

SCIENCE

HFIR pioneer Dick Cheverton recalls early years leading to construction of reactor

When the High Flux Isotope Reactor (HFIR) received its designation as an American Nuclear Society Historic Landmark April 13, Dick Cheverton took pride in what the reactor has accomplished during its 50 years of operation.

It was a team composed of Dick and five others attending the Oak Ridge School of Reactor Technology (ORSORT) during the mid-1950s that performed a feasibility study and conceptual design of a flux trap type research reactor as part of the group's thesis that would eventually lead to the construction of HFIR about a decade later.

Dick credits his division director at the time, Jimmy Lane, with moving the work forward on the concept and for ultimately paving the way for the reactor to be built at ORNL.

"Jimmy Lane encouraged me to continue studies on the flux trap," said Dick, who recently celebrated his 87th birthday.

"Jimmy also had very good relations with Washington, which was significant for the project eventually being built in Oak Ridge. He was also the first HFIR project director."

Dick said Russian efforts to build a flux reactor also helped move HFIR forward, as well as comments from future Atomic Energy Commission Chairman Glenn Seaborg, the co-discoverer of plutonium.

"In 1958, the Russians revealed they were building a flux trap reactor for producing transplutonium isotopes," said Dick, who possesses a long set of notes on the history of HFIR that he keeps in his Hardin Valley home in Knox County. "When that was announced, Glenn Seaborg said the United States must catch up and encouraged a proposal for a similar production facility."

ORNL had competition from Argonne, which already had a design under way as the result of an earlier request from the AEC

for a relatively large heavy water research reactor. Argonne's cost estimate was \$45 million while the HFIR cost estimate from ORNL was \$10 million.

For HFIR's core design purposes, the goal was to produce measureable amounts (milligrams) of californium-252, using plutonium-242 as the initial feed material and intermediate isotopes as they became available.

"This would take a power level of approximately 100 megawatts and an average power density of approximately 2 megawatts per liter," Dick recalled. "That was quite a challenge and it was met by introducing several innovative core design features."

HFIR achieved full power — 100 megawatts — in September 1966. Dick continued to work on his final HFIR core design report. In 1968 with help from ORNL colleague Jim McGuffe, he resolved a problem with the bearings on the HFIR control plates.

In 1972, Dick joined an ORNL effort sponsored by the Nuclear Regulatory Commission (NRC) to resolve concerns over radiation embrittlement of nuclear power reactor pressure vessels. In late 1986, a HFIR vessel surveillance program revealed the HFIR vessel had exceeded specified limits for radiation embrittlement. Dick, John Merkle, Randy Nanstad and others at ORNL were able to resolve that issue in part by reducing the reactor's power level to 85 megawatts.

HFIR's original focus was on radioisotope production and materials irradiation. Dick added beam tubes at then-ORNL Director Alvin Weinberg's insistence. Those beam tubes led the way for the neutron scattering capability that has made HFIR a world-class leader in materials research.—Fred Strohl 



Dick Cheverton reviews his notes on HFIR's history he possesses in his Hardin Valley home. (Photo by Jason Richards)

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Tony Wright assembles an iron test fitting club. His fitting system includes more than 1,000 iron test head/shaft combinations and more than 400 driver test head/shaft combinations. (Photo by Genevieve Martin)

Helping golfers shoot scores the Wright way

Tony Wright worked in Oak Ridge for 35 years as an engineer undertaking many roles primarily in ORNL's Engineering and Science Technology Division.

About 30 years ago, Tony started playing golf again, which was a passion dating to his youth. He earned a full-tuition caddie scholarship to attend Carnegie-Mellon University in Pittsburgh. It was the experience of caddying and the importance of finding players the right clubs in their bags for particular situations on the course that would help lead Tony to take his love of designing and producing custom-fit golf clubs and create a business named Game Improvement Golf.

"I got into this about 10 years ago when I was still working at the Lab and thinking about what I would do after retirement," said Tony, who retired in 2011. "When I started playing golf again in the mid-'80s, I got to know Richard Hess, who designed clubs in Oak Ridge and made me a custom-fit driver. I was fascinated with his work and decided I wanted to do the same thing."

