



Cleveland State University's 2011-12 Society of Physics Students **ANNUAL CHAPTER REPORT**

Chapter Information

SPS ZONE	07
SPS Chapter Number	1247
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Part 1: Our chapter's interactions with our campus community

The 2011-2012 academic year at Cleveland State University was filled with mixed emotions as we continued in the tradition of fun physics activities, yet nervously anticipated the departure of several of our most valued members. Nevertheless, we still had lots of fun! Just see for yourself!

- **Fall Welcome Party:** We ushered in the new school year with physics raffle prizes, pizza, and pop. We announced the outstanding graduating physics senior (their name goes up on the “wall of fame”) as well as awards for outstanding undergraduate research completed over the summer.
- **Speaker, Dr. Thomas Olsen:** CSU’s SPS was very excited to host Dr. Thomas Olsen, Assistant Director for the Society of Physics Students and Sigma Pi Sigma from the American Institute of Physics! Dr. Olsen presented the talk “An SPS Triptych: Careers in Physics, SPS Opportunities, & a little Chaos in Fluids”. We were able to showcase our chapter, and a little bit of Cleveland as well.
- **Student Speakers, Krista Freeman and Andreea Sandu:** Need a summer job? Need a REAL job? These questions were answered by undergraduates Krista and Andreea, who are physics and biology majors respectively (yep, biology!). Their talk highlighted the opportunities of summer research in the physics department, as well as opportunities nationwide. For example, both Krista and Andreea were able to complete a Research Experience for Undergraduates (REU), and they shared their experiences with us.
- **Faculty Speaker, Jay Reynolds:** Faculty member and astronomer Jay Reynolds gave a discourse entitled “DAWN Mission, an asteroid named Vetsa & Cleveland State”. His intriguing talk, which involved 3D pictures of asteroids (how cool is that?), discussed his research in astronomy along with opportunities for students to participate in his field of study.
- **Physics Olympics:** By far THE BEST SPS meeting of the year! Our

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second Physics Olympics involved challenges such as: Famous Physicists Memory Match, Helium Stick, Bubble Race, and Marshmallow Catapult. The winners received gyroscopes, and everyone received candy!

- **Student Speaker, Prasenjit Bose:** Undergraduate student Prasenjit presented a talk based on his research in the physics department entitled “Bead-Spring Model for Molecular Dynamics in a Creeping Flow”.
- **Student Speaker, Kaitlin Vandemark:** Undergraduate student Kaitlin presented a talk based on her research in the physics department entitled “Light Scattering Characterization of Thermoreversible Micelles Synthesized from Elastin-Like Polypeptides”.
- **Student Speaker, Joseph D’Alessandro:** Undergraduate student Joe presented a talk based on his research in the physics department entitled “Reactant Consumption Analysis in Microchannel Based Fuel Cells”.
- **Liquid Nitrogen Ice Cream Party:** Of course, one of the most anticipated SPS events is the creation of ice cream using liquid nitrogen! Students and faculty enjoyed vanilla, strawberry, chocolate, and vanilla-strawberry-chocolate (a very wild flavor) ice cream while prizes were given out for students who knew their physics equations by heart. This event occurs twice a year.
- **Faculty Speaker, George Walker:** Dr. Walker, Vice President for Research and Graduate Studies at CSU, gave an encouraging discourse on the role of undergraduate research experience in engaged learning.
- **Speaker, Dr. Dan R. Claes:** One of the more popular talks given at SPS, Dr. Claes from the University of Nebraska, Lincoln, presented a talk entitled “Comic Book Physics 101” which detailed the physics behind popular superheroes such as superman. As you can imagine,

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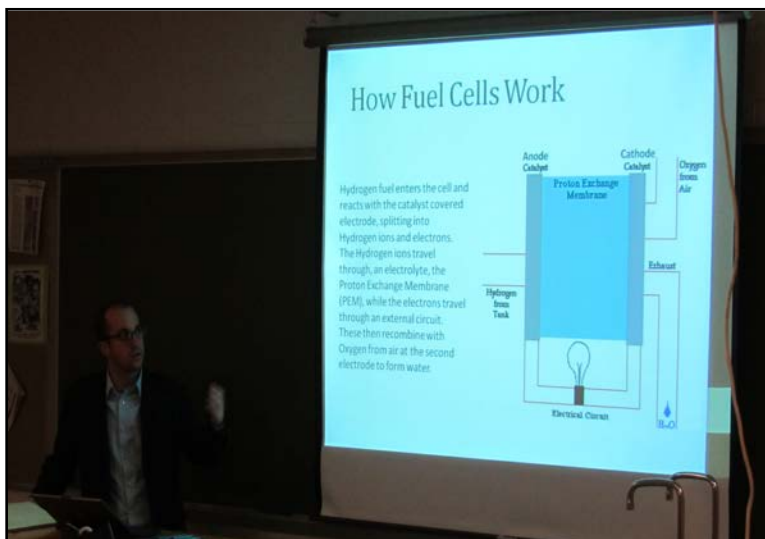
us nerds listened intently.

