# College of Science Outreach updates – November 2020

## Professional Development and Support for K-12 Educators

* Collaborated with Professor Lisa Welp and a local computer science teacher to release the professional development experience (funded by the Halliburton Foundation) for the Codename: GEO STEM (Girls Engaged in Online Science, Technology, Engineering and Mathematics) program to middle and high school teachers across the US.
* Submitted edits of documents for the subjects of Chemistry I and Integrated Chemistry Physics to the Indiana Department of Education for the Climate Change Framework initiative.
* Collaborating on writing an article about science demonstrations that will be submitted to a National Science Teaching Association (NSTA) peer-reviewed practitioner journal for elementary-level science teachers: Science & Children.
* Physics and Astronomy video recorded experiments for high school science remote teaching resources.
* Society of Physics Students undergrads contributed to outreach to record videos of Newton’s Laws experiments to accompany a professional development workshop for teachers.
* Purdue University K-12 Chemistry Outreach Facebook page (@PurdueChem).
  + Posts from this page reached a total of 385 people this month.
  + Purdue University K-12 EAPS Outreach Facebook page
    - Posts from this page reached a total of 148 people this month
  + Helped maintain the following pages on the College of Science K-12 Outreach website.
    - eLearning (<https://www.purdue.edu/science/K12/elearning.html>)
    - Superheroes of Science (<https://www.purdue.edu/science/K12/sos.html>)
    - Virtual Labs (<https://www.purdue.edu/science/K12/labs.html>)

## Programs to Develop Scientifically Literate K-12 Students

* Collaboration meeting held with graduate student groups across campus to encourage the development of videos for the Purdue Kids STEM Degree.
* Virtually hosted the 2020 Wonders on the Wabash (WoW) with Tippecanoe County Partnership for Water Quality (TCPWQ) for Tippecanoe County 6th grade students, hosted through Purdue Superheroes of Science.
* Physics and Astronomy conducted the first remote Saturday Morning Astro at Purdue class in November with **Scaling Our Solar System**. SMAP currently has 28 students registered from around the country.
* Collaborated with TCPWQ to develop a virtual 8-day Conservation Challenge, hosted through Purdue Superheroes of Science: <https://www.youtube.com/playlist?list=PLnuWR-4y7gIaZ2nHPTxstPC5-DT5Mubtc>
* Collaborated with TCPWQ to publicly release the virtual 2020 WoW program, hosted through Purdue Superheroes of Science, to audiences beyond Tippecanoe County: <https://www.youtube.com/playlist?list=PLnuWR-4y7gIZVuYDDAZM34wW6c8N5_CPl>

## Opportunities for Broader Impact

* Consulted with Professor Sam Nariman on opportunities for broader impacts through College of Science K-12 Outreach.
* Helped Professor Jorge Rodriguez with broader impacts for his NSF grant.
* Outreach continued collaboration with Professor Andrew Mugler in preparing materials for a remote workshop for teachers, and student lab on statistical analysis of data.
* Contributed to Broader Impacts component for an NSF proposal for Jorge Rodriguez
* November 2020 podcasts and YouTube videos released for *Superheroes of Science* include episodes recorded with Professors Catherine Searle, Erica Carlson, Tiffany Lyle, Matthew Ward, and Dimitrios Giannios.
* Physics and Astronomy provided a faculty contact for the SOS series with Dimitrios Giannios’s presentation about the lives of stars, black holes and other exotic astro phenomena.
* Outreach participated in interviews and discussions with candidates for the next head of the Department of Physics and Astronomy.
* Superheroes of Science Analytics (<https://www.youtube.com/c/SuperheroesofScience>):
  + There were 316 total unique downloads of the Superheroes of Science podcast this month.
  + There were 1,262 total views counted for the Superheroes of Science YouTube channel this month.
  + Twitter (@PurdueSOS) logged a total of 7,068 tweet impressions this month.
  + Facebook (@PurdueSOS) reached a total of 1,834 people this month.