Tony has invested more than \$20,000 to purchase precision test and fitting equipment. He learns daily about the art and science of club fitting. His science and engineering knowledge also plays a key role in this type of endeavor. Tony began his club fitting business in a basement shop he created in his Oak Ridge home.

Over the years, Tony has designed custom-fit drivers, wedges, fairway woods, irons and putters for his clients, who go through a thorough evaluation process with Tony when they decide to take advantage of his services.

"I fit and make personalized golf clubs for golfers," Tony said. "I will spend anywhere from 30 minutes to two and a half hours with golfers as we discuss their swing, what they are comfortable with and what works for them in their golf game," Tony said. "I also take videos and pictures of their swings. I go into all kinds of fitting aspects before going to work to make their clubs."

Tony also does his actual custom fitting work at his indoor fitting studio at the Centennial Golf Course in Oak Ridge.

In addition to his custom fitting efforts, Tony published a best-selling book titled "The Fit Is IT" that is available through Amazon.com. More recently, Tony published an eBook titled "It's Time YOU Improved Your Putting" emphasizing simple but effective things golfers can do to improve their putting results.

Tony is dedicated to helping golfers learn the truth about what can and cannot help them play their best golf. He publishes a monthly club fitting and golf improvement newsletter and also does a weekly blog and podcast post on his web site.

Tony is a member of the Association of Golf Clubfitting Professionals (AGCP) and is a Level-10 Certified Club Fitter (one away from the AGCP Masters level). He was recognized as one of the top club fitters in the United States by Golf Digest magazine in 2011, 2013 and 2015.

"The association is based in Columbus, Ga., and I attend its once-a-year roundtable meeting," said Tony, who also learns daily from AGCP on-line forum interactions with the world's best club fitters.

Tony said there aren't many who do true golf club fitting and that fact has kept him busy these past four years following his retirement.

"I'm not lacking for work," Tony said. "Between what I already know and what I experience working with clients on a day to day basis, I can honestly say I learn something new every day. The fun is seeing the smiles on golfers' faces when they shoot lower scores because of clubs I create for them."

More information about Game Improvement Golf can be found on the web site at <http://gameimprovementgolf.com/>. In addition you can learn how to subscribe to his weekly blogs and his podcasts and his monthly newsletter at <http://gameimprovementgolf.com/using-my-web-site.-Fred-Strohl> 

ORICL fall registration coming soon

The Oak Ridge Institute for Continued Learning (ORICL) will soon be offering classes and activities for the fall semester. ORICL offers programs to Oak Ridge-Knoxville area residents of all backgrounds and educational levels. These are designed to respond to the interests of its members. In order to attend classes or activities, one must be a paid member. More information is available by contacting Laura Bowles, 865-481-2000, Ext. 2271 or emailing her at bowleslh@roanestate.edu. You may also access the website at roanestate.edu/oricl.

Bicyclist riding again after heart-stopping mishap in 2014 outside ORNL portal

A year after a bike crash outside ORNL's gates, Y-12 employee Tom Berg still doesn't know who played an important role in saving his life

Ribs, collarbone and shoulder broken and covered in scrapes and bruises, Tom Berg was headed to the hospital in a helicopter. He had undergone CPR and been defibrillated three times. As soon as he reached the trauma unit, he would be put into an induced coma for a day in an attempt to reduce any neurological damage.

Berg had been out with his biking partner, David Smallwood, on one of the first rides of the season. The ride was one of the first in the training regimen they had set for a 700-mile cycling tour that would top seven peaks in Colorado's Rocky Mountains.

What started as an early season ride soon turned into a grim ordeal. On a downhill stretch of East Bethel Valley Road just outside the gates of ORNL, Berg and Smallwood, both Y-12 employees, let loose the gears of their road bikes and were clocking around 20 mph. Smallwood, slightly ahead, heard the clash of metal and pavement and turned to check on Berg.

