

THE ACORN

Newsletter of the American Nuclear Society
Oak Ridge/Knoxville Section



Volume 2003-1

January 2003

Happy New Year!

Message From The Chair

Happy New Year to all ANS members in our area!

We continue to have a strong and vibrant local section in the Oak Ridge/Knoxville area. The dinner meetings we have had so far this year have been informative, entertaining, and well-attended. We look forward to more great programs in the coming months. Thanks to everyone who has helped organize these events!

We have also had some wonderful student and teacher workshops this year, thanks to the dedication of Bill Hill, Peggy Emmet, and Dick Rothrock.

Peggy Emmet and Dennis Tollefson are deep into an effort to rewrite our section bylaws. This will make them much more consistent with the recent guidance from national ANS and stimulate a few changes in how we do business. This revision will require a vote by the membership, and we hope to have it ready to send out with the election ballots early this spring. Please show your support for the Section by making an extra effort to return your ballot and the vote on the bylaws when you receive it this year.

I hope to see each of you at a meeting soon.

-Maria LeTellier



2002 Teachers' Workshops

The local ANS Section held two Teachers' Workshops at the Tennessee Science Teachers Association Convention in Franklin on November 23, 2002. Section members Bill Hill and Dick Rothrock presented material on basic nuclear concepts, gave out geiger counters, and distributed teaching materials to all attendees. A total of 22 teachers attended, who appeared to be very appreciative of the experience.

This was probably the last geiger counter workshop since ANS National has very few remaining counters. Geiger counters are being given to first responders, so their availability for educational use has been greatly curtailed. Counters for this workshop were from our local surplus from previous workshops; however this workshop has depleted our inventory.

2002-2003 Officers

Chair:

Maria LeTellier
letellierms@ornl.gov

Vice Chair/Chair-Elect:

Julie Ezold
ezoldjg@ornl.gov

Secretary:

Jan Preston
prestonj@ornl.gov

Treasurer:

Trent Primm
primmrtiii@ornl.gov

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Bernadette Kirk
kirkbl@ornl.gov

Board Members at Large:

Steve Bowman
 Jeff Johnson
 Michael Dunn
 John Wagner
 Larry Miller
 Lien Nguyen

Standing Committees

Arrangements: Sandi Larson and
 Dwaine Pucket

Education: Julie Ezold and Bill Hill

Honors&Awards: Larry Townsend

Membership: Norb Grant

Newsletter: Dan Ingersoll

Program: John Wagner

Web Site: Hanna Shapira

Scholarship: Steve Bowman

Shades: Peggy Emmett

Topicals: Kevin Reynolds and
 Michael Dunn

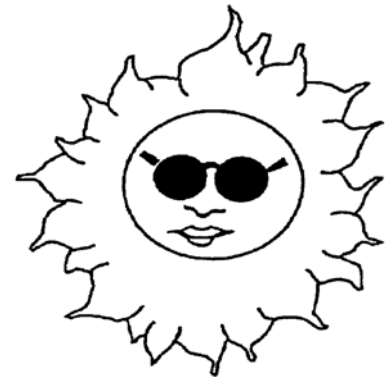
Bylaws: Peggy Emmett

Student Liaison: Sedat Goluoglu

SHADES: Sharing Adventures In Engineering and Science

On Saturday, November 2, 2002, the tenth anniversary of SHaring ADventures in Engineering and Science (SHADES) was observed. The event's theme was "Endeavors in Interdisciplinary Science" and was held at Pellissippi Community College in Knoxville. There were approximately 30 girls, ranging from 5th to 8th grades, and eight teachers participating. Activities included tie-dyeing T-shirts, making ice cream, studying different insects through "Bug BINGO," and learning about radioactivity. The design competition was to build a freestanding "Radio Tower," with the tallest structure built being over 83 inches. ANS Section members Julie Ezold and Peggy Emmett participated in the event.

Over half of the participants came from Hardin County Middle School in Savannah, Tennessee. The 16 students from Savannah were required to write an essay describing why they wanted to participate in SHADES before being selected. Two of the four accompanying teachers learned about SHADES when they participated in the ANS/UT Teachers' Workshop this past summer. They said they would be back in the spring with a different group of girls.



SHADES is an opportunity to help middle school-junior high school age girls realize that mathematics and science are fun and interesting, as well as an outstanding basis for a wide variety of career choices.

