



Wednesday, February 5, 2008

**Jeremy Smith, director of ORNL's Center for Molecular Biophysics and University of Tennessee-ORNL Governor's Chair, speaks at ETEC**



Jeremy C. Smith is a computational molecular biophysicist. A native of Norwich, England, in October 2006 he became the first Governor's Chair at the University of Tennessee and also Director of the UT/ORNL Center for Molecular Biophysics at Oak Ridge National Laboratory. Smith obtained his Ph.D. in Biophysics from the University of London and was a post-doctoral associate and Lecturer at Harvard University. Prior to his Governor's Chair in Tennessee, Smith had previously lead research groups in Biomolecular Simulation at the Commissariat à l'énergie atomique (CEA) at Saclay, France (1989-1998) and as Chair of Computational Molecular Biophysics at the

## News and Notes from the ETEC files

Stories in this volume:

### [FY 2009 President's Budget](#)

[Darrel Kohlhorst named president and general manager of Y-12](#)

[James Hack to direct National Center for Computational Sciences at ORNL](#)

[Alice Murphy Resigns from ETEBA](#)

[China: Risks, Rewards & How to Win](#)

[Joint Institute Breaks Ground on Expansion, International Partnership](#)

[Wamp named Ranking Republican on Milcon-Va Subcommittee](#)

[Robotic Surgery Is Transforming Treatment of Prostate Cancer](#)

[TVA Board To Hold Public Listening Session Before Business Meeting](#)

### **FY 2009 President's Budget**

The FY 2009 President's Budget proposes \$168.5 million for a training center, medical center and elementary school at Fort Campbell and \$277 million for nuclear cleanup and construction at the Oak Ridge National Laboratory complex. The complex would continue to be the largest single recipient in Tennessee of federal funds, under the proposal. (Source: The Oak Ridger)

Bush's budget calls for:

- \$4.7 billion through the Department of Energy to support basic research on new energy alternatives and the environmental problems they may create.
- \$175 million through the Department of Education to train teachers to teach advanced placement classes; to prepare students for advanced math classes; and to create an Adjunct Teacher Corp to bring math and science professionals into the classroom.
- \$634 million through the Department of Commerce's National Institute of Standards and Technology for nuclear and nanotechnology research.

University of Heidelberg, Germany (1998-2006).

Smith has performed and directed research in high-performance computer simulation of biological macromolecules, neutron scattering in biology, the physics of proteins, bioenergetics and the analysis of structural change in proteins. As of 2007 Smith had published over 200 peer-reviewed scientific articles.

### Upcoming Speakers

**February 8** -Jeremy Smith, ORNL

**February 15**-Dr. DiPietro, Vice President for Agriculture at University of Tennessee

**February 22** -Board Meeting

**February 29**-Ted Sherry, NNSA Y-12 Site Office

All meetings are at 7:30 a.m. in the University of Tennessee Outreach Center, 1201 Oak Ridge Turnpike, Oak Ridge, unless otherwise noted.

### New Members

#### MATRIC

Contact: Diane McDaniel

Website: <http://www.matricresearch.com>

The Mid-Atlantic Technology, Research and Innovation Center (MATRIC) is an independent, nonprofit, 501(c)(3) corporation headquartered in West Virginia. World-class scientists in the areas of chemical and environmental technologies, health and life sciences, and advanced engineering systems partner with higher education, industry, and government to conduct life-changing research and development and to commercialize resulting products and services. MATRIC also offers R&D and technical services of a commercial nature through its wholly owned for-profit subsidiary, Mid-Atlantic Commercial Research (MCR).

The following links are now available on the DOE website:

EM volume: <http://www.cfo.doe.gov/budget/09budget/Content/Volumes/Volume5.pdf>. The Oak Ridge site description starts on page 135.

NNSA volume: <http://www.cfo.doe.gov/budget/09budget/Content/Volumes/Volume1a.pdf>. The Y-12 site description starts on page 647.

