

SCIENCE

ORNL researchers develop potential life-saving mathematical tool

Math and medicine are coming together to help people who have suffered an abdominal aortic aneurysm, which with 15,000 sufferers is the 13th-leading cause of death in the United States.

At the heart of the effort are genetic algorithms written by Oak Ridge National Laboratory researchers that allow physicians to more efficiently assess and organize the often vast amounts of information contained in patient reports. Ultimately, with this tool – a sophisticated way to quickly extract key phrases – doctors will be able to characterize features and findings in reports and provide better patient care.

“If a surgeon had a way to more accurately predict whether a patient is likely to suffer a leak or rupture, he could be in a better position to help that patient,” said Robert Patton of ORNL’s Computational Sciences and Engineering Division. “We believe our method to quickly extract and organize information from reports will be a huge asset to surgeons and their patients.”

An abdominal aortic aneurysm occurs when the artery that supplies blood to the abdomen expands under pressure or balloons outward. Most occur in males 60 or older with risk factors including tobacco use, high blood pressure, atherosclerosis and race, as this is most common in whites, according to the Mayo Clinic.

This work builds on previous studies involving genetic algorithms developed for mammography. That system allows doctors to quickly identify trends specific to an individual patient and match images and text to a database of known cancerous and pre-cancerous conditions.

In much the same way, Patton and colleagues see this benefitting people who have had to undergo surgical repairs for an abdominal aortic aneurysm – usually with the insertion of a graft or stent. After the

surgery, physicians typically monitor the patient for several years to ensure that there are no further ruptures or leaks.

For the study, researchers examined records of 20 patients and a total of 111 reports consisting of 87 radiology reports and 24 operative notes. The operative notes comprise approximately four radiology reports and one operative note per patient. Unlike the mammography reports that were the focus of a previous study, reports for aortic aneurysm patients had far more variability in the language and tended to be longer. They lacked the frequent labels “normal” or “suspicious” found in mammogram reports.

Researchers noted, however, that patient reports with abnormalities tended to be longer and contained wider variation in the language than those of normal patient reports. These reports also contained more “negation” phrases such as “no evidence of endograft leak.”

“Because of the length and variability of the reports, the task of retrieving just reports that represent abnormalities is daunting,” Patton said.

Consequently, the conventional approach using a vector space model based on individual terms does not adequately capture the language used in these medical documents. To address this challenge, the team employed what’s known as “skip grams,” which are word pairs in their respective sentence order that allow for different gaps between the two words. For example, the researchers may select “no” and “leak” as one of the sought parameters, but the level of sophistication can be increased dramatically.

By employing this strategy, the researchers were able to extend and apply the Maximum Variation Sampling Genetic Algorithm to the radiology reports.

Researchers involved in the abdominal aortic aneurysm work include Barbara Beckerman and Vincent Paquit of ORNL’s Computational Sciences and Engineering and Measurement Science and Systems Engineering divisions respectively.

This research was funded by ORNL’s Laboratory Directed Research and Development program and made possible by the University of Tennessee Graduate School of Medicine and University of Tennessee Medical Center.  *Ron Walli*

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Ed Mee: “Helping people keeps me going”



Ed Mee and wife Sandra.

Ed Mee says “Helping people keeps me going.”

When Ed Mee was vice president of the Atomic Trades and Labor Council 10 years ago, he prided himself on working to help people.

Retired since Jan. 1, 2004, Ed still lives by that life goal.

“What I find most rewarding about retirement is that I’m still able to help people who in many cases I’ve known for a long time,” Ed said recently during a telephone interview from his Farragut home. “Helping people is what keeps me going.”

Ed, 68, worked 31 years at the Lab. A native of West Knoxville and a graduate of West High School, Ed worked as a heavy equipment operator in the U.S. Air Force before joining ORNL.

Ed’s wife, Sandra, also worked at ORNL, with a good number of those years being spent in security.

A member of the Farragut Lions Club for the past two years, Ed has become very involved in the different vision programs the International Lions Club offers on the local level.

