

Report from ICPS 2013

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At the 2013 International Conference of Physics Students (ICPS), the physicists of the future met in Scotland, a nation that's home to many great physicists of the past and present. The conference was held over five days on the verdant campus of Heriot-Watt University, just outside Edinburgh. The ICPS is organized by the International Association of Physics Students (IAPS), which is entirely student-run. There were five students from the United States, including myself and Patrick Donnan, the other recipient of the SPS travel award. This year's ICPS had over 250 attendees from over 30 countries. While most of the attendees were from Europe, there were also students from Brazil, Egypt, Mexico, and Morocco.



A view of the city from Edinburgh Castle.

The conference program began with a lively and engaging lecture on superfluids by Prof. Chris Hooley from the University of St. Andrews. Prof. Hooley's lecture set the tone for the other guest lectures, which I found informative and easy to follow as someone who was not very familiar with the specifics of the lecture topics. I was particularly impressed by the lecture from Prof. Kishan Dholakia, also from the University of St. Andrews, on the manipulation of microscopic objects using light. In another engaging lecture, Prof. Miles Padgett, from the University of Glasgow, used an example from his research on 3-D detectors to show how the results of data analysis can be improved using common sense assumptions based on simple physical principles. In addition to giving exciting looks at cutting edge research, the guest lectures also benefited the conference by providing excellent examples for students to follow in their own lectures.

The student lectures filled most of the conference schedule, and were generally held in the same lecture hall, so it was possible to see almost all the lectures. There were about 70 student lectures over a wide range of topics in physics and applied physics. I found the student lectures to be generally interesting, although some of the presenters were a little uneasy, which is understandable given that like me, many students were giving their first talks at a conference. As Prof. Hooley reminded the attendees, presenting a lecture as a student at the ICPS is a unique opportunity because virtually everyone in the audience is also a student. As a result, everyone is still learning, and a presenter can deliver her or his talk without fear of making a mistake or saying something incorrect. ICPS provides an excellent training ground for young physicists to

perfect their presentation skills in a professional environment without the pressure such an atmosphere would usually entail.

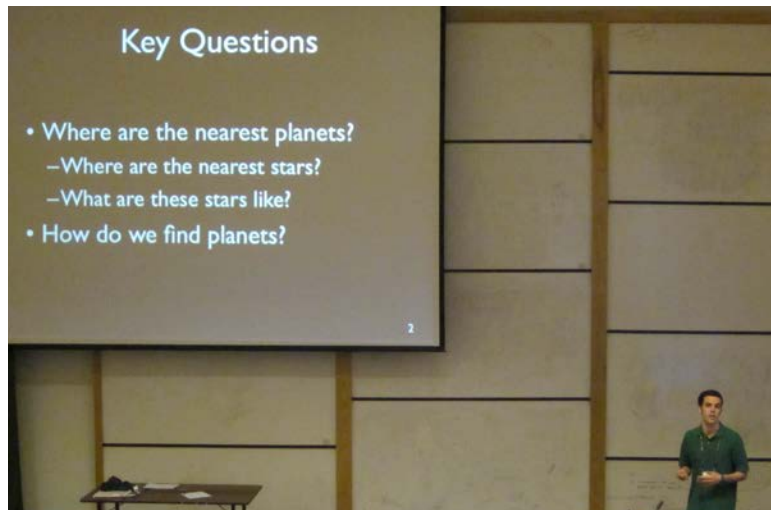
The conference schedule provided a significant amount of free time to explore the city. A short bus ride takes you from the university to Edinburgh's historic city center. While exploring Edinburgh's sights, sounds, and tastes, I was also able to appreciate Scotland's considerable contributions to science.

Famous Scottish scientists include, James

Watt, Lord Kelvin, and James Clerk Maxwell. Climbing to the top of Calton Hill afforded a postcard-perfect view of the city. On the hill there are several historic buildings and monuments, the highlight of which for me as an astronomer is the old City Observatory. The first Astronomer Royal for Scotland was Thomas Henderson, who measured the first distance to the Alpha Centauri star system, the closest known system beyond our Sun. I like to think of my research measuring distances to nearby stars and looking for planets around them as part of the continuation of Henderson's work, and it felt special to walk the same streets as great Scottish scientists like him.

What really made the ICPS stand apart from other conferences I've attended was its social and professional networking events, that for young scientists are arguably just as important as giving and attending presentations. The events included a traditional Gaelic party known as a céilidh, that featured a bagpiper and lessons in Scottish dancing. I did my best to keep up despite my two left feet, and really enjoyed seeing several hundred physics students from all over the world attempt to dance like Scots with varying degrees of success. The conference also featured an international night, when attendees prepared the cuisine of their respective countries. Patrick and I prepared grits, which is a sort of corn oatmeal of Native American origin that is a popular breakfast food in the South. Of the wide variety of food and drinks to choose from, I particularly enjoyed the Turkish delight and the schnitzel, neither of which I had tried before.

At the social events I got a chance to talk with many of the other attendees about their research and their experiences as students. Although the student presentations were informative, I found it was often easier to appreciate someone's research after talking one-on-one, when they had a chance go over more background information and details. I was struck by the similarities among the perspectives of the students I talked with, despite the diversity of countries they represented. Physics provides us with a way of approaching problems that



Presenting a lecture on massive planets around low mass stars.

transcends political and cultural boundaries. Meeting so many friendly and enthusiastic physicists at ICPS has influenced me to look for future research and work opportunities abroad.

The 2014 ICPS will be held in Heidelberg, Germany, followed by Zagreb, Croatia in 2015. At the conference there was talk of when the first ICPS would take place outside of Europe. The main concern was that most members of IAPS are from Europe, and few would be willing to pay the extra money to travel outside of Europe. With the increasing amount of globalization in science, organizations like IAPS will be crucial to developing international networks of scientists. It is my hope that IAPS will continue to grow, adding new members from more countries, and ultimately be able to have an ICPS on a different continent each year. After attending ICPS, I feel better prepared to give talks at professional meetings in the future, and better connected to the international scientific community. If you want to travel, learn about physics, and have a lot of fun all at the same time, then you should make your way the next ICPS!