Science volume: <http://www.cfo.doe.gov/budget/09budget/Content/Volumes/Volume4.pdf>.

### Darrel Kohlhorst named president and general manager of Y12

Source: Y-12 Press Release



Awards

Picture: Darrel Kohlhorst and Lamar Alexander at ETEC's 07 Muddy Boot

LYNCHBURG, VA — February 6, 2008 — Babcock & Wilcox Technical Services Group Y-12, LLC has named Darrel P. Kohlhorst president and general manager of the Y12 National Security Complex in Oak Ridge, Tenn. The Y12 facility is managed and operated by B&W TSG Y12, whose partners are Babcock & Wilcox Technical Services Group, Inc., and Bechtel National, Inc. Mr. Kohlhorst previously served as senior vice president and chief operating officer of B&W TSG Y12. Mr. Kohlhorst replaces [George E. Dials](#), who assumed a new position within the B&W TSG organization.

“During his professional career, Darrel has continuously demonstrated his abilities as a visionary leader,” said S. Robert Cochran, president of B&W TSG. “Darrel’s depth of technical knowledge and diverse experience, coupled with the understanding of Y12’s complex environment, makes him the best person for this challenging position. I am confident that Darrel will keep Y12 headed in the direction of meeting milestones and exceeding production performance, both safely and securely.” Mr. Kohlhorst has been

## Upcoming Events

\* **February 20-22, 2008** - Dynamic Exhibits Showcasing New & Exciting Homeland Security Technology. Space and Naval Warfare Systems Center, Charleston (SPAWAR) on The theme is "Current Challenges and Real Time Solutions in Resiliency."

\* **February 26 from 11 a.m. – 3 p.m. and from 6 p.m. – 10 p.m.** - The National Nuclear Security Agency will hold two public hearings on the future of the Y-12 Complex in Oak Ridge. New Hope Center 602 Scarboro Road (Corner of New Hope and Scarboro Roads)

\***March 4-5, 2008** - The Annual Meeting of the Council of Sponsoring Institutions will be held at the Oak Ridge Center for Advanced Studies (ORCAS). In conjunction with the ORAU annual meeting, the Oak Ridge Center for Advanced Studies (ORCAS) will host a workshop on Relationships Between Universities, National Laboratories, and the Department of Energy. Events will begin on March 4 at 1:30 p.m. and will adjourn on March 5 by 1:15 p.m. You may [register online](#) or you may request a brochure and return the form to ORAU via fax. There is no registration fee to attend these meetings.

\* **March 13, 2008, 1:30 p.m.** - China: Risks, Rewards & How to Win, Seminar on the China Market in Knoxville. Location: 17 Market Square, Suite 201, Knoxville, TN 37902 - Directions mailed upon receipt of registration. To Register: [Click Here](#) For more information, contact Rob Leach at [robert.leach@mail.doc.gov](mailto:robert.leach@mail.doc.gov)

directly engaged in developing and implementing process improvements at Y12 and has effected increased production throughput.

Mr. Kohlhorst joined the B&W TSG Y12 transition team in 2000, when the company was awarded the management and operations contract of the facility. While at Y12, he has held positions as division manager for manufacturing, deputy general manager for operations, and most recently senior vice president and chief operating officer of the facility. In this role, Mr. Kohlhorst is responsible for nuclear weapons components, special materials storage, nonproliferation of weapons of mass destruction, engineering, safety, security, quality and environmental protection.

Mr. Kohlhorst began his career with B&W in 1972, spending nearly 20 years with what is now the B&W Nuclear Operations Group, Inc. in Lynchburg, Va. He later joined the Manufactured System and Technology Division as general manager.

A native of Lima, Ohio, Mr. Kohlhorst holds a bachelor of science degree in aeronautical engineering from The Ohio State University and a master of engineering in applied mechanics from the University of Virginia. He attended the executive MBA program at Northeastern University.