“Our club conducts a number of eye screenings for children as young as kindergarten,” Ed noted during a week when two such events were being held—one at Middlebrook Pike United Methodist Church and the other at Concord Baptist Church in West Knoxville. “The goal of the program is to detect eye problems in children as early as

possible and to get those problems resolved quickly.”

Ed noted the results of the screenings are sent to Vanderbilt University for analysis, which then sends the final reports to the children’s parents.

“For every child screened, the parents receive a report of the results, whether there is a problem or not,” Ed said. “Eye health is so important – especially for young children – and to be able to have this program here is vital for children as they start school.”

The Lions eyesight program is not limited to children, however.

“We recently conducted screenings for some homeless people in Knoxville, and we were able to provide 50 of them with eyeglasses,” Ed said.

The program ties in with another organization Ed volunteers with — Knox Area Rescue Ministries (KARM).

“KARM is an organization that does a lot of good, and I’m fortunate that I’ve been able to help out in many different ways for a number of years,” he said.

Ed remains active with the Oak Ridge retirement community, as well. He serves on the board of the Coalition for Oak Ridge Retirees (CORRE) and also helps at ATLC-related health screenings for Oak Ridge retirees.

“I may be busier now than when I was working,” Ed said. “I feel fortunate that I can continue to provide assistance. I have a lot of rewarding experiences from all of this. My calendar is full, but I wouldn’t have it any other way.”—Fred Strohl 🌿

“My calendar is full, but I wouldn’t have it any other way.”

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

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Nature walks planned

- Six nature walks are scheduled this spring** on the Reservation. Here’s a list:
- Sunday, April 10:** Wildflower walk at Rainy Knob on Freels Bend. (1:30-4:30 p.m.)
 - Saturday, April 23:** Wildflower walk at East Fork Ridge Old Growth Forest. (9:00-Noon)
 - Saturday, April 30:** Bird walk in the Freels Bend area. (7:00-10:30 a.m.)
 - Saturday, May 7:** Bird walk along Poplar Creek in the vicinity of the ETTP Beaver Pond. (7:00-10:30 a.m.)
 - Sunday, June 5:** Animal inventories along Solway Bend. (1:30-4:30 p.m.)
 - Saturday, June 11:** Invasive plants studied at various locations on the reservation. (9:00-Noon)

To reserve your spot, contact Lana McDonald, 865-574-7323 or mcdonaldlk@ornl.gov, by noon Thursday prior to each walk.

If inclement weather forces the cancellation of a walk, it will be posted two hours prior to the scheduled start on ORNL’s Information Line at 865-574-9836.

More information about the walks is available by contacting Trent Jett at 865-574-9188 (jetttrt@ornl.gov) or Marti Salk at 865-574-7315 (salkms@ornl.gov).

ORNL's Jaguar helps BMI win award, nation save fuel

A BMI Corp. SmartTruck technology that could save 1.5 billion gallons of diesel fuel and \$5 billion in fuel costs per year has hit the road in record time, in part because of simulations performed on ORNL's Jaguar supercomputer, the nation's most powerful supercomputer.

While South Carolina-based BMI Corp. has just won an industry award from Heavy Duty Trucking magazine, the real winners could be trucking companies and the environment. With installation of BMI's SmartTruck UnderTray System to improve the aerodynamics of 18-wheeler (Class 8) long-haul trucks, the typical big rig can achieve fuel savings of between 7 and 12 percent. This exceeds the new California Air Resources Board mandate that calls for a minimum mileage improvement of 5 percent.

Those results, which earned BMI one of the publication's top 20 products of the year awards, were made possible because of simulation work performed on Jaguar.

"We were able to run simulations based on the most complex tractor and trailer models instead of simplified models, and we were able to run them faster," said Mike Henderson, chief executive officer

and founder of BMI, an engineering services firm based in Greenville, S.C.

