

SCIENCE

Polymer synthesis could aid future electronics

Tomorrow's television and computer screens could be brighter, clearer and more energy-efficient as a result of a process developed by a team of researchers from Canada and ORNL. The synthesis of a conjugated organic polymer—widely used as a conductive material in devices such as light-emitting diodes, televisions and solar cells—could mean more efficient, cheaper electronics.

In a paper published in the Proceedings of the National Academy of Sciences, the group of scientists from ORNL and two Canadian universities, the Université du Québec and McGill University, outlined their success in growing highly structured short chains of polymer poly(3,4-ethylenedioxythiophene), or PEDOT. ORNL's supercomputers were used to help analyze and understand the polymerization process and results.

The theoretical expertise provided by ORNL scientists Bobby Sumpter and Vincent Meunier in synthesizing the PEDOT polymer could potentially have an impact on everyday electronic products. PEDOT is valued in electronic applications for the transparency, ductility and stability of its conducting, or doped, state. Because of its role as a conductive material in organic light-emitting diodes, PEDOT is found in many electronic devices, such as televisions and computer monitors.

The polymer is also used in many solar panel cells as a hole-filling material. "It's one of the most successfully used semiconducting polymers on the planet," Sumpter says.

Improving and controlling the molecular order of a nanostructured PEDOT material is critical to the polymer's performance in electronic applications.

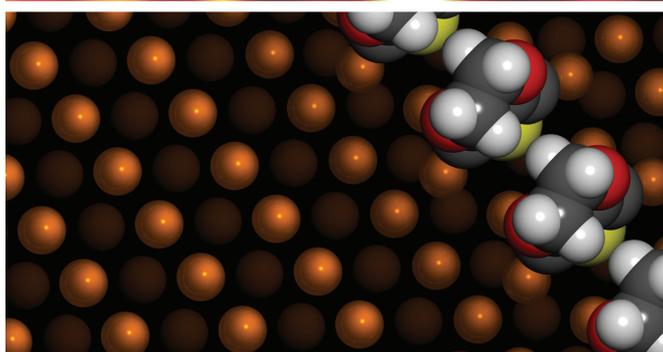
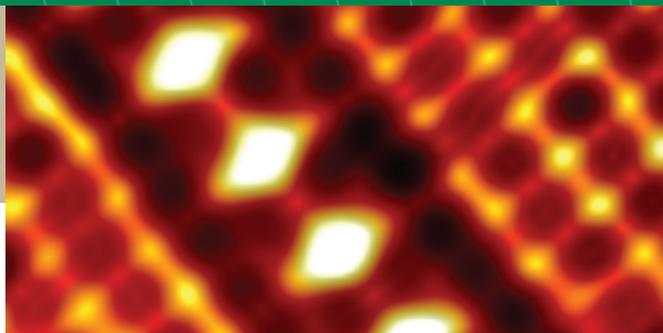
To create ordered arrays of the PEDOT polymer, the team placed a precursor

molecule onto a copper crystalline surface, which helped to guide and initiate the polymerization reaction. ORNL team member Vince Meunier compared the process to placing eggs in an egg carton, where the free energy minima, or "indentations," in the copper surface allow the molecules to neatly stack next to each other to form a compact and organized polymer structure.

"The chemistry and resulting stereochemical structure on the surface are very unusual," said Sumpter. "Most attempts to synthesize polymers usually result in imperfect polymer arrays with a very different prominent structure."

Sumpter and Meunier, both in ORNL's Center for Nanophase Materials Sciences, analyzed the results using a "virtual microscope." The "virtual microscopy," based on density functional theory calculations and simulations performed on ORNL supercomputers, revealed the highly organized structure of the polymer arrays. Using conventional scanning tunneling microscopy, combined with the virtual microscopy to examine the polymer formation, the team was able to clearly illustrate the construction and bonding of PEDOT arrays.

"This experiment defines what nanoscience is about—a mixture of experimental techniques combined with theoretical knowledge," Meunier said. "It was an excellent opportunity to interface directly with experimentalists and establish new international collaborations." —*Morgan McCorkle* 🌿



A high-resolution scanning tunneling microscope image (top) and density functional theory-calculated structures (bottom) reveal the formation of a well-organized PEDOT polymer.