## James Hack to direct National Center for Computational Sciences at ORNL

Source: ORNL Press Release

Oak Ridge, Tenn., Feb. 1, 2008 -- James J. Hack, a senior scientist at the National Center for Atmospheric Research (NCAR) in Boulder, Colo., has been appointed director of the National Center for Computational Sciences (NCCS), a leadership computing facility at Oak Ridge National Laboratory, ORNL Associate Laboratory Director for Computing and Computational Sciences Thomas Zacharia has announced.

"We are thrilled that Jim Hack is joining us to lead America's premier open computing facility," says Thom Mason, director of ORNL, the Department of Energy's largest laboratory. "Jim is a global leader in climate research and has devoted his career to gaining insight into Earth's atmosphere, where dynamics are complex and a lot is at stake. He is well suited to lead the NCCS in addressing the grand scientific challenges of this century, which include climate but also extend to fields such as biology, chemistry, physics, and even computation itself. This research supports endeavors such as developing renewable energy and gaining a better understanding of our universe."

NCCS supercomputers provided more than one-third of the simulation data jointly contributed by the Department of Energy and the National Science Foundation to the most

\***April 2-4, 2008** - Global Venture Challenge 2008 at ORNL. Event managed by Technology 2020. For more information visit:  
[www.globalventurechallenge.com](http://www.globalventurechallenge.com)

\***May 28-29, 2008-Tennessee Valley Corridor 2008 National Summit**. The Von Braun CenterHuntsville, AL

\***June 24-26, 2008** - 9th Annual DOE Small Business Conference (more details available soon), Grand Hyatt Hotel San Antonio, TX.

### Officers

Jan McNally, Chairwoman  
Dana Christensen, Chair-Elect  
Henry Perry, Vice Chair  
Bob Van Hook, Past Chair  
Bonnie Carroll, Treasurer  
Jim Campbell, President  
Helena Lazic, Secretary

### Mission Statement

ETEC is a non-profit membership organization dedicated to promoting the federal economic role in East Tennessee and encouraging new uses for the talent, and technology drawn to the region for federal programs.

Visit our website  
[www.eteconline.org](http://www.eteconline.org)

### Joining ETEC

For information about joining the council's work and its programs, contact Helena: 865-483-4577 or [helena@eteconline.org](mailto:helena@eteconline.org)

### Contact Information

recent assessment report of the United Nations' Intergovernmental Panel on Climate Change, the group that shared the 2007 Nobel peace Prize with Al Gore. Hack was one of the principle developers of the model that was run on the NCCS supercomputers.

"Jim brings to the NCCS a depth of experience wresting great science from the world's most powerful machines," Zacharia said. "The goal of supercomputing is deep insight, and with Jim's leadership the nation's top researchers will make the most of petascale computing."

Hack, with Leadership Computing Facility Project Director Arthur "Buddy" Bland, will identify major high performance computing needs from scientific and hardware perspectives and put forth strategies to meet those needs as machines evolve to the petascale and beyond.

Hack also will lead the Climate Change Initiative at ORNL, directing a team of scientists and engineers across the laboratory in advancing the state of the art in Earth system discovery and policy through enhanced scientific understanding, Earth system modeling, and computational and observational programs.

"ORNL is in an incredibly unique position to substantially advance the most challenging of scientific problems and I'm deeply honored to have been selected to play a leadership role in the laboratory's vision,"

Hack said. "The opportunity to help direct, advance, and articulate the value of nonlinear science is an exciting new step in my professional career. Overall, ORNL enjoys tremendous scientific momentum right now, where I see this as a time for significant scientific discoveries and advancement. I'm looking forward to being able to contribute to such an exceptional program in computational science and the important scientific insights it will reveal."