SECTION WEB SITE

www.engr.utk.edu/org/ans

Nuclear Engineering Summer Camp 2002 at the University of Missouri-Rolla

By Matthew Krantz

For many years the University of Missouri-Rolla (UM-R) was known as "the School of Mines," majoring in Mining Engineering, Geophysics, Geochemistry, and other mining and minerals-processing curriculum to support the heavy mining industry of the state. The university expanded their degree programs and today provides baccalaureate and graduate programs in a broad range of engineering technologies. The nuclear engineering school at UM-R today provides the nuclear industry with the same number of graduates as many of the ivy league schools of the northeast. The chairman of UM-R's nuclear engineering department, Dr. Arvind Kumar, is successful in attracting prospective nuclear engineering students by providing a robust recruitment program. The most successful recruiting program at UM-R, however, is a novel "summer camp" for high school juniors and seniors. The program is called Nuclear Engineering Summer Camp. For the past several years, they have enticed 20-25 top ranked kids to leave their parents protected nest and travel to the university to be a part of a growing, vibrant new career path in Nuclear Engineering.

Matthew Krantz, a Lenoir City High School junior, was sponsored by the Knoxville-Oak Ridge ANS Section to attend the 2002 UM-R Nuclear Engineering Summer Camp. The 2002 camp opened the eyes of 22 budding scientists to the universe of nuclear engineering. The school prides itself on turning out students with a practical application of the academic pursuit. Accordingly, the summer camp included a recipe of topics that spanned from basic curriculum coverage through nuclear reactor research and NRC-licensed Operator training to the most meaningful topical presentation- salary expectations. The attendees sat up and paid undivided attention to discussions of starting salaries for Nuclear Engineers in the \$55K range. The students had an opportunity to learn about the various ways industry uses nuclear power for practical applications on the planet and in outer space. The students toured the Callaway Nuclear Power Plant, north of Rolla and viewed the mesmerizing Cerenkov radiation emitted from fuel rods at the bottom of the UM-R reactor cooling water pool.

Once enrolled in the nuclear engineering curriculum at UM-R, the students get a chance to perform nuclear and criticality experiments using state-of-the-art lab instruments that hundreds of nuclear engineering graduates have learned from in the past. The summer camp attendees spent quality time in the modern Computer Learning Center, where they performed calculations and worked out problems related to web site searching and research. In addition to the conventional applications of nuclear energy in power plants and defense, the attendees had exposure to the useful applications of radioactivity in a hospital, such as radioactive imaging and cancer treatment using radio-immunotherapy. Matthew found that the summer camp was not only a good place to learn about nuclear engineering but also a good place to meet people from other states. The summer camp attendees hailed from Missouri, Nebraska, Arkansas, Colorado, Kansas, Illinois, other states, and of course, Tennessee was well represented! The summer camp attendees stayed on campus in Thomas Jefferson residence hall where they got to spend time eating, congregating, learning, and of course sleeping. They also had an opportunity to explore the cities of Rolla and the Missouri capital, Jefferson City on the way to Calloway Nuclear Power Plant.

At a time when many of the ivy-league schools are closing down their Nuclear Engineering departments, shutting down their reactors and giving up their NRC operating license, UM-R has taken the opposite approach. The UM-R nuclear reactor remains licensed and is reserved primarily for student use, teaching reactor concepts and research projects for the graduate students. When the nation wakes up to the tremendous need for clean, efficient, reasonably-priced nuclear-produced electrical power, UM-R will be there to supply the engineers to make it happen. The Nuclear Engineering Summer Camp is considered by the faculty to be a great way of attracting interest in the program while youthful minds are undecided and the interest can be cultivated.

Fall 2002 Dinner Meetings

The Program and Arrangements committees put together another terrific lineup of speakers and dinner venues for the second half of 2002. Highlights include:

August: **Congressman Zach Wamp**, Third District, Tennessee, speaking on “A National Energy Policy in a Changing Time.”

October: **Dr. Sherrell Greene**, Oak Ridge National Laboratory, speaking on “Space...The Fission Frontier.”

November: **Mr. Jeff Chapman**, Canberra, speaking on “Homeland Security - Issues and Challenges for Detecting Illicit Radioactive Material.”

December: **Dr. David Hill**, Director of ORNL Nuclear Science and Technology Division, speaking on “The Future of Nuclear Energy and the Role of Oak Ridge National Laboratory.”

If you have ideas or suggestions on future speakers, please pass them to **John Wagner** (wagnerjc@ornl.gov; 241-3570).



