





MISSISSIPPI STATE UNIVERSITY™
DEPARTMENT OF PHYSICS
AND ASTRONOMY



PHYSICS
SUMMER
CAMP



JUNE 6 - 10, 2022



Physics Summer Camp for Students with ASD

2022 Summary Slides

Ben Crider

NSF Grant No. PHY 1848177 (CAREER)



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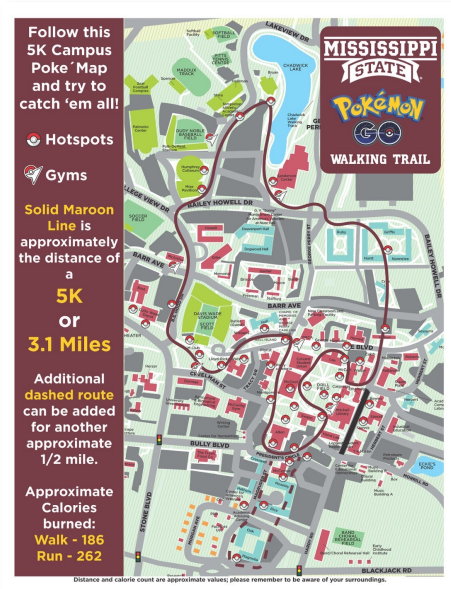
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Check-in + Pokemon GO campus tour (June 5, 2022)



Camper arrival gift bag, with t-shirts, a reusable water bottle, and many other fun items. We also included fidget toys that are not shown here. Campers were able to take home many things from the camp throughout the week!



Pokemon GO walking tour map we used to explore campus on the first evening while students played the game on their phones.



MSState grad student and Physics Camp Counselor Daniel Araya (left) with one of our students (middle-right) on the Pokemon GO walking tour. Others in the camp are playing in the background.



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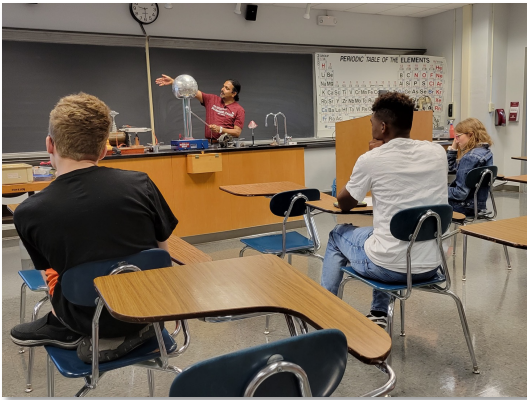
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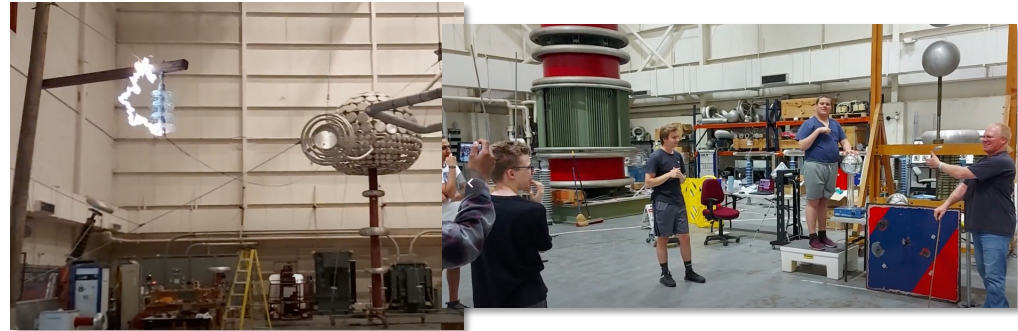
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Day 1: Electricity and Magnetism (June 6, 2022)

Campers built their own electric motor kits that they were then able to take with them!



Dr. Dipangkar Dutta (MSState) gave a lecture and demonstrations about the properties of electricity and magnetism.



In the afternoon, campers took a tour of the MSState High Voltage Laboratory, led by Dr. David Wallace (far right).



In the evening, campers interacted with virtual reality headset systems at the MSState Virtual Reality Lab!