"David hears this crash, and if you know how I ride a bike that wouldn't be unusual," Berg now says with a laugh. "He rolled me over and I wasn't breathing."

Berg's heart had stopped. Smallwood immediately called 911 and cleared Berg's airway. A person in a passing car stopped and began CPR.

"Apparently, he did it right because he broke a bunch of bones doing it," Berg said. "My biking buddy said you could hear them popping."

CPR was key to Berg's survival and recovery. Berg still doesn't know who the Good Samaritan was, but others who were

on the scene said the unknown person was likely a security guard or maintenance person from ORNL.

At the hospital, Berg recovered. Originally, doctors didn't understand what happened. Berg was 57 at the time and quite fit as he runs a 7.5-minute mile. The most likely culprit seemed to be a pulmonary embolism. After nearly 10 days at the hospital, Berg was sent home sporting a bruise that stretched from his shoulder blades to his waist.

"Imagine the deepest purple you can think of," Berg said. "It looked like someone colored me in with a magic marker."

Berg's cardiologist expressed concern that something else might be going on. After

'David hears this crash, and if you know how I ride a bike that wouldn't be unusual. He rolled me over and I wasn't breathing.'

further testing, they discovered that Berg had a blood clotting disorder and that it had contributed to 90 percent of his heart's left anterior descending artery—also known as the widow maker—being blocked.

"What happened wasn't overexertion as much it was having an underlying issue, and then it's like you're just struck by lightning," Berg said.

As frightening as the experience was, it could have been a lot worse. He avoided any neurological damage — a rarity in cases like this. The pair also had a cellphone, which they don't usually bring on their rides. This time they brought one because they recently downloaded a ride-tracking app.

"I'm doing great and being healthy allowed me to survive and recover much quicker," said Berg, who is particularly grateful to the unknown passerby who gave him CPR, which paramedics later told Berg probably saved his life.

One year later, Berg is back to cycling indoors and has the go-ahead from his wife to go on some outdoor rides as long as a friend accompanies him. He also makes sure to bring a cell phone.—Chris Samoray



Tom Berg, left, and David Smallwood during a recent bicycle outing.

Oak Ridge Public Bus Tour expands to nine months

DOE's Oak Ridge Public Bus Tour has been expanded to run through November.

The three-hour tour will continue Monday through Friday through August. September and October tours will be Monday, Wednesday and Friday while Monday and Friday tours will be offered in November.

Tours depart at noon from the American Museum of Science and Energy, 300 S. Tulane Ave., Oak Ridge, and return by 3 p.m.

Bus tour registration is now offered two ways, including online at www.amse.org or walk-in registration at AMSE with seating first come, first served. Prices are \$5 per adult, \$4 per senior citizen 65 or older and \$3 for students ages 10-17.

All bus tour participants must be U.S. citizens ages 10 or older. Bus tour participants age 18 or older must have photo identification (driver's license, passport or approved form of alternate identification) in order to participate in the bus tour. If you require special accommodations, please contact AMSE at 865-576-3200.



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Service Anniversaries

March 2015

40 years: **Donald A. Spong**, Fusion & Materials for Nuclear Systems; **Elaine G. Thompson**, Computational Sciences & Engineering; **J.C. Brewster**, Logistical Services

35 years: **Betty Ann Walker** and **Edward Allan Vineyard**, Energy & Transportation Science; **Lana K.**

McDonald, Environmental Sciences; **Mike Watkins**, Office of Integrated Performance Management; **Mark Alan Floyd**, Information Technology Services; **Janice M. Rankin**, Integrated Operations Support; **Rita L. Thearp**, EESD Safety & Business Operations

30 years: **Van B. Graves**, Fusion & Materials for Nuclear Systems; **Lori Bell Gorman**, Nonreactor Nuclear Facilities

25 years: **Deborah W. Barker**, Laboratory Protection; **Brian D. Walls**, Integrated Operations Support; **Gerald A. Tuskan**, Biosciences; **David A. McLaughlin**, Nuclear & Radiological Protection

