

The R&T Connection Newsletter

A Publication for the Research and Technology Directorate

January 2011

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R&T Connection

Have an item for the R&T Connection? Whether it's a technical accomplishment, an upcoming speech, an employee award or any other news story, please share it with R&T Communications Officer Mia Scharper at mia.scharper@us.army.mil or 410.436.2262.

Message from the Director



Welcome to 2011! As we begin a new year, I'd like to thank you for your tremendous contributions during 2010. From awards, to patents and publications, to high-level visits – and most important, the hard work you do every day at your desk and in the lab – you have stayed true to the mission of the U.S. Army Edgewood Chemical Biological Center to serve U.S. forces and our nation. The new year gives us an opportunity to recommit our energy – to our teams and our warfighters.

Best wishes to you and your family for a healthy and happy 2011.

UPCOMING CONFERENCES/MEETINGS

R&T staff get around! This list is just a sampling of the many conferences and workshops we will be supporting in the coming months.

- ASM BioDefense and Emerging Diseases, February 6-9, 2011, Washington, DC [link](#)
- International Conference on Bioscience, Biochemistry and Bioinformatics, February 26-28, 2011, Singapore [link](#)
- Pittcon Conference & Expo, March 13-18, 2011, Atlanta, GA [link](#)
- Homeland Protection Workshop, March 14-17, 2011, MIT Lincoln Lab, Boston, MA [link](#)
- Sample Prep, April 7-8, 2011, San Diego, CA [link](#)
- SPIE Laser Conference, April 25-29, 2011, Orlando, FL [link](#)
- American Society for Mass Spectrometry Conference, June 5-9, 2011, Denver, CO [link](#)
- IEEE International Geoscience and Remote Sensing Symposium (IGARSS), August 1-5, 2011, Sendai, Japan [link](#)
- Society of Environmental Toxicology and Chemistry 32nd Annual Meeting, November 13 - 17, 2011, Boston, MA [link](#)
- Partners in Environmental Technology Technical Symposium & Workshop, November 29 - December 1, 2011, Washington, DC [link](#)



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Valdes Chairs Valued Technical Program Committee at Army Science Conference

James Valdes, Ph.D., ECBC's senior technologist (ST) for biotechnology, played a key role in the 27th Annual Army Science Conference, held recently in Florida. Valdes chaired the Technical Program Committee.

A significant part of his role involved reviewing the hundreds of abstracts submitted last spring by renowned scientists and engineers from the U.S. and foreign governments, academia and industry seeking to present a paper or poster. Valdes led the Technical Program Committee that determined which papers and posters were accepted, as well as selecting papers that won awards, including the prestigious Paul A. Siple Memorial Award.

"We tried to maximize the poster sessions to be as inclusive as possible while maintaining high quality," Valdes said. "At times, we had to make some very hard choices."

The four-day conference included 18 parallel technical sessions covering topics as wide-ranging as Power and Energy, Biotechnology, Network Science, and Neuroscience. The sessions supported the conference's theme: *Transformational Science and Technology – Enabling Full Spectrum Operations*.

"Dr. Valdes was instrumental in ensuring the Army had a high quality scientific conference that was focused on warfighter needs both present and future," said ECBC Technical Director Joseph D. Wienand.

At the closing banquet, theoretical physicist S. James Gates, Jr., Ph.D., presented a talk called "The Third STEM Crisis: Defending the American Dream in the New Millennium."

Valdes has chaired the Technical Program Committee in previous years and plans to stay involved in future conferences. He encourages ECBC to participate more fully to showcase our accomplishments to the Army.

"As a critical national asset in the CB defense community, ECBC has the opportunity to have direct interaction with our stakeholders and the warfighter when attending the Army Science Conference and others like it," Wienand said. "Each year, new technologies are created, processes developed and answers to some of the most pressing scientific questions have their origin in an ECBC facility. It's important for us to share that research, science and engineering with those it impacts most."

Valdes Presents TGER at the Army Tech Zone

James Valdes, Ph.D., ECBC senior technologist for biotechnology, discusses the Tactical Garbage to Energy Refinery (TGER) technology to MG Nick Justice, left, Commanding General of the U.S. Army Research, Development and Engineering Command, and John McHugh, Secretary of the Army, at the Army Tech Zone during the U.S. Army All-American Bowl, Jan. 8, in San Antonio. "It was a successful week," Valdes said of the five-day event. "Next year, I'd like to see more of an ECBC presence."
(Photo credit Marques Chavez)



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Dan Davis Begins New Year as R&T's Business Manager

Dan Davis was promoted in December 2010 to Business Manager from Business Program Coordinator. Davis has been supporting the Chemical Biological Defense Program for 12 years, seven of those at ECBC, and all in the business management capacity.