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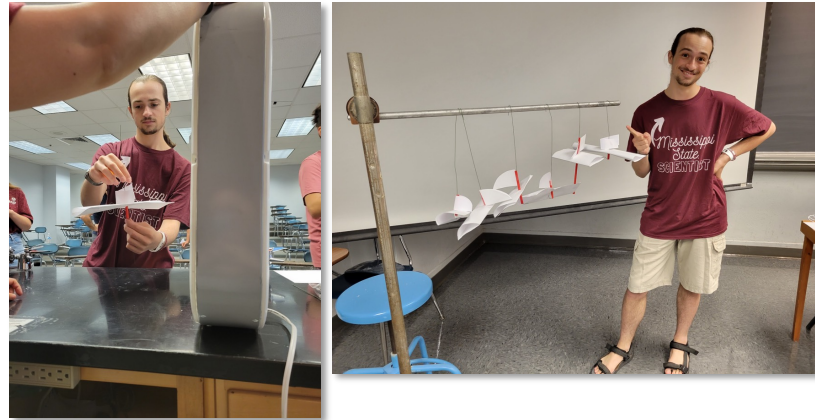


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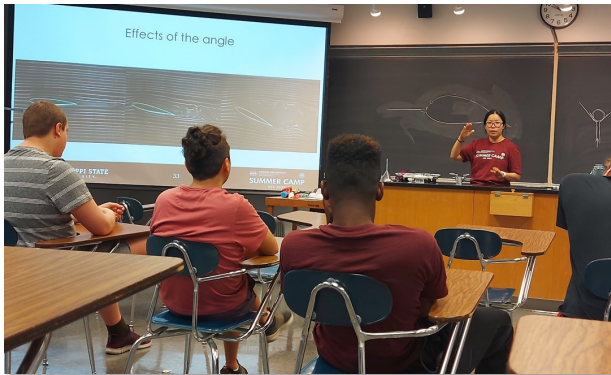
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Day 2: Aerodynamics (June 7, 2022)

Campers designed, built, and tested their own airfoils out of common materials they could reproduce at home!



In the evening, campers had recreation time in the MSState Sanderson Center Main Gym, though we had so much fun we apparently forgot to take pictures!



Dr. Sangwha Park (MSState) gave a lecture, demonstrations, and videos about aerodynamics and lift!

In the afternoon, campers took a tour of the MSState Raspet Flight Research Laboratory and launched water bottle rockets!

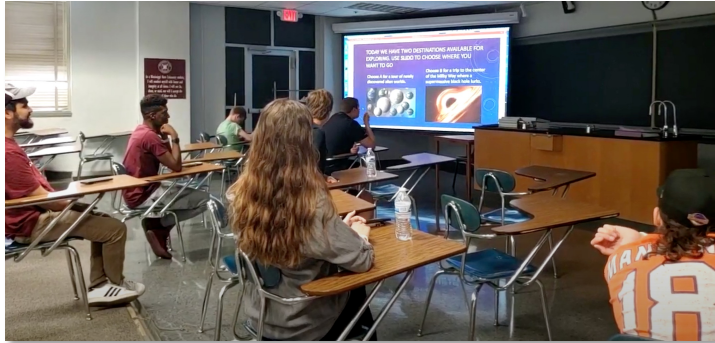


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Day 3: Astronomy (June 8, 2022)



Dr. Angelle Tanner (MSState) gave a lecture, videos, and demonstrations where students got to choose their own adventure to learn about either exoplanets or black holes (they chose exoplanets)!

Campers calculated the acceleration due to gravity (g) through the “Ball Drop” experiment at Hilbun Hall



In the afternoon, campers took a bus to tour Rainwater Observatory at French Camp Academy, where they also were treated to an exploration of the night sky at their planetarium!



In the evening, we made liquid nitrogen ice cream and watched a movie related to astronomy.



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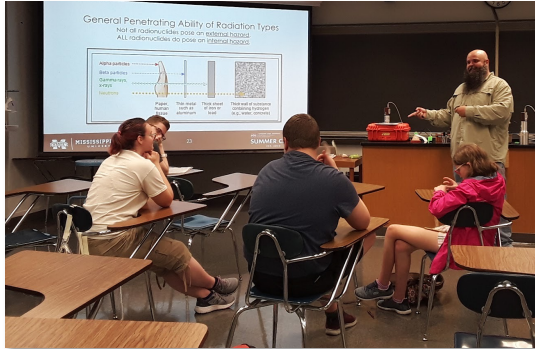
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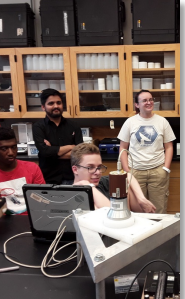
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Day 4: Nuclear Physics (June 9, 2022)