20 years: **Lori W. Moore**, Nuclear & Radiological Protection; **Mark Clyde**

Fletcher, Information Technology Services; **Liyuan Liang**, Office of the Laboratory Director; **Peter L. Feist**, Integrated Operations Support; **Michael L. Fleenor**, Instrument & Source; **Mitchell L. Greene**, Research Reactors; **Shelia W. Hillard**, **Danny P. Rosenbalm** and **B. Keith Yahr**, Laboratory Protection; **Robert Eldon Bock**, Environmental Sciences

April 2015

40 years: **Randall C. Vaught**, Utilities; **Dorothy W. Coffey**, Materials Science & Technology

30 years: **Claire R. Luttrell**, Electrical & Electronics Systems Research; **Constance R. Goodman**, Utilities

25 years: **Debra Michelle Simerly**, Business Management Services; **Rodger Carl Martin**, Fusion & Materials for Nuclear Systems; **Gary Todd Starnes**, Utilities; **Felix L. Paulauskas**, Materials Science & Technology; **Cheryl B. Bast**, Environmental Sciences; **Sandra S. Sherlin**, Health Services

20 years: **Oscar Franzese** and **Joel Fred Eisenberg**, Energy & Transportation

Science; **Paul E. Mueller**, Physics; **Patrick G. Lewis**, Accounting Services; **Henry A. Kmiecik Jr.**, Research Reactors

May 2015

35 years: **Joan S. Taylor**, Nonreactor Nuclear Facilities; **Simon D. Rose**, Energy & Transportation Science; **Donna L. Moates**, Nuclear Security & Isotope Technology

30 years: **Teresa R. Presley**, Safety Services; **David Charles Landguth**, Homeland Security & Defense; **Vern G. Haymon**, Integrated Operations Support

25 years: **Patricia L. Szczygiel**, **Kristi Lael Seal** and **Brian Spencer Cowell**, Nuclear Security & Isotope Technology; **Brian P. Ault**, Accounting Services; **David E. Sill**, Information Technology Services; **Loretta A. Braden**, Human Resources; **Suzanne Michelle Wilson**, Materials Science & Technology

20 years: **Patty Boyd** and **Xiaoguang Zhang**, Computer Science & Mathematics; **Mirek S. Gruszkiewicz**, Chemical Sciences



Lindsay Long, far right, escorted, from left, East Tennessee veterans Donald Olson, Charles Stevens, Eileen Neiler and Melvin Swinson, seated, during their recent HonorAir flight to Washington.

ORNL supports HonorAir veterans in D.C.

Lindsay Long of ORNL's Facilities and Operations Directorate recently helped escort a group of 110 World War II and Korean war veterans during a day-long trip to Washington, D.C., to tour the World War II, Korean and Vietnam war memorials, as well as the Air Force Memorial.

They also watched the changing of the guard at Arlington National Cemetery and stopped at the nearby U.S. Marine Corps Memorial.

In addition, a number of ORNL employees signed cards and sent emails to a group of four veterans Long was assisting during the trip that was sponsored through the HonorAir Knoxville program.

HonorAir Knoxville has conducted free flights for more than 2,000 veterans from East Tennessee who have visited the nation's capital during the past 17 years.

When the group returned to McGhee Tyson Airport at 9 p.m., a large welcoming rally included a high school band, choir, ROTC groups, friends and family.

One of the veterans Lindsay escorted was Eileen Neiler, who served as a Marine engineering clerk during World War II and whose husband, John, worked in ORNL's Physics Division during the '50s and '60s.

Trips cost approximately \$500 per veteran and are paid for through donations set up through Prestige Cleaners. More information about HonorAir Knoxville can be found at <http://www.honorairknoxville.com/index.html>. 🌿

THE NEWS

OAK RIDGE NATIONAL LABORATORY

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OAK RIDGE, TENNESSEE

Friday, June 17, 1955

Laboratory, UCC Receive Award of Honor for Safety

 UNION CARBIDE AND CARBON CORPORATION
 Carbide and Carbon Building
 30 EAST FORTY SECOND STREET
 NEW YORK 17

More, C. E. (President)

To All Employees in UCC:

Last year the Corporation was awarded the National Safety Council's Award of Honor in recognition of "an outstanding safety performance in 1953."

