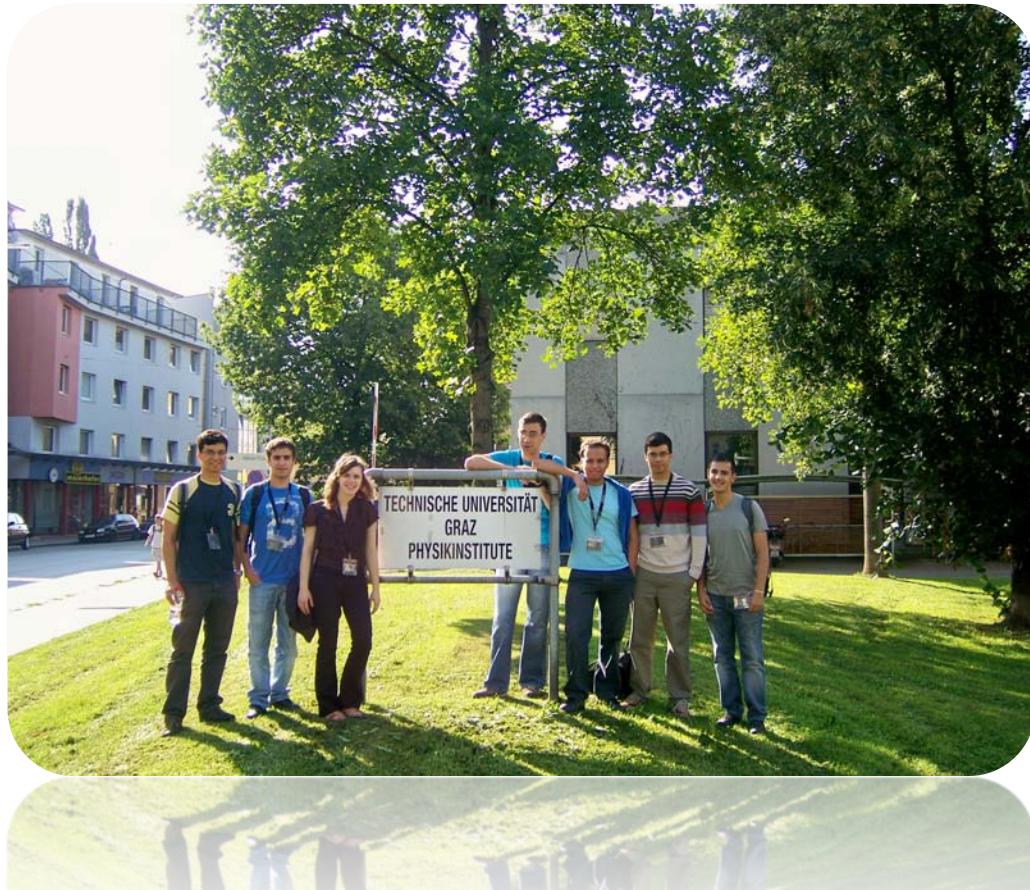


# GRAZ 2010

Anya Burkart  
Creighton University  
August 17 – 23, 2010



**[The 25th International  
Conference Of Physics Students]**

# The 25th International Conference Of Physics Students

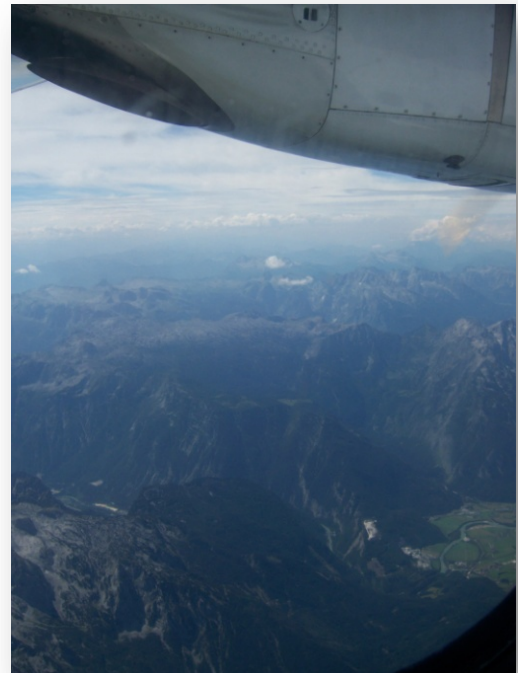
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## Introduction

Each year the International Association of Physics Students (IAPS) hosts the International Conference for Physics Students (ICPS) in a different city. The purpose is to foster the exchange of ideas and experiences between physics students throughout the world. In 2010, 400 students from 47 nations gathered in Graz, Austria for student lectures, lab tours, distinguished speakers, excursions, and social events. I am grateful for the Society of Physics Students, which has made my attendance of this international conference possible. As a Physics and German major, I found the prospect of a Physics conference in Austria a perfect fit for my passions. I especially appreciated the opportunity to unite with fellow nerds from across the globe.

## The Long Journey

The day before my departure, I was presenting a poster at a regional conference. Here I heard an alarming talk about air toxicity in airplanes. To know about the radiation exposure incurred through flying was already enough. I did not need to hear this before boarding nine airplanes in the course of two weeks. Thankfully, I survived the journey in good health. I could deal with flight delays resulting in missed planes and lost luggage. Prior to the conference, I stopped in Berlin for a long weekend of cultural immersion with a family I know there. After operating in German for almost five days, I landed in Graz and met a group of British students going to the conference. We soon discovered that not all Austrians



Flying over the Austrian Alps in a propeller plane.

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speak English, so the German came in use as we took a bus and a tram to the campus.

