

**SPS Zone 12 Meeting Report**  
**April 12-13, 2008**  
**Washington University in Saint Louis**

Saturday, April 12th

Meeting registration began at 9:00 a.m. and continued throughout the day. Upon arrival participants received an SPS meeting folder containing useful information: schedule of the SPS meeting, restaurants and attractions in St. Louis, directions from Washington University to the APS meeting downtown, and a collection of challenging Hewitt questions that participants could turn in at the end of the meeting to qualify for prize drawings.

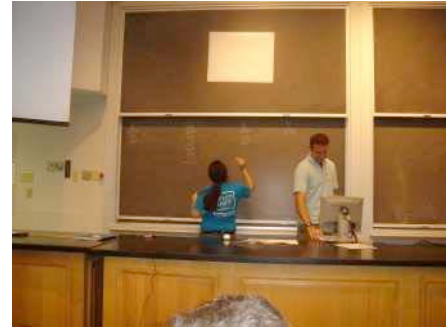


Lauren Barth, a WU freshman, welcomes students from Drury University to the Zone 12 SPS meeting in Saint Louis.

Over the two day meeting approximately 40 students and faculty attended the Zone 12 SPS meeting. The SPS zone meeting was held in conjunction with the April APS meeting in downtown St. Louis, so students divided their time between the two meetings. Participants came from seven schools (Drury University, Morehead State University, University of Missouri in St. Louis, University of Kansas, Butler University, Fort Hays State University, and Washington University) in Zones 8 and 12, representing the states of Missouri, Kansas, Indiana, and Kentucky.

The SPS meeting kicked off by attending a Science Saturday lecture, a Washington University lecture series for the general public, on quantum mechanics. Professor Mark Alford from Washington University gave a talk titled “What Does Quantum Mechanics Tell Us about the Universe?”. A very popular lecture series on campus, the 200 student lecture hall was packed with SPS students and individuals from the St. Louis community, and the question and answer session afterwards continued for another hour after the hour long presentation concluded!

After the talk, meeting attendees became contestants in Physics Jeopardy, one of the social events in the SPS meeting. The format of the game resembled that of the well-known game show Jeopardy, but the content was all about physics. After Physics Jeopardy, lunch was provided by the Washington University SPS chapter. During lunch, students had the opportunity to participate in a Fermi question competition where they estimated quantities like the number of words per day that Hillary Clinton speaks on the campaign trail as well as the number of pieces of popped popcorn required to fill the lecture hall.



SPS meeting attendees challenging themselves to a rousing game of Physics Jeopardy.

The afternoon began with a talk from Professor John Rigden of Washington University. His talk, titled “Newton Didn’t Just Plunk It Down”, sought to fill some of the holes in a typical undergraduate’s physics education. In most undergraduate courses, Newton’s law of gravity is usually presented without mentioning the sources of Newton’s inspiration. Professor Rigden discussed what Newton’s predecessors knew and how Newton extended this knowledge base to arrive at the universal law of gravitation.



Students enjoying sandwiches from Jimmy Johns for lunch. A Fermi question competition during lunch gave attendees the opportunity to practice their estimation skills.

The SPS zone meeting adjourned for the day at 2:30 p.m. so students could head downtown to the Hyatt Regency Riverfront to attend the afternoon and evening sessions of the April APS meeting.

On Saturday evening, students attending the SPS zone meeting had the opportunity to visit the City Museum, an eclectic mixture of children's playground, funhouse, surrealistic pavilion, and architectural marvel made out of unique, found objects from within the city limits. The Washington University physics department provided a bus to transport students to and from the City Museum throughout the evening.



Students strolling along the Arch grounds on their way to the April APS meeting.



Saturday night at the City Museum. Participants were able to climb on the rooftop playground, check out the larger-than-life sculptures, and watch a juggler toss flaming clubs in the air.

### Sunday, April 13th

The second day of the SPS zone meeting began with laboratory tours in the Washington University physics department. Graduate students and faculty opened up their labs to visitors, affording students the opportunity to visit ten different research labs whose areas of expertise included nuclear magnetic resonance, materials physics, ultrasonics, high energy cosmic ray astrophysics, x-ray and gamma-ray astronomy, extra-terrestrial materials, neurophysics, nanoscale condensed matter physics, and high pressure physics.

After the lab tours, Professor Ken Kelton, chair of the Washington University physics department, gave an invited lecture on the development of metals called “Metals, Civilization, and Physics - From Bronze Age Swords to Glass Golf Clubs”.



Over lunch on Sunday, the group of students from Drury University in Springfield, Missouri presented a poster on a robotic arm that they had developed. This was an informal poster presentation since student talks and poster sessions were being held downtown at the April APS meeting rather than at the SPS zone meeting.



Professor Ken Kelton discusses the development of metals.

The final invited talk of the zone meeting was given by Professor Carl Bender of Washington University. His talk, titled “In the Complex Plane, Classical Mechanics and Quantum Mechanics are very much Alike!”, discussed some of his recent research developments. A very intriguing piece of theoretical work, the question and answer session after the talk lasted for almost an hour!

Dr. Rebecca Trousil, one of the Washington University SPS faculty advisors, concluded the meeting by distributing prizes for the students who had traveled the farthest, the student who had the most correct answers to the Hewitt concept questions, and the student who came closest to guessing the number of M&M’s in the jar.

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