It is particularly gratifying, therefore, to report that in 1954 we surpassed our previous all-time safety record achieved in 1953, making 1954 the safest year in Union Carbide's history.

Last year many of our plants won individual awards, from the National Safety Council. Moreover, the Corporation has continued to award Bronze Plaques, Certificates of Commendation, and Certificates of Merit to plants that operate a year without a disabling accident or reduce the frequency of accidents.

This splendid record of progress is one from which we may all derive a feeling of genuine accomplishment. Certainly it has been made possible only through the conscientious efforts of all the people of Union Carbide in reducing injuries both on and off the job.

Viewing the improvement of safety as a continuing program, we might devote special attention this year to the reduction of automobile accidents. On a national basis, last year's tragic record of deaths and injuries on the highway underlines the need for vigorous efforts to extend and improve automobile safety programs. Our own programs to promote automobile safety must necessarily include the family group as well as the individual employee. Almost always, accidents in this category seriously affect the employee's family, and frequently the family is directly involved.

With the belief that added safety consciousness in one field will increase safety consciousness in all, I am confident that this year 1955 will see continuing improvement in safety throughout the Corporation. Let us strive to make attention to safety an inseparable part of all our activities.

More C. E.
 President

Swiss Will Buy Exhibit Reactor After UN Meet

Representatives of the Governments of Switzerland and the United States have initiated an agreement for cooperation covering the sale and purchase of the research reactor that is to be a central feature of the official U. S. exhibit at the United Nations' International Conference on Peaceful Uses of Atomic Energy at Geneva next August.

The agreement covers the sale and purchase of the research reactor, the exchange of information relating to the reactor, and the lease of special nuclear material to be utilized in the reactor.

Sent from ORNL

The reactor, which is to be assembled from components shipped to Geneva from Oak Ridge National Laboratory, will be in operation as a part of the official U. S. exhibit while the conference is in session August 8-20. At the conclusion of the conference the U. S. Government, through the Atomic Energy Commission, will sell the reactor to Switzerland.

The price of the reactor, building, associated machinery and exhibits is to be \$180,000. The U. S. will lease to Switzerland sufficient uranium enriched in the isotope U-235 for initial and replacement fuel for the reactor. The quantity of uranium under such lease shall not contain more than six kilograms of U-235 (maximum enrichment—20 per cent), plus such additional quantity as the AEC

Continued on Page 2

67 AEC Access Permits Granted Since April 1955

The Atomic Energy Commission has granted 67 "access permits" to organizations and individuals since the beginning in April of a simplified program under which classified restricted data related to civilian uses of atomic energy technology is made available for commercial purposes.

Holders of permits must obtain an "L" clearance to have access to "restricted data" classified as "confidential" and a "Q" clearance for information classified as "secret."

Playhouse Membership Qualifies for Trip Award

The Community Playhouse will assign seats to 1955-56 members on July 1. In conjunction with the Membership Drive, the Playhouse is awarding a free week end for two at the Cloisters, Sea Island, Georgia, to some new season-ticket holder. Those who have signed and paid as members by July 1 are eligible to win the trip. Oak Ridge National Laboratory members may call Charlie Blake, 7582, for season tickets.

Brazil, Colombia, USA Initial Research Reactor Plan

Following separate negotiations during which the United States of Brazil and the Republic of Colombia were offered participation in President Eisenhower's "Atoms for Peace" program, representatives of Brazil, Colombia and the United States of America recently initiated proposed agreements for the

cooperation in the field of research in the peaceful uses of atomic energy.

Under the proposed agreements the governments of Brazil, Colombia and the United States of America will cooperate in the field of research in the peaceful uses of atomic energy.