"I'm excited about my new role within this organization and look forward to the many challenges it will bring," said Davis. "While many of the challenges will be difficult, I'm confident that the great team that surrounds me will tackle those challenges to make this a more productive and efficient organization."

Davis's new role includes the execution of a \$140M average annual budget, program management support, and working with customers, such as the Defense Threat Reduction Agency, the Environmental Protection Agency and the Department of Homeland Security. He manages a team of 12 government staff and two contractors.

"Once a program is approved," Davis said, "we track how the funding is spent. Anyone who provides funding and requests work comes through our office."

"Dan uses a hands-on approach by listening to issues, complaints, requests, providing guidance and support and getting involved in any way that he can," said Budget Analyst Cindy Hart. "He maintains a positive outlook and is constantly trying to improve processes in order to operate more efficiently."

Steve Lawhorne, R&T deputy director, said, "Dan has consistently provided outstanding support to our research program with the Joint Science and Technology Office, and he helped create efficient processes for managing those funds, tracking proposals, and submitting reports and other deliverables. I am confident that R&T will continue to benefit from his leadership as he assumes his new duties."

Davis lives in Abingdon, Md., with his wife and two children.

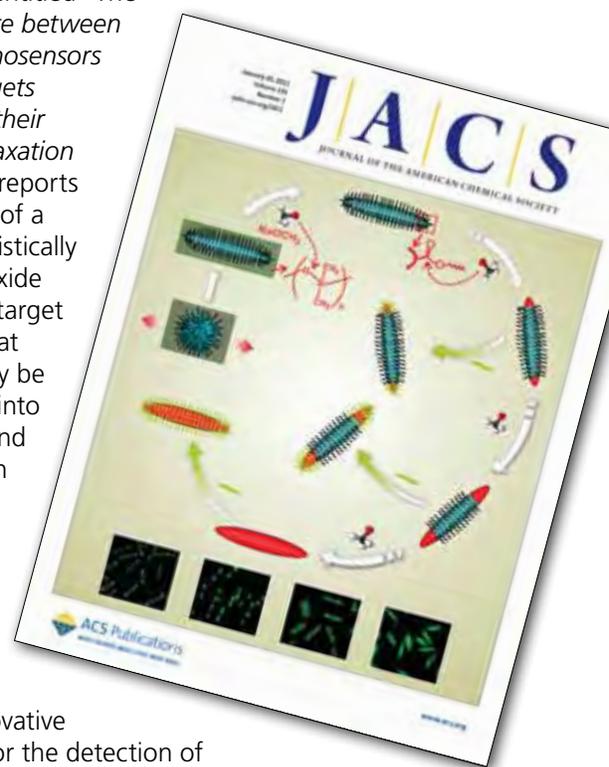
Notable Publication: JACS Accepts Article on Magnetic Nanosensors

2011 began on a good note, literally, for Terry Henderson, Ph.D. He received notice on Jan. 3 that a paper he co-authored was accepted for publication in the Journal of the American Chemical Society (JACS). The paper will likely be published in a spring edition of the journal.

The article is entitled "*The Assembly State between Magnetic Nanosensors and their Targets Orchestrates their Magnetic Relaxation Response.*" It reports the discovery of a new, mechanistically unique iron oxide nanoparticle-target interaction that can potentially be incorporated into new clinical and field detection applications.

"This work is relevant to ECBC's mission for research into new and innovative approaches for the detection of threat CB materials," said Jude Height of ECBC's Biophysical Chemistry Branch.

According to its website, JACS was founded in 1879 and "is the flagship journal of the American Chemical Society and the preeminent journal in the field."



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R&T CHARACTERS

Technical Librarian Combines Love of Science and Writing

She was supposed to have stayed just three months, but more than 20 years later, Michele Harris is still hard at work at the U.S. Army Edgewood Chemical Biological Center. Now a technical information specialist in the Operational Toxicology Branch, Harris began her support as a temporary contractor working with an early Apple computer, transitioning to a permanent contractor position and then, in November 2009, civil service.

Harris' resume reveals her dual appreciation of science and writing.

Initially providing administrative support when she was hired at ECBC in 1989, Harris soon began assisting a post-doctoral fellow, eventually becoming his lab partner. To build her science background, she earned an associate of science degree in chemistry, supplementing her bachelor's degree in English. Harris is just four credits short of a master's degree in professional writing.

Overlapping her time at ECBC, she also spent 17 years in the Air National Guard, leaving in 2006 as chief of public affairs (Captain-promotable).

**I love my job.
If I had to do
just one thing
until I retire,
this would be it.**

Now, Harris serves as a writer/editor and technical librarian at ECBC, managing the Operational Toxicology Branch technical information suite. Her 15 years of lab experience helps her understand the information scientists need to do their jobs.