"This experiment defines what nanoscience is about—a mixture of experimental techniques combined with theoretical knowledge."

Table of Contents

Polymer synthesis could aid future electronics	1
Ex-engineering head Ed Krieg applauds modernization efforts	2
ORNL/Y-12 Benefits separation under way	3
Club ORNL events	3
CORRE redesigns its website	4
Exotic insect threatens region's ash trees	4
Living well	5
Treasures from the archives	6
Thom's thoughts	7
Gore visits the Lab	8

Ex-engineering head Ed Krieg applauds modernization efforts

Like many ORNL retirees, Ed Krieg is not really interested in spending his time in a rocking chair, reminiscing about “the good old days.” He’s got too much to do for that. Just look at some of the social, civic, and family activities with which he is currently involved:

- Assisting Troy Trotter (Ed’s boss during the ‘70s and ‘80s) in establishing and maintaining hiking trails in TVA’s Trotter Bluff Small Wild Area at Douglas Dam, as well as restoring and maintaining historic cemeteries in that area.
- Studying World War II, particularly the Battle of Britain and the career of Adm. Chester Nimitz and his command of the Pacific Theater.
- Encouraging one great-niece who is starting medical school and another who is applying to West Point and the Air Force Academy.
- Being a good friend to his friends and assisting them with transportation to various doctor’s offices and hospitals for consultation and treatment, as well as staying with friends while they are in hospital if no family member or advocate is available.

Reporter is published for retirees of ORNL, which is managed by UT-Battelle for the U.S. Department of Energy.

Deborah Barnes

Editor

(865)576-0470

barnesds@ornl.gov

Bill Cabage

Contributing Editor

(865)574-4399

cabagewh@ornl.gov

Cindy Johnson

Design and Layout

Although Ed Krieg has been retired 10 years from his last position as ORNL’s engineering site manager and engineering director, he marvels at the modernization the Laboratory has undergone during the past decade.

“What UT-Battelle has done with all of its new facilities is what I would have liked to have done,” said Krieg, who handled engineering responsibilities for 19 years and still makes his home on the western side of Oak Ridge. “I always thought the way to do the major upgrades necessary was to bring in additional funding sources. That was hard to do until UT-Battelle came along. With the system of additional funding UT-Battelle has worked out with DOE, I am seeing facilities up that I could only have dreamed of.”

Ed worked in Oak Ridge from 1969 through 2000 with ORNL, Y-12 and ORGDP, with all these facilities receiving Ed’s imprint over that 31-year period. Ed still feels a particular closeness to the Lab 10 years after his retirement.

“I’ve been fortunate to attend several retirement parties, and I am simply amazed at how the Laboratory looks so different and is so much better,” Ed said. “The Laboratory has always been a special place, but I think these upgraded facilities and the new programs these facilities have helped to attract make it better than ever.”

Since coming to ORNL in 1981, Ed said there has been a common denominator that has bonded the Laboratory – past and present – together.

“You have remarkable people working at the Lab who have always been able to accomplish remarkable things,” says Ed, who came to Oak Ridge in 1969 via a Union Carbide connection. “Every day, there were special issues and problems that had to be dealt with. I feel fortunate that

I could work with many different people, with different personalities, and from different backgrounds who could come together, work our way through the engineering challenges, and keep the place working.”

Some of Ed’s most memorable work at ORNL came during the last few years of his service when he assisted with early planning for both the SNS and the new Mouse House.

“I was on the evaluation committee that was looking at the plans for the start of construction of the SNS,” Ed recalls.

“That wasn’t an easy task. Ground was broken just a few months before I retired, but I still feel a close attachment to the SNS going back to the very beginning.”

Ed also examined construction costs for the planned new Mouse House as his ORNL career was winding down.

“When a new Mouse House to replace the old facility at Y-12 was first discussed, I did a lot of homework by visiting other facilities involved with genomics research to get an idea what costs might be,” Ed said. “From that research, we were able to build a Mouse House for \$14 million instead of the \$95 million that was originally envisioned.”