GRADUATION TIME—The fourth Oak Ridge Laboratory Apprenticeship Program graduation was held on Thursday, June 9, in the parlors of the Laboratory cafeteria. Sixteen apprentices, representing four crafts, received their diplomas upon completion of apprenticeship. G. E. Lauder, director, gave the key address and awarded certificates. F. W. Wuest, assistant superintendent of Engineering and Mechanical Division, was

Laboratory Sets All-Time Record in '54, Attaining 3,517,191 Accident-Free Hours

The National Safety Council's Award of Honor has been presented to Oak Ridge National Laboratory and also to Union Carbide for an outstanding safety performance in 1954, the safest year in both the Corporation's and the Laboratory's history.

This is the first year that the Laboratory has received the Award of Honor although it received the Award of Merit for the two previous years. This is the second consecutive year that Union Carbide has received this honor.

The Award is given for a reduction in the number of disabling injuries (frequency) and the number of days lost from work (severity). In 1954, the Corporation's frequency rate of 3.02 accidents per million manhours worked was 44 per cent below the par rate; and the UCC severity rate of .58 days lost per thousand labor hours worked was 38 per cent below. The Laboratory was 76 per cent better than par on frequency and 95 per cent better on severity.

In addition to the Award of Honor won by the Corporation, 133 other awards, including the Laboratory's and other individual plant Awards of Honor, were received from the Safety Council in recognition of plant, home, and off-the-job safety programs. Last year the Laboratory achieved a new Carbide Safety Record from February 13, 1954 to October 22, 1954 without a disabling accident. The period covers 3,517,191 labor hours—the longest number of consecutive accident-free hours in the Corporation's history.

Participants Named For ORNL-ORINS Summer Research

Sixty-seven faculty members from 47 colleges and universities joined the staffs of various Oak Ridge laboratories early this month as Oak Ridge research participants. They will remain for the three summer months under the Summer Research Participant Program, which is a joint activity of Oak Ridge National Laboratory and the Oak Ridge Institute of Nuclear Studies. The program is administered by the ORINS University Relations Division.

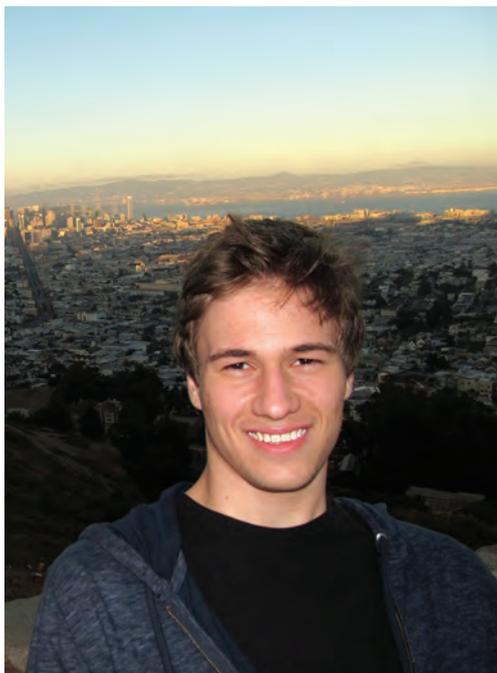
The majority of the participants, 59, are in various divisions of Oak Ridge National Laboratory; six are conducting research at the Institute Medical Division, and two are at the University of Tennessee-Atomic Energy Commission Agricultural Research Program in Oak Ridge.

U-T Has Largest Number
 Twenty-five sponsoring universities of the Institute are represented by 43 of the participants.

Sixty years ago Taken from ORNL "The News" for Spring 1955

- Invitations for bids were issued by the Atomic Energy Commission's Oak Ridge Operations for construction of a research reactor building at ORNL.
- The AEC announced a special atoms-for-peace program at ORNL for the opening of a radioisotopes training course for foreign scientists and technicians.
- ORNL Research Director Alvin Weinberg announced the establishment of an Applied Nuclear Physics Division to encompass all reactor physics, shielding research, the Bulk Shielding "swimming pool" reactor and the Tower Shielding Facility.
- The National Safety Council's Award for Honor was presented to ORNL and Union Carbide for an outstanding safety performance in 1954 that up to that time was the safest year in the Laboratory's history.—prepared by ORNL History Room volunteers

UT-Battelle Scholar Mark Remec studying biology, genetics in graduate school at University of California, Berkeley



Mark Remec, now a graduate student at the University of California, Berkeley, takes time off to visit San Francisco.