Hack participates on numerous committees, including the Department of Energy Office of Science's Advanced Scientific Computing Advisory Committee, whose members are appointed by the Secretary of Energy; the Lawrence Livermore National Laboratory/Program for Climate Model Diagnosis and Intercomparison Advisory Committee, which he chairs; and the ORNL Computer Science and Mathematics Division Advisory Committee.

### Alice Murphy Resigns from ETEBA

Source: ETEBA Press Release

At the monthly ETEBA Headquarters Board of Directors meeting yesterday, Alice Murphy submitted her letter of resignation as the Executive Director of ETEBA. In her letter of resignation, Murphy said, "It is with deep sadness that I submit my letter of resignation as the Executive Director of the Energy, Technology and Environmental Business Association,

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to be effective on March 31, 2008. My decision comes as a result of family concerns. I have been blessed with a wonderful family and would like to spend more time with them. While my time with ETEBA has been a little more than two years, it has been an extremely rewarding experience. The comradeship of the Board and its many committees is unsurpassed. Board members, committee members, and their companies have unselfishly donated many hours of service to help each other in our mission to promote business opportunities for all ETEBA members.”

## **China: Risks, Rewards & How to Win**

Source: Press Release

The U.S. Commercial Service is hosting a seminar on the China market in Knoxville, Tennessee on March 13, 2008. The event is being jointly organized by the [University of Tennessee - Global Business Institute](#) and the [Knoxville-U.S. Export Assistance Center](#).

China is continuing its amazing, year-after-year, double digit economic growth, and although China has hit record trade surpluses with the United States, there are many opportunities for U.S. goods and services in China. In turn, U.S. companies are also making record exports to China and now our fourth largest market is the China market.

With its unfamiliar market and an unpredictable business environment, China presents many challenges to U.S. companies. Just some of these challenges will be:

What are the markets in China with the most synergy for U.S. products? What are the distribution channels available for my products? What are the barriers? How do I best protect myself in China's legal environment? What resources are available for me to target my customers? How can I access this market of 1.3 billion people?

This program will help participants hone their skills and introduce you to new markets. They will:

- Learn the top markets, best practices available for establishing sales channels
- Discover the resources available for U.S. companies
- Hear about business strategies that have worked and those to avoid
- How do I best protect my intellectual property and ensure a safe entry

Speakers include:

**Robert Leach**, Director, Knoxville Export Assistance Center, U.S. Department of Commerce

**Dan McDonald**, President, Phenotype Screening Corporation

**Jonathan Heimer**, Commercial Officer, U.S. Consulate General in Shanghai

**Bud Gray**, Spokesperson, Brands Protection Alliance & Product Development Manager, Acucote, Inc.

To register: [Click Here](#) and for more information, contact Rob Leach at [robert.leach@mail.doc.gov](mailto:robert.leach@mail.doc.gov)

## **Joint Institute Breaks Ground on Expansion, International Partnership**

Source: Tennessee Today

KNOXVILLE -- Twenty-five years after its founding, a joint research center in East Tennessee is taking on new growth and capabilities that will impact America's energy and security future.

The Joint Institute for Heavy Ion Research (JHIR), founded in 1982, is a partnership between the University of Tennessee, Oak Ridge National Laboratory and Vanderbilt University.

After a quarter-century of supporting the work of the Holifield Radioactive Ion Beam Facility at ORNL by providing researchers with critical work and dormitory space, the institute has announced an expansion to host a new international partnership.

The partnership, known as JUSTIPEN, serves as a bridge between top researchers in the U.S. and Japan who study exotic nuclei -- a field with implications in nuclear energy, national security and medicine. JUSTIPEN stands for Japan-U.S. Theory Institute for Physics with Exotic Nuclei.

"We believe JHIR will play an important and impacting role in this new international endeavor," said David Dean, associate director of JUSTIPEN.

"The success of JHIR has been incredibly gratifying," said Carroll Bingham, a professor of physics at UT and a member of the JHIR policy council. "This expansion is a clear indication of that success, and we look forward to the partnership continuing to grow."