A high-level manager in Oak Ridge for three decades, Ed is quick to acknowledge the many people who worked for him and contributed to the overall effort.

“I was not a crisis manager,” Ed says. My philosophy was to always try to pick the very best people and provide them with the proper equipment and resources that would enable them to be successful.

“I feel blessed to have had the opportunity to work with great people from diverse backgrounds,” Ed notes. “Those many working relationships made my job so enjoyable.”—Fred Strobl 🌿



ORNL/Y-12 Benefits separation under way

On April 8 of this year, the separation of ORNL/Y-12 Benefits Administration was announced. The reason for the separation was explained thus:

The joint administration of the benefits program is the last remaining connection between ORNL and Y-12, dating back to when both facilities were managed by the same contractor. Today Y-12 and ORNL have different missions, and in the future, both companies will need flexibility to meet the different needs of their employees and retirees. Because we cannot do this under the current joint administration arrangement, ORNL and Y-12 will separate the administration of health and welfare benefits, along with the pension and savings plans in late summer of 2010.

ORNL Reporter contacted Benefits Manager Mark Wagner to get answers to some of the frequently asked questions about the separation and how it will affect both current employees and retirees:

DISCOVER
your WORLD of benefits

ANNOUNCING
important changes
to ORNL Benefits



Benefits Split Q&A

Q What is the effective date of the benefits separation?

A The separation is set to take place on September 1, 2010.

Q How will the separation affect my dependents and me?

A The separation should have no effect on you or your dependents.

Q Will anything about my benefits change—cost, provider, etc.?

A Nothing will change, except who to contact for benefits questions.

Q Will I receive new insurance cards, and if so, when will they arrive?

A New insurance cards should start to arrive by mid-August. They will be sent for CIGNA, Medco, United Health Care, and Delta Dental. MetLife and VSP do not issue insurance cards.

Q Is the Benefits office moving to a new location?

A Yes. ORNL Benefits will move from its current location at 1009 Commerce Park to 1060 Commerce Park. Additionally, once a location is identified at the Lab, a small office will open there, as well.

Q Who is the new plan administrator?

A UT-Battelle has contracted with a new vendor, Workscape, to perform the day-to-day plan functions, such as enrollment and eligibility verification, and to operate a call center to answer questions.

Q Is there a website or other place to access my benefits information?

A Yes; the website is <https://ornl.employee.com>. You can also call the ORNL Benefits Service Center at 1-800-211-3622. Benefits representatives will be available 24 hours a day, 7 days a week, excluding major holidays. They

will be able to answer your benefits-related questions or make your enrollment elections for you.

Q Will pension payments for retirees be affected?

A No. There will be no effect on pension payments except that the payment for ORNL retirees will be made by Northern Trust and not Y-12. Y-12 retirees will continue to receive their check from Y-12.

Q Will the separation affect benefits for a retiree's spouse should something happen to the retiree?

A No. The change will have no effect on any benefits a spouse may be entitled to receive.

Q Who can people contact if they have questions or concerns about the administration change?

A So that questions and the responses can be documented and shared with all staff, ORNL employees and retirees can e-mail questions or concerns to ORNL Benefits at ornlbenefits@ornl.gov.

Q How can those who are interested keep up with what is happening during the transition?

A ORNL employees and retirees will receive periodic progress updates and notices of important information in *ORNL Reporter*, *ORNL Today*, the ORNL Benefits website (<http://benefits.ornl.gov/newsupdates/>), and through home mailings.

Q Who within ORNL can answer additional questions employees/retirees might have?

A They may contact the main ORNL Benefits Office at (865) 574-7474 or toll-free at (866) 576-7766.

Club ORNL events

Get the details and latest news online via <https://info.ornl.gov/sites/clubornl>. Request an XCAMS account, which will allow you to participate in these events or contact Lara James at 576-3753 or jamesla@ornl.gov.