The work on Jaguar shortened the computing turnaround time for BMI's complex models from days to a few hours and eliminated the need for costly and time-consuming physical prototypes. In all, running simulations on Jaguar allowed BMI to go from concept to a design that could be turned over to a manufacturer in 18 months instead of the 3½ years they had anticipated, according to Henderson, who noted, however, that more work remains.

"Our first goal was to design add-on parts for existing trucks and trailers to make them more aerodynamic,"

Henderson said. "By reducing drag we boost fuel efficiency and cut the amount of carbon that's being dumped into the environment."

In time, BMI plans to design trucks that are far more aerodynamic from the ground up.

"We hope to soon turn our attention to creating a brand new highly aerodynamic vehicle with optimum fuel efficiency," Henderson said.

Until then, Henderson noted that if all of the nation's 1.3 million Class 8 trucks were configured with just the minimum UnderTray package, the average fuel

economy of 6 miles per gallon could increase to about 6.5 mpg or more, which is significant given the fact 18-wheelers collectively travel some 130 billion miles per year. And from an emissions standpoint, equipped with the aerodynamics package,

those trucks would reduce their carbon dioxide emissions by 32.7 billion pounds (16.4 million tons).

"The Department of Energy's supercomputers provide an enormous competitive advantage for the United States," said Energy Secretary Steven Chu. "This is a great example of how investments in innovation can help lead the way to new jobs, new ways of cutting our carbon emissions and new opportunities for America to succeed in the global marketplace."

BMI's work with ORNL was made possible through the laboratory's Industrial High-Performance Computing Partnerships Program.—Ron Walli 🌿



Trailers equipped with this front tray fairing and other BMI Corp. SmartTruck UnderTray components can achieve between 7 and 12 percent improvements in fuel mileage. (Photo courtesy of BMI SmartTruck)

"This is a great example of how investments in innovation can help lead the way to new jobs."

—Secretary Chu

"The Department of Energy's supercomputers provide an enormous competitive advantage for the United States."

—Energy Secretary Steven Chu

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.

Mar. 1 Dollywood Ticket Sales

Mar. 19 The Silver Whistle

TBD Alive After Five

TBD Wahoo Ziplining

Apr. 30 Smokies Baseball Game & Picnic



Alvin Weinberg memorial fund established

A memorial fund has been established in honor of the late Dr. Alvin Weinberg, first research director of ORNL, founder of the Institute for Energy Analysis at ORAU, and an international leader in nuclear technology. The fund is raising monies to support four components of a Weinberg Memorial.

An hour-long biographical documentary, to be produced by award-winning filmmaker Keith McDaniel, will be distributed to libraries, museums, and high schools. All contributors will be recognized, with those contributing \$20,000 named underwriters.

Two bas-relief cast bronze plaques in the likeness of Dr. Weinberg to be produced and mounted at the Graphite Reactor and the American Museum of Science and Energy.

An annual lecture-workshop series in Dr. Weinberg's honor will be undertaken, in cooperation with the Howard Baker Center at UT.

The Oak Ridge tennis courts to be renamed and a tennis tournament established, in recognition of Dr. Weinberg's avid enthusiasm for the game.

The fund was established by ORNL, ORAU, Friends of ORNL, the Rotary Clubs of Oak Ridge, and the local chapter of the American Nuclear Society. The fund is accepting contributions to ensure that these plans will be realized; a total of \$200,000 is needed.

Additional information can be found at the memorial fund website (www.Alvinweinbergmemorial.info), or by contacting Tom Row [tomhrow@bellsouth.net (865-482-9096)] or Steve Stow [shstow@aol.com (865-966-0268)]. All contributions will be tax-deductible. 🌱

Friends of ORNL



The Friends of ORNL (FORNL) is an organization of present and retired employees of the Lab, along with other persons, organizations, and companies with an interest in the Laboratory, its welfare, and its programs. The current membership, called ambassadors, comprises about 80 scientists, engineers, and others of varied backgrounds, who participate in FORNL activities. Those activities include serving as volunteer tour guides for the "DOE Facilities Public Bus Tours," speaking to tour groups from all over the country about past and present-day activities at the three DOE sites, and working in the history room at the Lab to help identify and categorize historical documents and photographs. In addition, FORNL has taken a lead position in developing ideas for the Weinberg Memorial Fund (see article above), to honor Alvin Weinberg and his contributions to ORNL, to science, and to the world community.

