiences for K-12 teachers and students via the Superheroes of Science platform.
* **Opportunities for Broader Impact**
  + Provided support with NSF Career grants for Christina Li and Gaurav Chopra
  + July 2020 podcasts and YouTube videos released for *Superheroes of Science* include episodes recorded with Professors Dan Cziczo, Dan Dawson, and Mohit Verma.
  + July 2020 YouTube videos released for *SOS: Inspiring Ideas for the Classroom* include episodes recorded with teachers Dana Calfee and Dorian Janney (NASA Education and Outreach Specialist for the Global Precipitation Measurement (GPM) mission).
  + [Superheroes of Science Analytics](https://www.youtube.com/c/SuperheroesofScience):
    - There were 237 total unique downloads of the Superheroes of Science podcast this month.
    - There were 1,666 total views counted for the Superheroes of Science YouTube channel this month.
    - Twitter (@PurdueSOS) logged a total of 4,208 tweet impressions this month.
    - Facebook (@PurdueSOS) reached a total of 2,474 people this month.

## Earth, Atmospheric, and Planetary Sciences Outreach

* *Goal 1:* ***Support for K-12 science and mathematics educators***
  + Teacher Professional development
    - Worked with other coordinators to design and facilitate a virtual middle school teacher professional development workshop. The videos for this workshop had 891 total views.
    - Created Superheroes of Science Facebook page to disseminate information and resources to educators. ([Superheroes of Science - Home](https://www.facebook.com/PurdueSOS))
    - Created [Superheroes of Science page on College of Science website](https://www.purdue.edu/science/K12/sos.html) to disseminate information and resources to educators.
  + Teacher Resources:
    - **Superheroes of Science podcast!** Podcast for students and educators interviewing scientists and science education specialists.
      * Released new **content podcasts**
      * Started and released ***Inspiring Ideas for the Classroom***
* *Goal 2:* ***Create and facilitate programs that develop scientifically literate K-12 students***
  + Collaborating with Imagination Station Children's Museum to develop a 360 virtual tour of the museum displays.
  + Working with EAPS grad students on descriptions for Virtual Rock Display and on fall opportunities.
* *Goal 3:* ***Create opportunities for broader impact***
  + Collaborating with faculty on Broader Impacts for grants.
  + Podcasts and YouTube videos created and released for ***Superheroes of Science***
  + YouTube videos released for *SOS:* ***Inspiring Ideas for the Classroom***.
    - There were 237 total unique downloads of SoS **podcasts** this month.
    - There were 1,666 total views counted for the [Superheroes of Science **YouTube** channel](https://bit.ly/SOS_UTube) this month.
    - **Twitter** (@PurdueSOS) logged a total of 4,208 tweet impressions this month.
    - **Facebook total reached:** EAPSout2,462; PurdueSOS 2,474
  + **Getting information out**
    - **Facebook**
      * for [EAPS Outreach](https://www.facebook.com/EAPS.out)
      * For [Superheroes of Science](https://www.facebook.com/PurdueSOS)
    - [**Twitter** @PurdueSOS](https://twitter.com/PurdueSOS)
    - **EAPS K-12 Outreach Pinterest**
    - [EAPS **departmental outreach web page**](http://www.eaps.purdue.edu/outreach/index.html)
    - [**Youtube** channel for Superheroes of Science](https://www.youtube.com/channel/UCIJnmp1MwUDtm_WMBSarEcw)

## Biology Outreach

1. Summer ’20 Middle School Science Workshop: Participated in the 2020 College of Science K-12 Outreach Middle School Science Workshop. Presented and facilitated the following Three (3) workshop sessions;
   1. Grade 6 Activity: Ecosystem in a Bottle.
   2. Grade 7 Activity: Yarn Mitosis: Cell Cycle and Mitotic activity in Somatic cells,
   3. Yarn Mitosis: Meiosis; Meiotic activity and reduction Division in male and female reproductive cells.
2. Continued work collaboration with Biology teacher on development of an advanced course in Anatomy and Physiology of High School.
3. Develop plan to deliver online tutorial help to Community Outreach students in the Briarwood Lafayette community. This plan will be presented to the Director of the Briarwood community project for discussions.
4. Proposed discussions with IABT (Indiana Assoc. Of Biology Teachers) to address equity and inclusion in STEM and Biology for underrepresented students and teachers. What can we do as a teacher organization?
5. A series of meetings will be scheduled to come up with a plan.

## Physics Outreach

### Middle School PD

Conducted six sessions for teachers in grades 6, 7 and 8 in standards based professional development.

### SMAP

Initiated a collaboration with the Link Institute/Observatory to provide resources for doing remote versions of lessons and activities for SMAP.

### Faculty

Working with Professor Andrew Mugler in creating a remote teacher professional development workshop, and companion student experiment.

Worked with Professor Steve Durbin in broader impact for NSF grant submission.

Submitted NSF broader impact proposal with Professor Alex Ma, the outreach component consisting of developing an inventory of mobile phone data collection activities.

### Professional Development

Attended the remote Smithsonian K-12 Education Action Planning Institute, aimed at maximizing remote K-12 learning opportunities.

### e-Learning resources

Continue to contribute resources to the College of Science Outreach website to provide materials for remote instruction.

## Science Express

* Worked on setting up Science Express to be virtual.
* Made video labs for the Science Express YouTube page
* Changed SE website to be more Marking and Media compliant
* Worked to get Science Express into Marketing and Media compliance
* Worked with other Science Express board members to make recertification videos and accompanying quizzes
* Arranged SE equipment for the van driver to clean and refurbish and supplied him with disinfectant.