- **Movie Day:** What is *time*? Well, we were wondering that ourselves so we popped in one of the episodes of “Through the Wormhole with Morgan Freeman” into the DVD player and made a pretty fun (and informative, if not mind bending) SPS meeting out of it! Pass the popcorn!

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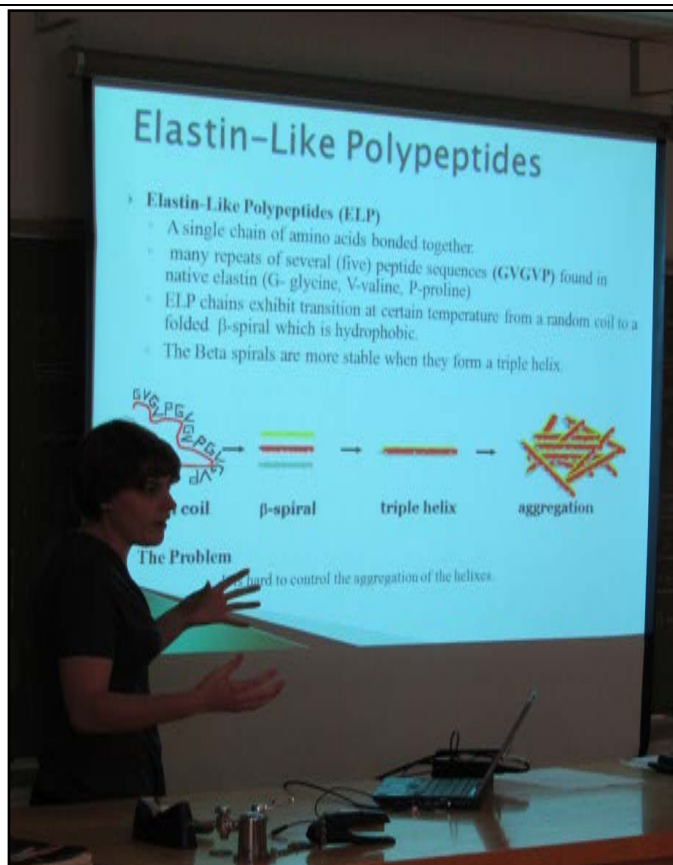


Undergraduate Prasenjit Bose presents his research.



Undergraduate Joseph D'Alessandro presents his research.

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Undergraduate Kaitlin Vandemark presents her research.



Ice breaker activity at the Physics Olympics.

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After a game of memory match at the Physics Olympics, contestants had to guess the physicist!



Projectile incoming! Former President and current Outreach Coordinator attempts to catch a flying marshmallow at the Physics Olympics.



A contestant tries to blow a bubble through a hula-hoop at the Physics Olympics.

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Outstanding seniors Prasenjit Bose and Krista Freeman are awarded their honors at a ceremony. Fun Fact: Prasenjit will be attending Johns Hopkins University in the fall in hopes of gaining his Ph.D. in physics. Krista will be attending Carnegie Mellon to do the same.



Our lab manager Tara pours liquid nitrogen into the ice cream mix below at the liquid nitrogen ice cream party.



Ice cream anyone? Kaitlin whips up a batch of freshly made ice cream – all made with liquid nitrogen!

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Part 2: Our Chapter's interactions with the professional physics community outside the college/university

CSU's SPS was proud to host a few interesting talks from outside the university! Check it out!