FORNL also sponsors the Dick Smyser Community Lecture Series, a series of lectures on a wide range of topics—everything from "Building A Sustainable, Energy Efficient, Budget Conscious Home" to "The Negro Baseball League and a Changed America."

Meetings are held from 11 a.m. to 1 p.m., on the third Wednesday of each month, at the UT Resource Center, 1201 Oak Ridge Turnpike. Dues are just \$20 per year, or \$200 for a lifetime membership. Additional information on FORNL activities can be found at the group's web site (www.fornl.org).

Says current FORNL president, Bob Hightower, "We would like very much for you to join this worthwhile organization and look forward to your participation." 🌱

Fall in love with a heart-healthy diet

Do you love the idea of a heart-healthy diet but aren't sure where to start? ORNL registered dietician Donna Pierce offers tips on how to create a daily meal plan that emphasizes fish, chicken, whole grains, fruits and vegetables, and limits high-fat and high-sodium foods.

Lower your sodium intake. Sodium is an essential nutrient. It maintains blood volume, regulates the balance of water in the body and transmits nerve impulses. However, a little goes a long way. Just a teaspoon of salt contains 2000 mg of sodium. While the American Heart Association recommends less than 2300 mg per day (less for those with hypertension risk; more for athletes), the average adult consumes 3600 mg or more.

Used as a flavor enhancer and food preservative, sodium can be a hidden danger. Donna advises cooking at home more often, as this is the best way to control your salt intake. Limit processed meats, choose kosher or sea salt, look for low sodium items with 140 mg or less, and resist the urge to add salt during cooking.

Add more fiber. Food labels are beginning to show a breakdown of soluble and insoluble fiber, as each has specific health benefits. Found in asparagus, peas, kidney and pinto beans, and wheat bran, insoluble fiber speeds the movement of food through the digestive tract and promotes regularity. Soluble fiber does just the opposite; it slows the digestive process and has been shown to lower blood cholesterol levels. Choose broccoli, brussel sprouts, navy and black beans, as well as grapefruit, apples, oranges and oat bran.

Health experts recommend 25 to 35 grams of fiber per day. To meet this goal, eat at least two cups of fruit and three cups of vegetables a day. Choose a variety of high-fiber foods like berries, citrus fruits, oatmeal, beans, dark green leafy vegetables and 100 percent whole grain breads. Think you'll have trouble fitting this into your daily routine? Donna suggests tossing frozen vegetables into soups, casseroles and sauces. Another tip: Serve entrees on a bed of grilled vegetables instead of pasta, and choose snacks like air-popped popcorn, nuts and high-fiber dry cereal.

Lower cholesterol and fat. Though not a nutrient, cholesterol is essential for human life. It's an important component of cell membranes and plays a key role in brain and nerve function. Dietary cholesterol is found mainly in meat, fish, poultry, and dairy products. An individual's cholesterol level can fluctuate depending on a variety of factors, including heredity and the amount of fat in a diet. To lower HDL (the "good" cholesterol) and LDL (the "bad" cholesterol) levels, limit high fat meats, choose low-fat dairy products, and increase daily activity.

Contrary to popular belief, fat is an essential nutrient. About 30 percent of an average adult's caloric intake should come from fat— 1/3 saturated, 1/3 monounsaturated, and 1/3 polyunsaturated (about 20 grams each for a 2000 calorie diet). Polyunsaturated fats protect against cardiovascular disease by providing more membrane fluidity and are commonly found in vegetable oils. Monounsaturated fats can increase HDL and are found in such foods as avocados, nuts, and olive oil. Donna cautions that we should watch out for trans-fats and hydrogenated fats, however, as they act like saturated fats when ingested and increase the risk of heart disease. Labels can be misleading, as well – "0" fats per serving can actually equal 0.5 grams and add up quickly.