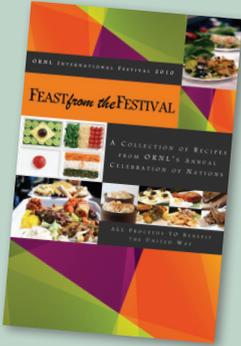
Sept. 4	Football: UT vs. UT-Martin
Sept. 9	Amadeus (KSO/Clarence Brown Theater)
Sept. 11	Chattanooga Day Trip
Sept. 16	Doubt (OR Playhouse)
Sept. 25	Football: UT vs. UAB
Oct. 7	Fall Golf Tournament
Oct. 16-17	Abingdon & Virginia Creeper Overnight
Oct. 23	Wahoo Ziplines

One more way to give to the United Way: A cookbook

The International Festival, a popular annual feature of the Lab's United Way campaign, serves as the Lab's flagship fund raising event for the campaign. In addition to its fund-raising component, the festival has also become a unique vehicle for celebrating the Lab's cultural diversity.

This year's 8th annual festival is also offering another way to contribute to United Way, with the publication of its first-ever International Festival cookbook, *Feast from the Festival*. The cookbook includes recipes from the cuisines of the diverse countries represented at the festival. Included among those recipes are such international favorites as hibiscus tea from Egypt, Nanaimo dessert bars from Canada, and American Indian buffalo chili.

For an \$18 donation, \$15 of which will go to the United Way, you can get your own copy of the cookbook and "release your inner Julia Child." To reserve your copy, contact Stephanie Ritchie at 865-241-2011, or via e-mail at ritchiesm@ornl.gov, and we'll ship your cookbook directly to your home.



Emerald ash borer

CORRE redesigns its website

The CORRE Board decided a few months ago that its website should be redesigned to make it easier to navigate around the site and to make it more user friendly.

The revised website provides information about CORRE (the Coalition of Oak Ridge Retired Employees) and its programs for both its membership and the general public. On the site, you will find information about CORRE's history, its organization, the issues it seeks to resolve, and its programmatic efforts. You will also find relevant supporting documentation, including news articles, reports, resolutions, and information for contacting appropriate officials and representatives. Their goal: To provide a website that is both accessible and informative.

The website has eight main tabs—Home, About CORRE, Issues, Program, Information, Photo Albums, Archives, and Calendar—with subtabs making it easier to find the information needed to understand CORRE's vision, mission, and approach.

The photo albums include membership pictures from the 2009 Annual Meeting and of the CORRE board in action.

The new website is located at the same URL as the previous one (<http://www.corre.info>). Says CORRE, "We hope you will find the information you need about the organization, its leadership, its membership, and what the group has done and is doing on your behalf, and what you can do to help advance the cause. We also hope that you will find the information you need to understand the important issues CORRE addresses and the work CORRE is doing to resolve them."

The website redesign was a project of an ad hoc website committee consisting of board members Sandy Dean, Phyllis Green, Judy Kibbe, Mary Helen Rose, and Dub Shults, plus Advisor Fred Postma. With the help of Pete Lotts, the committee reviewed the old website and set criteria for the revised site. The new site was then developed and loaded with current information by Dub Shults and Phyllis Green. Phyllis will serve as Web Master for the new site.—Phyllis Green 🌿



Exotic insect threatens region's ash trees

ORNL's Tennessee Division of Agriculture inspectors recently confirmed the presence of the emerald ash borer at a truck stop off Watt Road in Knox County. Says Lab forester Greg Byrd, "This insect is an invasive, exotic bark beetle native to Russia and the Orient. It was first discovered in Detroit in 2002 within shipping material. In the United States, the pest mainly has been transported to uninfested areas by means of firewood. The insect lays its eggs within the bark of ash trees where its young feed on the tissues within. The emerald ash borer kills nearly all affected trees within one to three years."

"The loss of ash species would be staggering," Greg says. "There are around 71,000 ash trees on the Oak Ridge Reservation alone. Statewide, there are an estimated 261 million trees, 10 million of which are in urban environments."

To learn how to identify your ash trees and learn the symptoms of EAB infestation, visit <http://tn.gov/agriculture/regulatory/eabchecklist.html>. TDA officials also urge area residents and visitors to help prevent the spread of the ash borer by taking the following precautions:

- Don't transport firewood, even within Tennessee. Don't bring firewood along for camping trips. Buy the wood you need from a local source. Don't bring wood home with you.
- Don't buy or move firewood from outside the state. If someone comes to your door selling firewood, ask them about the source.
- Watch for signs of infestation in your ash trees.