Mark Remec, the 2010 UT-Battelle Scholar, has just concluded his first year of graduate school at the University of California, Berkeley, focusing his studies on biology and genetics.

Mark, a graduate of Oak Ridge High School, earned his bachelor's degree from the University of Tennessee through the UT College Scholars program, where he incorporated his interests in math, physics, chemistry and biology into one coherent program.

"I knew long ago that I wanted to study the sciences and I was eager to begin my studies and learn everything I could," said Mark, who also accepted a Haslam Scholarship. "Being able to incorporate all four of my main areas of study into one program was incredibly valuable."

Studying *Drosophila* genetics in the lab of Dr. Mariano Labrador, UT associate professor of biochemistry and cellular and molecular biology, had an important impact in introducing Mark to research techniques. He was further inspired by working in the lab of Labrador's department colleague, Dr. Elias Fernandez, whose work focused on structural biology and biophysics of nuclear hormone receptors.

"I found this work extremely interesting and spent the remainder of my time at UT working with Dr. Fernandez," Mark said. "I can confidently say that research experience is what helped me most in pursuing my scientific goals. I also managed to publish a first-author paper in the *Journal of Biological Chemistry* on my research and defended my undergraduate thesis successfully."

After one year at Berkeley, Mark is still charting his course there.

"I'm still doing rotations in different laboratories to determine which lab will be the optimal place to pursue a thesis project," Mark said.

One of his rotations is electron-microscopic structural studies of septins, a newly discovered component of cellular cytoskeletons. Other rotations involve focusing on understanding the mechanisms by which HIV is able to escape a cell after replication and "super-resolution" imaging of telomeres to understand mechanisms of telomere protection and damage.

Mark is passionate about science and research.

"I can't imagine anything that I would rather do and so I will continue in my scientific career to whatever end that will take me," Mark said. "In a similar sense, I also feel very strongly that teaching is extremely important and fulfilling. Combining these two passions in a professorship would be my optimal career choice. I plan to get a PhD at Berkeley and then pursue postdoctoral study to prepare me to take on a faculty position at a major research university. Ultimately, I hope to contribute to new biophysical methods and to our understanding of biology through my research. I also hope to contribute by teaching new generations of students."

Mark's family is from Slovenia. When he was growing up, the Remecs used to travel there each summer to visit family, but that has been more difficult in recent years.

"Unfortunately since starting college, I have found it increasingly difficult to make time for vacations, though my family and I did return to Slovenia again in my junior year of college," Mark said. "I do find these trips to be extremely helpful. Going back to Slovenia is not just a relaxing vacation, but it also takes me back to my roots and helps me take a step back and put my life in perspective."

Mark is the son of Igor and Lili Remec of Oak Ridge. Igor works in ORNL's Instrument and Source Division at the SNS.—Fred Strohl 🌱

CORRE board meets third Wednesday

The board of directors of the Coalition of Oak Ridge Retired Employees (CORRE) board meets at 10 a.m. during the third Wednesday of each month at the Oak Ridge Senior Center, 728 Emory Valley Road, Oak Ridge.

Information about CORRE is available at www.corre.info. Retirees who have not provided their e-mail address or have changed their address recently are asked to contact Judy Kibbe at kandjkibbe@comcast.net.

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 865-576-3753 or jamesla@ornl.gov.

From the Lab Director

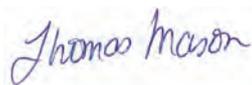
Kudos. ORNL staff continues to earn recognition for outstanding contributions to science. **Brian Wirth**, a University of Tennessee-ORNL Governor's Chair researcher, received the E.O. Lawrence Award. It's DOE's highest award for mid-career researchers and represents a key endorsement for UT-ORNL collaborations. Brian is a Bredesen Center faculty member and is affiliated with ORNL's Materials Science & Technology Division and with the Consortium for Advanced Simulation of Light Water Reactors.