Tips for eating out, dining in, and lunch breaks. When dining out, decide what you want to eat before you go. Ask how dishes are prepared and request smaller servings. Skip bread and crackers. Leave salad dressing on the side and dip as you go. Drink water, eat slowly, and talk a lot.

Having trouble staying on track during your workday? Plan meals on the weekends and pack your lunch. Keep low-fat snacks on hand. Start a lunch group and swap healthy recipes.

When dining in, focus on fish, chicken, and turkey recipes, and look for ways to modify the ingredients. Bake or grill your meat dishes. Donna also suggests keeping a bowl of fresh fruit on the table at all times, to encourage healthy snacking.—*Stephanie Ritchie* 🌿



Southwest Chicken Taco

Crock Pot Recipe

4 boneless, skinless chicken breasts
1 jar Newman's Own medium salsa

Place these items in a crock pot. Set on low heat and allow to simmer throughout the day.

Take:

1 corn tortilla

Top with:

Chicken mixture

Shredded romaine lettuce

2 Tbsp low-sodium canned tomatoes

1/4 cup black beans

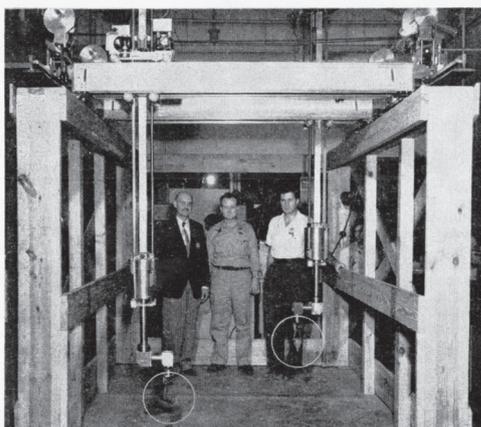
Serve immediately.

Nutritional Info: 155 calories*; 6 grams of fiber; 2 grams of fat; 22mg cholesterol; 12 grams of protein; 135 mg sodium
*Add 20 calories and 20 mg sodium for 1 Tbsp fat-free sour cream

THE NEWS

OAK RIDGE NATIONAL LABORATORY

A Publication by and for the ORNL Employees of Carbide and Carbon Chemicals Company, Union Carbide and Carbon Corporation
 Vol. 3—No. 35 OAK RIDGE, TENNESSEE Friday, March 16, 1951



HANDS OF REMOTE CONTROL MANIPULATOR ALMOST HUMAN—The objects circled are shown as examples of deftness of the manipulator. At the left is held a bar of steel weighing five pounds, and at the right is a 60-watt light bulb weighing exactly 33½ grams. The men in the picture are, left to right, A. W. Tell, engineer, Physics of Solids Institute, who designed the manipulator; C. R. Ferrell, machinist of the Research Shops, who did outstanding work on the manipulator; and S. E. Dismuke, physicist, who will supervise operation of the manipulator in the Physics of Solids Building. Fabrication of the manipulator required precision work from beginning to end and it was accomplished under the supervision of Keeney of the Research Shops.

Unique Remote Control Manipulator Designed, Fabricated At Lab For PSI

Another striking example of ingenious designing of intricate mechanism at ORNL combined with the skill of craftsmanship is a unique remote control manipulator which has been recently constructed for use in the Physics of Solids Building. This manipulator has been designed to handle highly radioactive objects within a bank of "hot" cells and incorporates as its main feature a pair of versatile "hands" which can pick up a light bulb or a lead brick, operate a lathe and other tools, insert or remove screws, or even connect and disconnect hose fittings.

The hands can reach objects almost anywhere in the cell block and can also perform the operation of removing a hand and replacing it with one of a different type. They will handle light or heavy objects with equal ease, even having an adjustable grip to conform to the weight and structure of the object being handled.