If you suspect your ash tree could be infested with EAB, visit www.TN.gov/agriculture/eab for an online symptoms checklist and report form, or call TDA's Regulatory Services Division at 1-800-628-2631. 🌿



Facts about fats

Healthy fats. Trans fats. Mono- and polyunsaturated fats. Isn't fat just fat?

Not when it comes to your health. In a recent edition of Mayo Health Clinic's "Embodiment Health" online, Mayo Clinic dietitian Katherine Zeratsky, R.D., L.D., tackled a question from an interested reader about the health benefits of olive oil.

Says Ms. Zeratsky, "When choosing fats, olive oil is a healthy choice. Olive oil contains monounsaturated fat, a healthier type of fat that can lower your risk of heart disease by reducing the total and low-density lipoprotein (LDL, or 'bad') cholesterol levels in your blood."

"In contrast, saturated and trans fats — such as butter, animal fats, tropical oils and partially hydrogenated oils — increase your risk of heart disease by increasing your total and LDL cholesterol levels."

"According to the Food and Drug Administration, consuming about 2 tablespoons (23 grams) of olive oil a day may reduce your risk of heart disease. You can get the most benefit by substituting olive oil for saturated fats rather than just adding more olive oil to your diet."

To add olive oil to your diet, you can saute vegetables in it, add it to a marinade, or mix it with vinegar as a salad dressing. You can also use olive oil as a substitute for butter when basting meat or as a dip for bread. Olive oil is high in calories, so don't eat more than the recommended amount

And what's the big deal about extra-virgin olive oil as opposed to regular olive oil? Says Zeratsky, "All types of olive oil contain monounsaturated fat, but 'extra-virgin' or 'virgin' olive oils are the least processed forms, so they're the most heart healthy. Those types contain the highest levels of polyphenols, a powerful antioxidant that also can promote heart health."

And keep in mind that "light" olive oils are usually more processed than extra-virgin or virgin olive oils and are lighter in color, not fat or calories.

Goodbye, Crisco. Hello, Bertolli. 🌿

Here's a recipe, an old standard, that uses a little olive oil, is low fat, and can be served either cold or hot.



Cold Potato-Leek Soup (Vichyssoise)

4 leeks
1 medium onion
1 tablespoon olive oil
4 medium potatoes, peeled and finely sliced
4 cups unsalted chicken broth

1/4 teaspoon mace
2 cups evaporated skim milk, chilled
6 tablespoons chopped chives
Ground black pepper, to taste

Directions. In a blender or food processor, process the leeks and onion until finely chopped. In a large saucepan, heat the olive oil over medium heat. Add the chopped leeks and onion, and saute until browned, about 5 to 7 minutes. Add the potatoes, chicken broth and mace. Cook over medium heat until the potatoes are tender. Pour the mixture into the blender or food processor. Blend until smooth. Pour into a large bowl and refrigerate. Before serving, stir in the evaporated milk. Ladle into individual bowls. Top each with 1 tablespoon chives and pepper to taste. Serve cold.



Nutritional Analysis

Per serving:

- Serving size: About 1 cup
- Calories 238
- Cholesterol 7 mg
- Protein 12 g
- Sodium 210 mg
- Carbohydrate 39 g
- Fiber 3 g
- Total fat 4 g
- Saturated fat 1 g
- Monounsaturated fat 2 g
- Calcium 306 mg
- Potassium 979 mg

Dietitian's tip: With their mild, sweet, onion flavor, leeks make a wonderful addition to this cold soup. Because they're grown in sandy soil, leeks tend to trap grit between their multi-layered leaves and must be washed thoroughly before cooking.