"Michele has been an invaluable resource in both organizing and maintaining the archives of information most relevant to the Operational Toxicology Branch," said Branch Chief Bob Mioduszewski. "She's been instrumental in helping our study

directors search and access the most relevant information sources that they require for both designing laboratory research studies and evaluating their significance and application to support of the soldier."



*Michele Harris, technical information specialist, stands in her office near her first book, *The Syrup Lady, Part 1*.*

"I love my job," Harris said. "If I had to do just one thing until I retire, this would be it. I love having the opportunity to work independently, to add to the team and to have my ideas considered."

Harris attributes her writing interest to her father, who was in the Army when she was growing up. "When we wrote him letters, he would send them back, corrected, and add a 'word of the day,' which we had to use in our next letter," she said.

Far from having her letters corrected and returned, Harris is now an author outside of work, having just published her second book, *Soggy Cakes: The Syrup Lady, Part 2*, in December. *The Syrup Lady, Part 1* and *Soggy Cakes* were published by Publish America. She is completing her third book, *Manna, the Syrup Lady, Part 3*. She describes her books as inspirational and humorous. "Anyone (male or female) who has been in a relationship will be able to relate to the stories," she said.

Harris, her husband Leonard, four of their combined seven children, and their dog Rosey live in Edgewood, Md.



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Chief Scientist Visits Slovenia in University Collaboration

Harry Salem, Ph.D., traveled to the University of Nova Gorica in Slovenia in October to deliver a lecture on toxicology in the 21st century and participate in a graduate thesis committee. He was invited as part of a collaboration between Nova Gorica and Rutgers University, where he serves as a visiting professor, teaching chemical toxicology in its graduate program.

Salem, who has worked at ECBC for 26 years, serves as the chief scientist for life sciences.

While overseas, Salem fit in some sight-seeing, spending a day in Venice as well as touring Slovenia. "Slovenia is a beautiful country," he said. "I'm surprised there aren't more American tourists as they are very friendly to the United States. I'm eager to return."

Slovenia is a Central European country bordering Italy, Hungary, Croatia and Austria.



Harry Salem, Ph.D., standing in front of a Slovenian castle built into a mountainside, poses with his friend Sidney Katz, Ph.D., chemist and professor at Rutgers and Nova Gorica universities.

Harry Salem, Ph.D., ECBC chief scientist for life sciences, will present **A Brief History of Bioterrorism** on June 14. The event was originally scheduled for January but was postponed due to inclement weather. The presentation is part of a Science Café sponsored by the Northeastern Maryland Technology Council. Additional details will be posted at <http://www.nmtc.org/>.

Recent Staff Awards

Certificate of Recognition for SMART Program
Dr. H. Dupont Durst

Achievement Medal for Civilian Service
Dr. Michael Stanford

Superior Civilian Service Award
Alan Zulich

Meritorious Civilian Service Award
Dr. Charles Wick

Patent Awards

Patent # 7,745,136 – Direct Quantification of Ribosome Inactivating Protein
Dr. Russell Dorsey

Patent # 7,743,433 – Neck Dam Collar for use with Chemical-Biological Protective Masks and Hoods
Corey Grove

Patent # 7,723,558 – Non-corrosive, Non-caustic, Non-flammable, Catalyst-based Decontaminant Formulation
Dr. Vipin Rastogi
Co-inventor – Dr. Steven Harvey

Patent # 7,790,452 – Artificial Chimeras Engineered to Simulate Multiple Biological Threat Agents
Dr. Jose-Luis Sagripanti



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Return from Iraq

A. Way Fountain III, Ph.D., ECBC's senior technologist for chemistry, returned from his 30-day temporary assignment in Iraq, where he served as chief scientist for Task Force Troy. The task force coordinates the Counter Improvised Explosive Device, or C-IED, mission in Iraq.

"My two biggest regrets are that I was not able to get over there sooner to work with Task Force Troy and the Counter Explosives Exploitation Cell (CEXC) and that I was not able to stay longer," Fountain said.

"It was a wonderful experience to work with the soldiers, sailors (U.S. Navy electronics technicians), Marines (Marine Explosive Ordnance Disposal, or EOD), and airmen (U.S. Air Force EOD) in CEXC as well as the number of people from an alphabet soup of other government agencies," Fountain said. "In theater, you have a relevant mission that slaps you in the face every morning and although you work long tiring hours every single day, you are greatly rewarded just knowing that you are helping our soldiers in a very tangible manner. If my wife promised not to revolt, I'd go back there or to Afghanistan in an instant."



Left: Way Fountain, Ph.D., visits the Al-Faw Palace (Water Palace) and Headquarters of U.S. Forces Iraq.

Below: Way Fountain, Ph.D., and other members of the Counter Explosives Exploitation Cell (CEXC) fly to Northern Iraq by UH-60 Blackhawk.



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