Chair's Corner

Who does not know WSU is going to semester as early as Fall 2012? Given that only 43% of all students graduate in 6 years or less, a few of you might still be here when we transition! We will have some more information for proposed changes in the Fall.

This newsletter is coming out a little bit late this quarter. Hope you all have survived exam week and the year. Looking forward to seeing you all in the Fall, unless you are graduating (congratulations to Todd Massie who will be getting a BA in Physics) or you are spending some time here over the summer.

Have a great summer!

Dr. Lok

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DEPARTMENT NEWS

- Dr. Kathy Koenig, Assistant Professor of Physics and Teacher Education, has been awarded the Presidential Award for Faculty Excellence: Early Career Achievement Award. The award recognizes excellence in teaching, scholarship and service during the formative years of a junior faculty member’s initial appointment.

- Carla Benton, a junior, has received a 2009 Presidential Commendation for Excellence in Co-curricular Activities. Miss Benton is in her junior year in the physics program, with a current GPA of 4.0. She recently was invited to present her undergraduate research work at the 13th Annual Undergraduate Poster Session on Capitol Hill organized by the Council on Undergraduate Education, where she was visited by Senator Steve Austria. She has already co-authored 3 papers with her advisor, Dr. Doug Petkie.

- Dr. Steve Adams (BSEP ‘87, MS ‘89) was nominated by his students for a General Education Recognition award. He has been teaching our evening algebra physics sequence for a number of years. Steve works in the Energy and Power Systems of the Propulsion Directorate at the Air Force Research Laboratory, WPAFB.

- Recently inducted into \( \Sigma \Pi \Sigma \) are: Carla Benton, Robert Lee Burchett, Brian Choi, Rhett Lindsey, Jared Miles, Darren Morris, Lindsay Owens, Jay Patel. \( \Sigma \Pi \Sigma \) is the national physics honor society and members are elected based upon academic record. The local chapter was started in 1969 and currently numbers 264 members.

- Zachary Gault, a junior, recently arrived in upstate New York for his REU on nanotechnology at Cornell (he was also accepted at Princeton). Here are his first impressions of Ithaca: “The campus is on a hill, and there are no fast food restaurants except for Subway, so I'll probably lose 15 pounds or so. Lots of foreign food too. I had Thai for the first time yesterday, and it was good but spicy.”
Dr. Allen Hunt wrote the book *Percolation theory for flow in porous media*, for the Springer series Lecture Notes in Physics. This revised, expanded (over 50% longer) 2nd edition was published in June. The book summarizes the research of 30 papers of the author in the form of a habilitation. A habilitation is a work in which the individual papers combine in such a way as to provide the basis for a unified theory. In this case this theory unifies the understanding of physical phenomena ranging from the air permeability through thermal, electric, and hydraulic conductivity to subjects such as equilibration, hysteresis in wetting and drying, and dispersion (spreading of solutes through fluid flow). Effects of single- and multi-scale heterogeneity as well as anisotropy are addressed. The formulation combines critical path analysis from percolation theory with percolation scaling, cluster statistics of percolation theory. The relationship between the percolation correlation length and the porous medium concept of a representative elementary volume, defining a volume over which statistical averaging is relevant, is demonstrated.

**NEW FACULTY PROFILE**

Sachiko Tosa earned a PhD in Physics from the University of Rochester in 1986 for her research in theoretical nuclear physics. Her dissertation work was to develop a simple mathematical model that could explain the transition between quark matter and nuclear matter. Although she was unable to continue her research in physics due to family reasons, she has been transforming her knowledge of physics into teachable forms through publications and informal science education.

Sachiko has developed and taught science programs for children at the Museum of Science in Boston since 1995, and also at various science institutions in Japan. In 2005, she wrote a children's book in Japanese entitled *Why the Wright Brothers Could Fly--Finding the Secret of Their Success through Paper Airplanes.* The book combined the historical aspect of the Wright Brothers' accomplishment with the exploration of the principles of flight through hands-on activities. The book was chosen as one of the National Essay Contest Books in 2006, and more than 60,000 copies have been sold. This spring, Sachiko earned her second doctoral degree in Science Education from the University of Massachusetts Lowell. She has done her dissertation work on the cross-cultural comparison of inquiry-based science teaching in the United States and Japan at the middle-school level. She is eager to extend her research to different school levels when she comes to Wright State University so that she would be able to include her research findings in the teacher education programs. She is also active in writing about the interactions between science and children in the US for Japanese media. She has a son in Texas and a daughter in New York City. They love to discuss with their mother about science, education, and the interactions between the two.