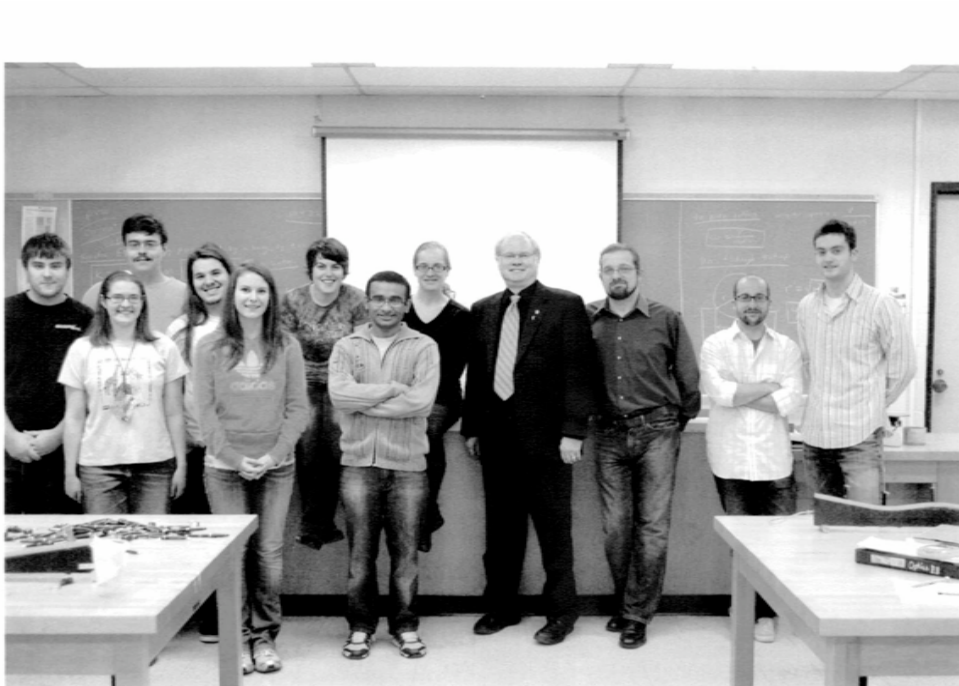
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- **Speaker, Dr. Evalyn Gates:** CSU's SPS was also excited to assist in hosting Dr. Evalyn Gates, Executive Director and CEO of the Cleveland Museum of Natural History. She is also the author of the book *Einstein's Telescope: The Hunt for Dark Matter and Dark Energy in the Universe*.
- **Speaker, Dr. Dan R. Claes:** One of the more popular talks given at SPS, Dr. Claes from the University of Nebraska, Lincoln, presented a talk entitled "Comic Book Physics 101" which detailed the physics behind popular superheroes such as superman. As you can imagine, us nerds listened intently.



Group picture after Dr. Claes' presentation. From left to right: SPS President Michael Hardin, Vice President Kaitlin Vandemark, Dr. Dan Claes, and faculty advisor Dr. Kiril Streletzky.

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Group picture after Dr. Olsen's presentation with various students in attendance.



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Part 3: Our chapter's interactions with SPS National and participation in SPS National Programs.

CPS is happy to say we have fulfilled a couple of our goals in this category.

- **83rd Annual Meeting of the Society of Rheology:** CSU's SPS was proud to send three students to the 83rd annual meeting of the Society of Rheology, held at the Intercontinental Hotel in Cleveland, Ohio. Not only did we learn a lot, but we were able to associate with Dr. Thomas Olsen and Dr. Philip Hammer of the American Institute of Physics.
- **Marsh W. White Award:** CSU's SPS is also the proud recipient of the 2012 (and 2011) Marsh W. White outreach award for our volunteer work at Campus International School!

At the 83rd Annual Meeting of the Society of Rheology. From left to right: Krista Freeman, Andreea Sandu, and Michael Hardin.



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Collage of SPS members participating in the education of elementary school children via our outreach program at Campus International School in Cleveland, Ohio.

Part 4: Our chapter's interaction with the off-campus public community

CSU's SPS is grateful such selfless members, especially when it comes to teaching kids!

- **Outreach at Campus International School:** We are proud to be the recipients of the Marsh W. White Outreach Award for the second year in a row! Volunteers meet monthly to rehearse and walk to the local elementary school to teach young kids about science during after-school care. The outreach efforts were expanded by introducing a lunch-time Physics Club for interested students during regular school hours.



SPS volunteers and the little physics learners!

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Another collage of willing volunteers enjoying their free time teaching young kids the wonders of physics.

Part 5: Our chapter's other efforts to further the SPS Purpose and Mission *(This category will be double weighted)*

CSU's SPS has:

- Encouraged students to practice public speaking and present research to professional faculty.
- Encouraged students to engage in their college experience by giving their time to help the on and off campus community.
- Encouraged students to support SPS by creating a Facebook community page to keep all members updated and connected.

CSU's SPS has improved upon:

- Our outreach efforts by creating an effective program to teach physics to elementary school kids.
- Helping students to gain valuable undergraduate research experience by working with faculty to promote and encourage applications to work with faculty on a research project.

CSU's SPS will be keeping an eye on:

- Future prospective SPS members. Unfortunately, 5 SPS officers have graduated this spring, so there is much change to come to our chapter. Lucky for us, we have an ecstatic new President who will be taking over, and is sure to bring our chapter to new heights!

CSU's SPS is growing stronger each semester, and with the willing students at CSU, will continue to grow.