Congressman Wamp delivers a strong and enthusiastic case for nuclear power.



Congressman Wamp with Section President, Maria LeTellier at August dinner meeting.

SPRING DINNER SCHEDULE

Dinner meetings are the first Tuesday of each month

Next meeting will be February 4

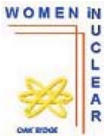
Speaker: Mr. Larry Foulke
ANS Vice President/President-Elect

Location to be announced

M&C-2003 Coming Soon!

The Oak Ridge/Knoxville Section will be hosting the 2003 Topical Conference for the ANS Mathematics and Computation Division. The conference will be held at the Park Vista Hotel in Gatlinburg on April 6-10, 2003. The conference, entitled “A Century In Review -- A Century Anew” will have both a historical perspective as well as a forward look at emerging computational methods. Visit the meetings web site at:

<http://meetingsandconferences/MC2003>
and plan to attend!



Joint Women in Nuclear and American Nuclear Society 2002 Fall Technical Program and Tour by Jan Preston

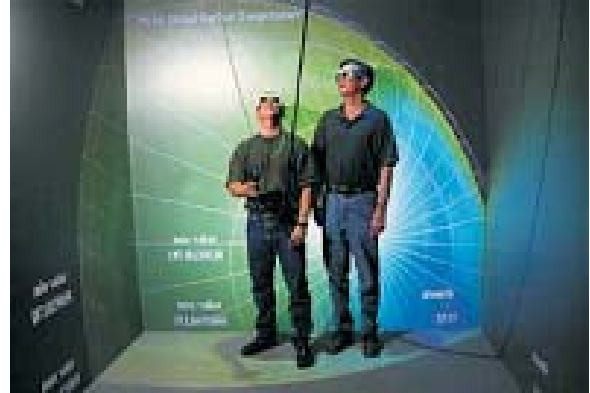


A 2002 Fall Technical Program was held on November 14th at the Oak Ridge National Laboratory (ORNL) and sponsored by the Oak Ridge Reservation Chapter of the U.S. Women in Nuclear (WIN) and the Oak Ridge/Knoxville Local Section of the American Nuclear Society (ANS). There were approximately fifty participants from various locations and professions, including members of WIN, ANS, Society of Women Engineers, American Women in Science, and Federally Employed Women.

The day began with welcoming out-of-town WIN guests from the following states: Georgia, Virginia, Alabama, Maryland, South Carolina, North Carolina, Pennsylvania, and Tennessee. The tour began with the Graphite Reactor, which is a historic landmark from the Manhattan Project. Steve Stow, of ORNL's Human Resources and Diversity Programs Directorate, presented "*A Historical Perspective of Oak Ridge*." Following the presentation, the guests had the opportunity to tour the Graphite Reactor.



Following the Graphite Reactor, the tour continued to the "CAVE-Virtual Reality Theatre." This facility provided the guests with a demonstration of the immersive visualization of three different simulations. The first was a walk through a field with bees and butterflies, the second was the DYNA3D car crash, and the last was a tour through a town both by ground and by air.



The Honorable Beverly A. Cook, Assistant Secretary of Environment, Safety, and Health for the Department of Energy presented this year's program. The title of Ms. Cook's program was "Our Role in Changing the Public Image of 'Nuclear' Technology." During her presentation, she challenged the audience to proactively engage the public on their opinions of nuclear technologies. She reminded everyone that we chose this field and should be proud to share our experience with others.



The tour continued to the Hot Cell Facility of the Radiochemical Engineering Development Center. This facility is used for chemical separation of transcurium actinides and for fabrication of Californium-252 sources. The final stop on the tour was the Robotics Test Facility. The tour included information on robots used for environmental restoration projects as well as the systems being developed for use at ORNL's Spallation Neutron Source.

The Oak Ridge WIN Chapter annually sponsors these fall programs, to which all national members are invited. For more information, please contact Jan Preston, Oak Ridge National Laboratory, at 865-241-7608, or prestonj@ornl.gov.

MEMBERSHIP APPLICATION/RENEWAL

Name: _____

Affiliation: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____ E-mail: _____

I am interested in serving on the following committee(s): _____

Annual membership dues are \$10.00 and are for the fiscal year beginning each June. Checks should be made payable to "ANS Oak Ridge/Knoxville Section" and mailed with this form to the return address shown below. The expiration date of your current membership is shown in the upper corner of your mailing label.

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