The announcement coincided with the second meeting of JUSTIPEN, taking place this week at JHIR.

The focus of applied research in this field meshes directly with a number of strategic national priorities. A better understanding of exotic nuclei could lead to safer and more efficient nuclear power and new approaches to nuclear medicine that will allow for better medical imaging with less radiation.

In fact, the recently passed America COMPETES Act, which was spearheaded by Sen. Lamar Alexander and Rep. Bart Gordon, specifically calls for an increase in the number of students studying nuclear science to ensure that the workforce is available to support growth in the nuclear industry.

Beyond the applied and educational components of this work, the research conducted by JHIR scientists is critical to developing an understanding of how new matter is created. By looking specifically at the role these nuclei play in the explosions of stars, researchers seek to answer questions about the formation of the basic building blocks of life on earth.

"The Joint Institute for Heavy Ion Research has fulfilled its educational and research goals beyond all expectations," said Joseph Hamilton, Garland Distinguished Professor of Physics at Vanderbilt.

He noted that more than 4,000 scientists have attended over 60 international conferences and workshops hosted by the institute, and over 1,000 scientists from around the world supported to carry out research there.

"New research facilities have been built and new understandings of the structure and decays of atomic nuclei have come through these cooperations," said Hamilton.

JHIR also has served as a model for the growing research partnership between UT and ORNL. As the first joint institute between the two entities, JHIR laid the groundwork for the development of the four newest UT-ORNL joint institutes: the Joint Institute for Computational Science, the Joint Institute for Biological Science, the Joint Institute for Advanced Materials Science and the Joint Institute for Neutron Science.

"Each of the institutions that support JHIR brings certain strengths to the table, whether in research, education or resources," said Lee Riedinger, a UT physics professor and a founder of JHIR. "Combining these strengths gives us the ability to have a much larger impact through the work we perform."

The new addition will be built at a cost of \$500,000. It is expected to open in 2009.

## **Wamp named Ranking Republican on Milcon-Va Subcommittee**

Source: Press Release

**January 30** - In his 11 years of service and leadership with the House Appropriations Committee, Congressman Zach Wamp has served on six of the twelve Appropriations subcommittees. Now he'll have the opportunity to take the lead on veterans' issues through his new appointment as the top "ranking" Republican of the Subcommittee on Military Construction, Veterans Affairs, and Related Agencies.

"While I haven't served our country as a member of our Armed Forces, the highest honor I have is to serve those who serve," said Congressman Wamp, who along with Chairman Chet Edwards (D-Texas) will lead the subcommittee. "Being the top Republican on this panel gives me the opportunity to ensure that the promises we've made to take care of our veterans are being kept and that the quality of life for those serving is as good as possible."

The subcommittee, commonly referred to as "MilCon-VA," has jurisdiction over \$64.7 billion in federal spending for:

- the Department of Defense, military construction, Base Realignment and Closure Account (BRAC), and NATO Security Investment Program;
- the Department of Veterans Affairs; and
- related agencies, including the American Battle Monuments Commission, Armed Forces Retirement Home, Department of Defense, Civil, Cemeterial Expenses, Army and the U.S. Court of Appeals for Veterans Claims.

"Being elevated to ranking member of the Appropriations subcommittee that takes care of our men and women in uniform and the courageous veterans who have ensured our freedom is the greatest honor and highest privilege I have had in my professional life," said Congressman Wamp.

His first hearing as the top Republican on the subcommittee will be on Thursday, February 7, where he will receive testimony from the military's top Non-Commissioned Officers (NCO) about the quality of military life.

In addition to this new role, he will continue to serve as the second-most senior Republican on the Subcommittee on Energy and Water, which is essential for programs in East Tennessee such as the Chickamauga Lock in Chattanooga and the modernization of the facilities at the Y-12 National Security Complex and the research missions at the Oak Ridge National Laboratory.