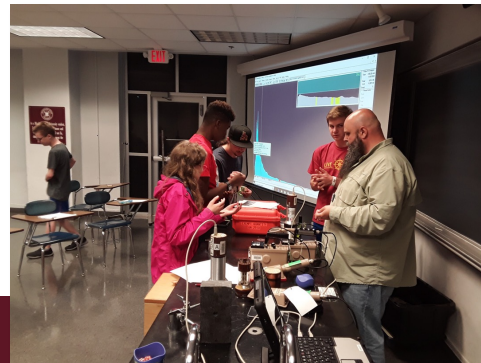


Mr. Ron Unz (MSState) gave a lecture and demonstrations about the properties and types of nuclear radiation, as well as demonstrations involving radiation detectors.

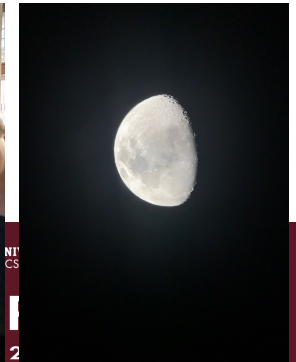
Campers learned about how radiation measurements are performed with a variety of different detector types!



In the afternoon, campers toured the MSState Institute for Clean Energy Technology and saw how radiation detectors are coupled with autonomous robotics platforms for environmental remediation efforts. Campers also participated in a variety of hands-on tasks related to finding sources of radiation with detectors!



In the evening, we set up a solar telescope and a telescope to look at the moon at night.



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Day 5: Physics Olympics (June 10, 2022)

On the last day of camp, we hosted the inaugural MSState Physics Olympics for our campers. There were 5 activities related to physics ideas where campers were given a non-ideal set of information/materials and had to come up with solutions to the given task. All of the campers did amazingly well and had a great time! At the end, we held an awards ceremony and gave all campers real medals! In the future, I hope to be able to turn this into a recruitment event for our program for local-area high schools to come and participate!



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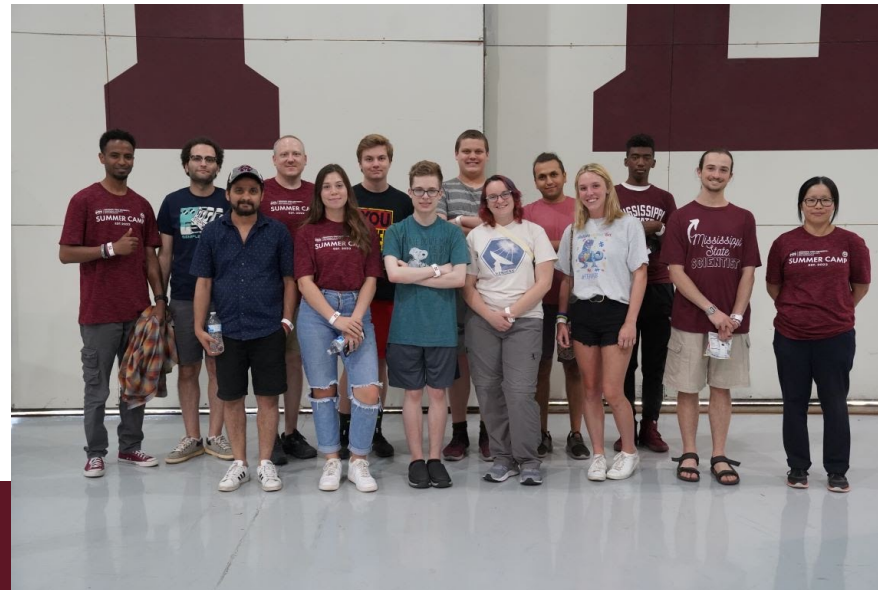
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We look forward to next year!

The Physics Summer Camp for Students with ASD will return in 2023! In the meantime, we will send a survey out to campers and their parents asking about what worked, how we can improve the camp, and any testimonials they can contribute to help convince future campers that this is an experience worth having! Thanks to the NSF for the support and we hope to be able to continue hosting this camp for a long time to come!

<https://www.physics.msstate.edu/physcamp>



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