All these operations are controlled by an operator outside the thick walls of the cell. The operator can see what the hands are doing most of the time through windows in the cell wall, but cannot perform an operation inside the air-tight cell except by means of the manipulator. Each hand can be operated



ORNL Easily Tops Its Quota for R. C. In Whirlwind Drive

Measured in terms of quantitative response to the campaign for Red Cross funds, final figures from R. C. headquarters may reveal that employees of the Oak Ridge National Laboratory on a per capita basis set a record for local circles. The Lab's quota of \$3,000 was over-subscribed by \$1,928, ORNL Drive Chairman W. N. Woodward stated. Final tally, which will include contributions from those unable to be contacted before, may show that the \$5,000 mark has been reached, he added.

Chairman Woodward reported shortly before press time Wednesday that ORNL's Red Cross Campaign had reached the \$5,000 mark. It was also reported that the other two Carbide plants have gone well over their quotas. K-25 expects to hit \$6,000, with over \$4,600 already turned in on a \$4,500 quota.

'By-Products' Topic For ACS Headlines Program

"By-Products—The Chemists' Bonanza," will be the topic on the Headlines in Chemistry radio program to be given at 9:15 o'clock Sunday night, March 18, over Oak Ridge Station WATO. A. T. Morphew, of the Atomic Energy Commission, will be the principal speaker and co-hosts will be Rodney Mason and C. Bramblett, also of the AEC.

In his talk Morphew will point out the great value of by-products in chemical processes, some of which prove more valuable than the original material from which they were obtained.

The Headlines in Chemistry program is sponsored weekly by the East Tennessee Section of the American Chemical Society in an effort to present scientific material in a manner interesting to the layman. The first program was presented February 26, 1950, with the broadcast now being in its second year.

Techn

BIOLOGY
 m., Tuesday Conference Building 92 announced. Dr. University of
CHEMIST
 p. m., Wednesday the Chemist report on Chemistry Complex for C. F. Coleman S. A. Reynolds
OAK RIDGE
AR at 4 p. m. (today), in Ridge Hall. trometry of B. Palmer of O. Gell-Mann's postponed.
OAK RIDGE
AR at 4 p. m. in the east lot "Recent Development magnetic Research M. H. L. Pryce University.

Five Church Choirs Give Cantata Here

An Easter cantata, "The Crucifixion," will be presented next week in Knoxville and Oak Ridge by the combined choirs of the five Lutheran churches of the two cities. The cantata, by Sir John Stainer, noted English composer of the late 19th Century, will be given at the Young High School auditorium in Knoxville at 8:15 p. m. March 18, and at the Oak Ridge High School auditorium at 8:15 p. m. March 20. No admission will be charged.

The 80-voice chorus directed by Edward G. Struxness will be

accompanied at Lee, Jr., of N. Nathan Lee. Other oratory participants McKee, Roscoe Abee, and wife R. E. Tedler; Charles George Eckerd.
ON PLANNING
 The Atomic Energy Commission has requested that security office be in foreign countries, otherwise, planned for the atomic energy

Sixty years ago this month Taken from *The ORNL News* for March 1951

- Eight years ago the first conference was held in New York to discuss the proposed K-25 gaseous diffusion project. The historic "A" document recorded 26 signatures, including Dr. Harold Urey and General Leslie Groves, for the development, design, construction and operation of the plant.
- Dr. G. E. Boyd, Associate Director of the Chemistry Division, spoke at Wayne University's "Frontiers in Chemistry" lecture series on "The Nuclear Chemistry of the New Element Technetium." In attendance from Cal Tech was Professor Linus Pauling.
- The question, "What gives an egg a thick or a thin shell?" was studied at the University of Tennessee-AEC Agricultural Research Station, using radioactive calcium 45 from ORNL. Researchers found that the thickness of eggshells is a hen's individual problem.
- A remote control manipulator was designed at ORNL to handle highly radioactive objects within a bank of "hot" cells, using a pair of versatile "hands" to pick up an object. The success of the manipulator is a tribute to the skill of craftsmen in the research shops.
- New construction is rapidly changing the appearance of the Lab. Research building 4500 and the isotope research and semi-works buildings are approximately 15% completed.
- Oak Ridge Institute of Nuclear Studies installed a unit to use radio cobalt to study the physical and biological characteristics of the cobalt beam. This could allow irradiation of deep-seated tumors and could prove to be less expensive than x-rays or radium treatment.—prepared by ORNL History Room volunteers