## Exchanging Physics Ideas and Inspiration

The conference included student lectures and posters, lab tours, guest speakers, and an outstanding experimental show. Dr. Peter Zoller began the week off for us with a crash course in Quantum Mechanics, followed by a discussion of his work in Quantum Information and Optics. Other guest lecturers included Dr. Sabine Schindler on new developments in Astrophysics and Professor John Ellis, who gave an entertaining presentation on the Large Hadron Collider and the Universe. Near the end of his talk, Ellis shared an amusing story about his meeting with Mrs. Thatcher in 1982. She asked him what he does and he replied “I think of things for experiments to look for and hope they find something different.” Puzzled, Thatcher asked, “Wouldn’t it be better if they found what you predicted.” Ellis answered “Then, we would not learn anything!”



Dr. Pottlacher igniting cotton that has been soaked in liquid oxygen.

In addition to investigating thought-provoking questions and studying in areas where we really do not exactly know what we are doing, physicists worldwide enjoy blowing stuff up. Professor Gernot Pottlacher acted as the crazy physicist as he presented a suspenseful two hour experimental show of explosions, accelerated objects, sparks, fire, and destruction. Of course he also took time to devour a sausage he had cooked in a 400W circuit. I am looking forward to using my notes and further research to repeat some of the less dangerous demonstrations with students in SPS

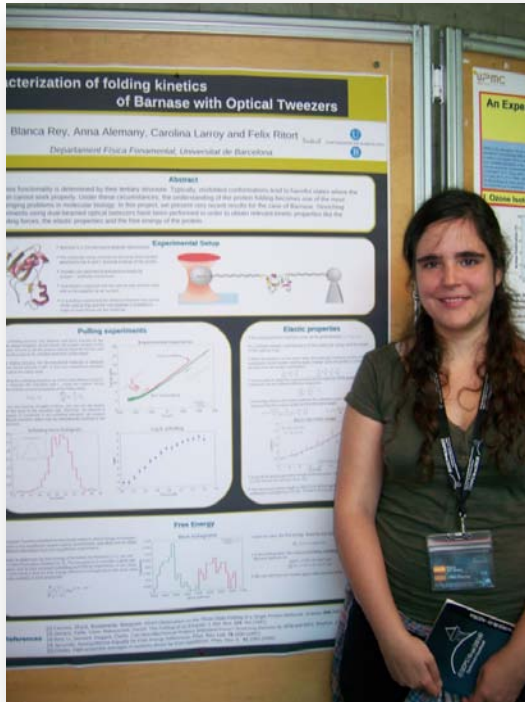
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at Creighton University this year.

At ICPS, students give the majority of the presentations. I heard talks on black holes, time, lasers, radiation, and astrophysics. Not all talks were about traditional physics research. One talk presented the future of electric car design and another informed students about the politics involved in the advancement of solar energy in Turkey. Discussions that sprung from the presentations carried on to the dinner table at the conference. I had the time of my life sharing creative ideas and perspectives with Physics

students from all around the world at ICPS.



Blanca Rey from Barcelona presented on her research in optical tweezers, a biophysics field within my primary research interests.

## Cultural Exchange

Physics students from every inhabited continent exchanged ideas at this international conference. Each hour of the week, I was continuously meeting new people from different places and learning about their cultures. I learned that Italians drink warm milk at breakfast and that the English prefer tea with cream and sugar. A German also taught me how



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to dance the Disco Fox. My newfound friends even informed me about the best places to visit if I ever get to travel to their homelands.



Tables of treats from around the globe.

Crayola crayon. At the party I learned that apparently crayons are not as universal as I had thought and people assumed I was a wizard of some sort. Throughout the night, I met robots, hula dancers, clowns, and even Steve Jobs. The Austrian students put on a special Ghost Busters performance too. I just had a blast hanging with a bunch of fellow physics nerds in Graz.

After days packed with lectures and activities, we spent the evenings partying together. At the All Nations Party, I traveled the world in one evening, trying treats from Arabian dates to Swiss chocolate. The Finns even hosted a traditional Finnish Dinner Party (called Sitsit) that involved singing physics songs. Each country put on performances too. I really enjoyed the Romanian students traditional dance performance.

One evening we had a costume party, where I dressed up as a typical American



Who ya gonna call? GHOSTBUSTERS!

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## Representing the USA

At the IAPS General Meeting, Dan Glass and I represented the American physics students. We voted on officers for the IAPS and also the location of the conference in two years – the Netherlands. In addition we got to share American culture at the All Nations Party, where we sang “Take me out to the Ballgame” and shared foods and drinks including butter popcorn and root beer.

## Experiencing Austria

Rather than taking a normal city tour, the Austrian students creatively planned a city scavenger hunt. In groups we scouted out the city stopping at checkpoints to solve riddles involving the city history. The ornate pastel buildings decorated with blooming flower boxes added great charm to the narrow, twisting streets. Of course as physics students, indulging in our nerdy impulses enhanced



Graz Scavenger Hunt Group

our Graz experience. For instance, some of the students who found a deep well on top of the Schlossberg hill dropped fruit down it and calculated the depth within 6m of the actual reported value.

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During a coffee break, my friend Norbert from Malta and I took another adventure and went geocaching in Graz.

I chose to go on the Barena Schutzklamm excursion, a steep hike up through a remarkable gorge. At the top, we enjoyed

lunch and then hiked some more. We came at the end to a lake, where some of us went pedal boating. Before long we were estimating the tightest radius of circle we could make and how to maximize speed as we raced our boats. I am so thankful I had the opportunity to experience the exquisite natural beauty of Austria in the company of my new Physics friends.

## **Conclusion**

The International Conference for Physics Students in Graz was a splendid opportunity to meet fellow physics people, present research, share ideas, and have fun traveling abroad. I am grateful for the Society of Physics Students scholarship that made it possible for me to go.