## **Robotic Surgery Is Transforming Treatment of Prostate Cancer**

Source: MMC of Oak Ridge, Thomas O'Connor, Jr., M.D.

Using robotic technology to perform surgery was, until recently, in the realm of science fiction. It is now a fact, although only a few hundred robotically assisted surgical systems are being used in this country. Last year, an estimated 70,000 people underwent robotically assisted procedures ranging from heart bypass surgery to removal of a cancerous prostate gland. That number should increase as more hospitals acquire the technology.

Robotic technology is beginning to transform the field of prostate surgery and may eventually become the standard of care. However, it is not the best treatment for every patient. A man's age, general health, and tolerance for potential side effects should be considered when making a decision about treatment.

#### Benefits

With robotically assisted surgery, patients generally experience a number of benefits:

- Less pain and scarring
- Less risk of infection
- Less blood loss and need for a transfusion
- Lower risk of complications such as damage to surrounding tissue
- Shorter hospital stay
- Faster recovery and return to normal activities

#### Skill & Technology

Robotic surgery brings together a surgeon's skill and computer-enhanced technology. The technology enables surgeons, who have received specialized training, to perform less invasive surgery in a way never previously performed. .

During a procedure, the surgeon controls the system. The robot cannot be programmed, and it cannot make decisions on its own. The surgeon sits at a console across the room from the patient and uses robotic arms to remotely manipulate tiny surgical instruments. The system provides an extremely clear and magnified view of vital structures in the body and allows the doctor to perform surgery more precisely.

The surgeon makes several small incisions, removes the cancerous prostate gland along with surrounding tissue; reattaches the patient's bladder to his urethra; closes the small incisions; and inserts a catheter, which is a thin, flexible tube that drains urine from the body.

During surgery, the patient is on a regular surgical bed. He is monitored by an anesthesiologist. Specially trained nursing and support staff assist the surgeon by changing the instruments held by the robotic arm. Most patients are hospitalized for approximately one day.

In comparison, traditional surgery to remove a cancerous prostate requires an eight- to 10-inch incision and hospitalization for nearly four days. It can permanently impair sexual function and cause incontinence if nearby nerves are damaged.

The first study comparing open surgery for prostate cancer to robotic surgery was published in the "British Journal of Urology" in 2003. Some 300 patients participated. The study found that those who had open surgery lost five times as much blood, had four times the risk of complications, and remained in the hospital more than three times longer than those who underwent robotic-assisted surgery.

It also found that patients who had the robotic procedure had a 14 percent higher rate of cancer removal and regained urinary function, on average, four times faster than open surgery patients. Robotically assisted surgery patients also regained sexual function in about 11 months, while half of the open surgery patients did not have full sexual function two years after surgery.

Skeptics thought the study's results were too good to be true. However, similar findings were published in the "Journal of Urology," a publication of the American Urological Association, the following year.

## **TVA Board To Hold Public Listening Session Before Business Meeting**

Source: TVA Press Release

CHATTANOOGA, Tenn. – In order to hear from the public before voting on business matters, the TVA Board will hold a public listening session before its next regular business meeting on Friday, Feb. 15, in Chattanooga.

The public listening session is scheduled from 9:30–10:30 a.m. Friday, Feb. 15. The first TVA Board meeting of 2008 is scheduled to begin at 11 a.m. EST. Both the Board meeting and public listening session will be in the Missionary Ridge Auditorium in TVA's Chattanooga Office Complex at 1100 Market St.

The Board conducts business in public meetings throughout the year. The public listening session allows the Board to hear from the public about items on the agenda for the meeting or on any TVA matter.

Speakers are asked to register before the session begins and to limit their comments to three minutes each to allow time for other speakers. Speakers may register online at [www.TVA.com](http://www.TVA.com), or they may register to speak at the listening session before 9:30 a.m. All speakers are asked to arrive at the listening session before 9:30 a.m. and sign in at the registration table.