THE NEWS

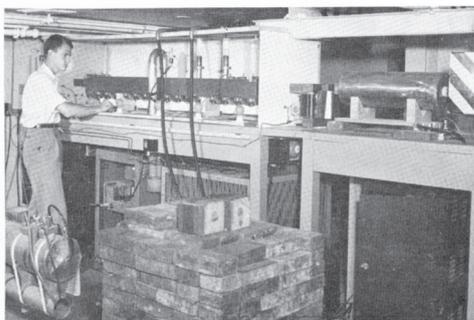
OAK RIDGE NATIONAL LABORATORY

A Publication by and for the ORNL Employees of Carbide and Carbon Chemicals Division, Union Carbide and Carbon Corporation

Vol. 3—No. 13

OAK RIDGE, TENNESSEE

Friday, September 29, 1950



HARVARD UNIVERSITY SPONSORS PROGRAM HERE — James H. Smith, Harvard University graduate student in physics, is shown as he adjusts a neutron beam apparatus at the south face of the Oak Ridge Pile. Using the Pile as a source of neutrons, Mr. Smith is engaged in a project jointly sponsored by Harvard University and Oak Ridge National Laboratory for the purpose of determining if neutrons have permanent electric dipole moments.

Harvard University Conducts Important Research at ORNL

The growing importance of Oak Ridge National Laboratory as a research center is manifested particularly in its assistance to universities and technical schools on various projects in which nuclear research is involved. An example of such relationship is its present collaboration with Harvard University in an investigation to determine if neutrons have permanent electric dipole moments.

The work of the project is under the direction of Professors E. M. Purcell and Norman F. Ramsey of the Harvard University Physics Department and is being conducted on the Laboratory area by James H. Smith, a graduate student at Harvard. During his sojourn here, Mr. Smith is associated with the group directed by Dr. Seymour Bernstein, of the Physics Division, because of the fact that at certain points they are interested in certain common problems—specifically the production, measurement, and use of polarized neutron beams in a variety of physical problems. The project centers around the investigation of neutrons produced in the Oak Ridge Pile.

The Harvard group has been engaged in this research for the past 18 months. Mr. Smith has worked on the Laboratory area since last April in setting up his equipment: magnets, radio-frequency



DR. TAYLOR

Dr. Ellison Taylor Appointed Chem. Division Director

Effective October 1, Dr. Ellison H. Taylor will assume the duties of Director of the Chemistry Division. In this capacity he will succeed Dr. John A. Swartout, who was recently elevated to the position of Assistant Research Director of Oak Ridge National Laboratory.

Dr. Taylor's present connection with the Chemistry Division is that of Associate Director of the Division and Group Leader of the Radiation Chemistry Group, in which capacities he has served since June, 1948. Previously, he had been Assistant Director of the Division, from June, 1946, to February, 1948, and was Acting Director from the latter date until his present association with the Radiation Chemistry Group began. He joined the staff of the Laboratory in October, 1945.

His research work here has been primarily concerned with radiation chemistry and the study of the mechanism of chemical reactions by the molecular beam technique, in which neutron-induced radioactivity is used as a tool.

Dr. Taylor's first experience with research in atomic energy began when he became associated in February, 1942, with the Division of War Research, Manhattan Project, at Columbia University. In this work he

ACS Lectureship Set For October 26, 27

The East Tennessee Section of the American Chemical Society will have its Annual East Tennessee Lectureship this year in two sessions, according to plans recently announced by members of the group. One session will be held at Knoxville on October 26 and the other at Oak Ridge on October 27. Dr. Hobart H. Willard, of the University of Michigan and Consultant to the three Carbide operated installations in Oak Ridge, has been invited to give the Lectureship addresses.

The title of the lecture to be given at Knoxville will be "The Importance of Analytical Chemistry in Our Industrial Age", and that of the lecture to be given in Oak Ridge will be "New Precipitation Methods."

Dr. Willard is recognized as one of the leading authorities in the

Coordinators Report 'Ready' For Fire Prevention Week

To a greater extent than ever before will be the Laboratory's observance of National Fire Prevention Week, October 8-14. Not only will this observance be a token of the Laboratory's effort to maintain its amazingly low record of fire losses but it will serve to preserve uninterrupted continuity of research projects vital to the nation's welfare.

Already sign painters are in the process of painting three large billboards, two large banners, and numerous other display signs proclaiming the participation and interest of this installation in the observance.