We were also very happy for our four DOE Early Career Research Program recipients — **Christian Engelmann**, **Cory Hauck**, **Katharine Page** and **Chad Parish**. Their five-year, \$500,000 grants represent research in high-performance computing, neutron analysis of nanostructures and fusion energy research funded through the Office of Science. **Parans Paranthaman** is a new fellow of the American Ceramic Society and **Gina Tourassi** was elected a fellow of the American Association of Physicists in Medicine.

Economic development. The East Tennessee region received some good economic news recently when Cirrus Aircraft announced it would locate its Cirrus Customer Experience Center at McGhee Tyson Airport. Gov. Bill Haslam noted that ORNL was among the high-tech resources that helped the company decide to bring 170 high-quality jobs into the area. That announcement followed news in March that CVMR would move its corporate headquarters from Canada to Oak Ridge and establish a \$313 million, 620-job advanced manufacturing facility in Roane County.

Visits. Recent visitors to the Lab include a high-level delegation of officials of the China firm Sinosteel Advanced Materials and the president of the China Nuclear Engineering Group Corporation. They were here to discuss a new Strategic Partnership Project agreement that supports a graphite irradiation program. Sinosteel is a potential supplier of graphite for new high-temperature gas-cooled reactors under construction in China and is partnering with ORNL to test graphite in advance of scaling up to full production.

New exhibits. Our new community outreach exhibits have been well received by the public. The American Museum of Science and Energy in Oak Ridge recently opened three new interactive exhibits on space exploration, supercomputing and neutron science, highlighting ORNL's research in these areas. Also, the ORNL Traveling Science Fair was showcased in a recent Knox County Schools Career Day. The exhibit featured the Physical Sciences Directorate's "Extreme Science" trailer as well as a recently revamped Energy & Environmental Sciences "Get Into Green" trailer. These join the popular "Become a Neutron" Spallation Neutron Source accelerator simulation. The Traveling Science Fair gives young people a chance to see and hear about ORNL research with batteries, carbon foam, hydrophobic coatings, additive manufacturing, energy efficiency, climate, carbon fiber and how neutrons are used to reveal material structures and properties. Check AMSE's website at <http://www.amse.org>, and check out the Traveling Science Fair at <http://www.ornl.gov/sciencefair>.



Thom Mason



Brian Post, researcher in ORNL's Energy and Transportation Science Division, discusses ORNL's carbon fiber and 3-D printing techniques with students attending the recent Knox County Career Fair.

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

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Knoxville, TN

Nobel Prize winner Washington speaks at Black History event

Nobel Prize winner and National Medal of Science recipient Warren Washington told an ORNL Black History Month program that progress has been made in the past 40 years to encourage underrepresented minorities to enter into science, technology, engineering and math. “When I first started visiting historical black colleges back in the 1970s, it was hard to get anyone interested in going into atmospheric science because typically the science departments didn’t teach anything about climate or weather,” said Washington, who was the keynote speaker at the Black History Month in March that was postponed from February due to weather. “Now I can go to a conference and I can see 100 Hispanic and black faces as I speak to the younger generation. The schools are doing a good part in getting students to go into these fields.” A senior scientist at the National Center for Atmospheric Research in Boulder, Colo., Washington said minority researchers are contributing to science advancements. “I think we are a better nation when we have diversities sprinkled throughout the population of scientists, engineers and mathematicians,” Washington added. “If we don’t do that, then we’re losing talent that could easily contribute.” In addition to his presentation at the Black History Month event, Washington also delivered a lecture on his more than 40 years research in climate science.—*Fred Strohl* 🌿



Warren Washington, left, with Jack Fellows, director of the Climate Change Science Institute at ORNL during the former’s March visit to ORNL. (photo by Carlos Jones)