From the Lab Director

If you are a fan of the Melton Hill Lake shore, I have great news: UT-Battelle has donated \$140,000 to the city of Oak Ridge toward the construction of a pavilion at the Melton Hill Lake waterfront. The 2400-square-foot structure, with restrooms and kitchen facilities, will be used for rowing regattas and be available for picnics, receptions and other public events. The gift continues UT-Battelle's support for the waterfront, which is one of Oak Ridge's most popular attractions.

Unfortunately, we heard recently from DOE of plans to end user operations at the Holifield Radioactive Ion Beam Facility next year. We are still sorting out the details and assessing our options going forward and next steps. Certainly ORNL will continue to have an active program of research in nuclear physics. The Holifield Facility and its staff have made a great contribution to nuclear physics over the years as a heavy ion facility and later as a radioactive ion beam facility. Most recently, the Holifield Facility has gained prominence for its work on doubly magic nuclei.

Thanks to the efforts of our Laboratory staff, we have achieved a new safety milestone of four million hours without a serious injury. This is no small feat, coming in the middle of one of the iciest winters we've had in a long time and during a time of ongoing construction all around the Laboratory campus. It's a sign that we are paying attention to safety and keeping it foremost in our work routines.

ORNL last month teamed with the Tennessee Valley Authority in hosting a successful and well-attended Women in Nuclear Region II Conference. I helped welcome an audience that was almost double the 125 expected to attend for an agenda rich in seminars related to nuclear technology, policy and security. Congressman (she prefers that title) Marsha Blackburn, from Tennessee's Seventh Congressional District, was keynote speaker on opening day, introduced by fellow Tennessee Congressman Chuck Fleischmann, who represents the Third District. Rep. Fleischmann returned after his WIN appearance for a tour of the Laboratory.

Other recent visitors to the Laboratory included NVIDIA co-founder and CEO Jen-Hsun Huang, hosted by Thomas Zacharia and Jeff Nichols. He gave a presentation, titled "Super Phones to Supercomputers," to a packed Joint Institute for Computational Sciences auditorium. Members of the UT-Battelle Board of Governors meeting at the Clinch River Cabin included current Board President Jeff Wadsworth from Battelle and the new UT President, Joe DiPietro.

Thomas Mason

Thom Mason



Proposed FY 2012 federal budget closes Holifield Radioactive Ion Beam Facility as a user facility.



WiN keynote speaker Rep. Marsha Blackburn in conversation with Rep. Chuck Fleischmann and ORNL Director Thom Mason.



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Those were the days...

On February 24, 1953, **The Homogeneous Reactor Experiment (HRE)**, located in the 7500 area of the Lab, generated 150 kW of electricity, which was fed into the TVA grid. According to Sam Beall, who led reactor construction and operations, this was the world's first instance of nuclear-generated electric power; it earned its operators the honorary title "Oak Ridge Power Company." Eugene Wigner dubbed the reactor, "a pot, a pipe, and a pump."

According to Beall, at a celebration a few weeks prior to this, when the reactor first went critical, Alvin Weinberg "...reached into his briefcase and pulled out a bottle of Jack Daniels bourbon. 'Sam,' he said, 'when piles go critical in Chicago, they celebrate with Italian wine; when they go critical in Tennessee, we celebrate with Jack Daniels!' We all took a swig." Those were the days.



From left: John Swartout, Alvin Weinberg, Sam Beall, and Charles Winters.