Capt. B. M. Beeler, supervisor of the Fire Department's Fire Prevention in the Laboratory, reports that the Coordinators of the various divisions for Fire Prevention reports enthusiastically support the program. The program is being supported through the Laboratory by the Coordinators of the various divisions. Capt. Beeler stated in the fire prevention meeting in the Engineering Division.

Technical Meetings

BIOLOGY SEMINAR at 3:30 p. m., Thursday, October 5, in the Conference Room, third floor, Building 9207. Drs. Alexander Hollaender and Seymour Pomper, reporting on the VIIth International Congress of the International Society for Cell Biology, at Yale University; Dr. G. R. Noggle, reporting on the American Society of Plant Physiologists meeting at Columbus, Ohio; and Drs. W. E. Cohn and Fred Vaslow, reporting on the American Chemical Society meeting in Chicago.

CHEMISTRY SEMINAR at 3:15 p. m., Wednesday, October 4, in the Chemistry Lunchroom, Building 706-A. The Kinetics of Self-diffusion in Ion Exchangers. Dr. B. A. Soldano, of the ORNL Physics Division.

OAK RIDGE PHYSICS SEMINAR at 4 p. m., today (Sept. 29), in the East Lounge of Ridge Hall. Energy Dependence of Total Neutron Cross Section. C. P. Stanford and T. E. Stephenson, of the ORNL Physics Division.

OAK RIDGE PHYSICS SEMINAR at 4 p. m., Friday, October 6, in the East Lounge of Ridge Hall. Angular Correlation and Polarization of Gamma Rays. Dr. G. B. Arfken, Jr., of the ORNL Physics Division.

"It is my sure the opinion in the Engineering Division a National Fire is a worthwhile the Oak Ridge tory we have b to have had s lated accidents but due to th are prone to f attitude toward prevention. Sa presented durin tion Week will and keep us av and material lo from a fire alo we should do t currence."
—By P
Mathem
"Fire Prevent an excellent op

Sixty years ago this month

Taken from The ORNL News for September 1950

- Construction begins on the Isotope Research and Semi-works building. The 67,000 square foot building, much of which will be a "hot" laboratory surrounded by concrete walls, will allow researchers to investigate highly radioactive materials and the processes for chemical separations of these materials.
- The AEC School of Reactor Technology held its first regular class to provide basic and advanced training in reactor theory and technology. An earlier pilot class was attended by naval Captain Hyman Rickover. Admiral Rickover later became known as the father of the first atomic submarine.
- Citizens of Oak Ridge have been invited to sign the Freedom Scroll at the base of the 10-ton Freedom Bell to be hung in the Tempelhof Airdrom in Berlin.
- Mrs. Henrietta Hollaender, wife of Dr. Alexander Hollaender, of the Biology Division, makes her debut as an actress with the Oak Ridge Playhouse production of "Born Yesterday".
- Dr. Ellison Taylor assumes the duties of Director of the Chemistry Division. His recent research with radiation chemistry has been the study of the mechanism of chemical reactions by the molecular beam technique, in which neutron-induced radioactivity is used as a tool.
- ORNL and Harvard University are using the Oak Ridge Pile (graphite reactor) in an investigation to determine if neutrons have permanent electric dipole moments. This will provide information relative to the structure of neutrons and the nature of electromagnetic interactions.—prepared by ORNL History Room volunteers

From the Lab Director

The administration of ORNL Benefits is on schedule to switch from Y-12 to ORNL starting September 1. This is a long-awaited milestone for the Lab, which was detailed in the May issue of *ORNL Reporter*. Under the new arrangement, UT-Battelle will be managing benefits not only for UT-Battelle employees, but also for retirees. You should have received mailings from ORNL and our benefits providers detailing how the new administration will work. Please watch your mail for these important notices and read each of them carefully.

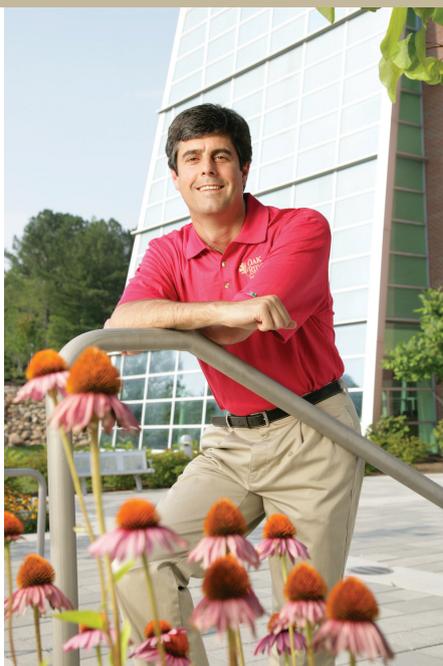
Former Vice President Al Gore visited us on August 10 with a California firm—Kleiner Perkins Caufield & Byers—to look at some of the Lab's cutting-edge technologies. He also visited the Spallation Neutron Source, which he announced in 1998 and helped break ground for in late 1999. I met with Secretary of Energy Steven Chu, Congressman Lincoln Davis, and members of Senator Lamar Alexander's staff on a recent trip to Washington. Around the Lab, visitors have included a Taiwanese delegation to the SNS, led by Minister Lou-Chuang Lee of Taiwan's National Science Council. U.S. Department of Agriculture Under Secretary Dallas Tonsager and other USDA representatives were hosted by Jeff Smith for a tour of the Laboratory's computing facilities and a briefing on BESC activities. Their visit preceded the groundbreaking for the Biomass Innovation Park, a test site for biomass preparation and storage adjacent to Genera Energy's biorefinery, located in Vonore.

The latest construction progress to report on the Laboratory campus is the 573 cubic yards of concrete poured for the addition to the ORNL Steam Plant. This impressive structure will support the conversion of the Steam Plant to biomass, part of our overall Sustainable Campus Initiative to reduce our carbon output. We'll be seeing a lot of "green" innovations and initiatives at the Lab in the near future, including progress on the electric vehicle infrastructure.

Representatives from ORNL and PartTec, an Indiana-based firm, formally signed a licensing agreement on August 12 to market an advanced neutron detector system developed for the SNS, called the Shifting Scintillator Neutron Detector. Commercial interest in the product ranges from use at other neutron science facilities to security applications such as border security and monitoring shipping for the presence of fissionable material. It's a great example of technology developed at ORNL finding broader uses in the science community.

Finally, I would like to share this traffic safety note: Our Facilities and Operations Directorate has placed magnetic safety signs on the rear of their vehicles, reminding drivers to perform a 360-degree inspection for potential hazards before starting the vehicle. Drivers are expected to walk around a vehicle before using it and then move the sign to the driver's door to signify that the inspection has been performed. When the vehicle is parked, the driver returns the sign to the back of the vehicle. While I wouldn't expect our retirees to adopt such a system for their own personal vehicles, many accidents could be avoided just by taking the time to check for hazards before backing up.

Thom Mason



"I described the Spallation Neutron Source to a very interested former Vice President Al Gore on his August 10 visit."



ORNL Deputy Director for Science and Technology, Thomas Zacharia, and PartTec CEO, Herschel Workman, sign a licensing agreement on August 12.



Oak Ridge National Laboratory
Reporter
P.O. Box 2008
Oak Ridge, TN 37831-6266

PRSR STD
U.S. Postage
PAID
Permit # 37
Powell, TN

Gore visits the Lab

Former Vice President Al Gore visited ORNL on August 10 with a California firm, Kleiner Perkins Caufield & Byers, to look at some of the Lab's cutting-edge technologies. Topics the group covered included the Lab's bioenergy, energy and transportation science, energy storage, nuclear reactor and geographic information systems programs, as well as the Carbon Dioxide Information Analysis Center and Climate Change Institute. The party also toured the Spallation Neutron Source, for which as vice president Gore played a role during the project's earliest days (see Thom's Thoughts, page 7), and the Lab's nanoscience center.

Before becoming vice president in 1993, Gore represented Tennessee in the U.S. Senate.

EVEREST, the Lab's visualization laboratory, is one of the Lab's most often visited facilities. Visitors—from VIPs to school groups—can see the same larger than life, animated images based on ORNL research that the scientists use to analyze and understand their data. 🌿



Former Vice President Al Gore watches a presentation in EVEREST.