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# argonne update

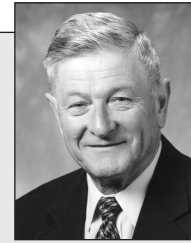
Many of your friends and neighbors are among the 3,300 who work at Argonne National Laboratory's DuPage County site. This newsletter highlights some of their recent activities. Argonne is one of the nation's largest federally funded research centers.

Argonne is operated by the University of Chicago for the U.S. Department of Energy's Office of Science.

For more information, please visit Argonne's Web site at [www.anl.gov](http://www.anl.gov).



Argonne National Laboratory  
9700 South Cass Avenue • Argonne, IL 60439



Dear Neighbor,

For more than 50 years, Argonne has kept the surrounding communities informed about our activities. Since the vast majority of our research quickly becomes part of the world's public knowledge, this has been easy to do.

Still, the communities around us have grown, and we want to make certain that everyone knows about our activities, including our many advances in science and technology. We also want you to be aware of our employees, many of whom are your neighbors. Accordingly, we are adding this publication, Argonne Update, to the communications tradition we've established over the years. We plan to mail you new issues twice each year.

We also invite you to take advantage of our other programs to learn more about our wide-ranging science and technology. Please stop at the visitors' center at our Cass Avenue entrance and take a look at the exhibits there, or visit our displays at local community fairs and business expositions. You can arrange group tours of Argonne or request speakers on a wide range of topics for your civic, business or school groups by calling 630-252-5562. You can also call that number with general questions about Argonne. And we invite you to talk to your community's elected and appointed leaders, many of whom attend the periodic meetings of our Community Leaders' Round Table.

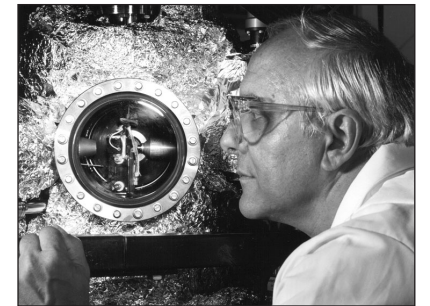
Sincerely,

Hermann Grunder  
Director, Argonne National Laboratory

## Meet an Argonne Scientist: Orlando Auciello

Bolingbrook resident and Argonne scientist Orlando Auciello recently received two prestigious awards for his research.

He helped develop the first affordable method for coating large areas with diamond film. This system could make it possible to develop electronics and other devices that can reside in the human body without causing infections or being rejected by the body's defenses. The diamond coating system earned him an R&D 100 award, which highlights the best new products and technologies worldwide.



Orlando Auciello

He was also awarded the Outstanding Technical Achievement Award from the Hispanic Engineer National Achievement Award Corporation. This award recognizes the contributions of outstanding Hispanic American science, engineering and technology professionals.

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PIONEERING SCIENCE & TECHNOLOGY

## News Notes

### Blocking Tumors

Proteins that could lead to drugs that stop tumor growth and cancer have been identified by Argonne biologists studying the formation of capillaries in tumors.

Proteins are responsible for cell structure and for communication between cells and are important in forming capillaries, such as new blood vessels that allow tumors to feed and grow.

Argonne researchers are the first to study the earliest steps in capillary formation in tumors. They identified 280 proteins secreted during capillary growth by cells that form blood vessels. It may be possible to slow or stop tumor growth by finding ways to block the action of some of these proteins.

### Managing Emergencies

Argonne's Emergency Response Synchronization Matrix is software that helps emergency managers develop crisis plans that coordinate actions across various jurisdictions over an extended period of time. The software includes custom-designed analytical tools to help collect data, analyze it, and produce reports and displays.

"Today, more and more emergency response is regional instead of just local," said Argonne's Paul Hewett. Responders from one area are not necessarily familiar with the emergency plans of other agencies, but they must work together to effectively handle a crisis.

### Measuring Masses

Argonne physicists have precisely measured the masses of radioactive elements that last for such tiny fractions of a second that they are almost nonexistent in the laboratory. Some were accurately measured for the first time ever.

The results help explain the brilliant light given off by strange astronomical objects called "X-ray bursters," a combination of a normal star and a nearby dead star that has collapsed in on itself. The ferocious gravitational field of the collapsed star pulls gas from its companion until the surface of the collapsed star ignites in a runaway nuclear reaction. For a minute or more, the light from the explosion may be the most brilliant source of X-rays in the sky.

Visit Argonne's Web site for weekly updates: [www.anl.gov](http://www.anl.gov)

## Meeting Planned to Discuss Proposed Biolab

With the announcement of federal funding for a Regional Biocontainment Laboratory proposed by The University of Chicago and to be built at Argonne, a public meeting has been scheduled to carry forward discussions begun in January at Argonne's Community Leaders' Round Table and continued in the months since at meetings of homeowners groups and with area residents. Information and a link to ask questions remain available on the web ([www.htrl.uchicago.edu](http://www.htrl.uchicago.edu)).

Funding for the laboratory is through the National Institute of Allergy and Infectious Diseases (NIAID), one of the National Institutes of Health (NIH). The laboratory, which will cost more than \$20 million to build, is designed to safely conduct research to fight emerging and re-emerging infectious diseases and microbes that might be used in bioterrorism. It will support the Midwest Regional Center of Excellence, a consortium of 14 research organizations in the Midwest, coordinated by the University of Chicago. NIH awarded a separate grant for the Center in early September.

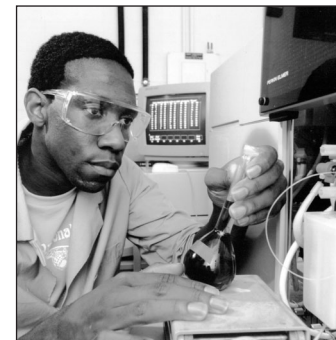


An artist's rendering of the Regional Biocontainment Laboratory

The research will develop new diagnostics, vaccines and treatments, and will be moved forward by some of the unique and powerful research tools at Argonne. The regional laboratory is also to be an important tool in educating area doctors, medical researchers and first responders.

The public meeting, to provide details of the latest developments, is scheduled for 7 p.m. Wednesday, October 15, 2003, at Ashton Place, 341 75<sup>th</sup> St., Willowbrook. If you have questions, please call Steve Koppes at the University, 773-702-8356, or Richard Greb at Argonne, 630-252-5565.

## Argonne Helps Turn Students into Science Teachers



Future teacher Jamaris Ealy

Argonne is helping improve science education in both elementary and high school by exposing budding teachers to real science. The Pre-Service Teacher Program lets undergraduate college students work with Argonne scientists to gain a solid understanding of how research works. For 10 summer weeks, future teachers work closely with Argonne scientists on projects in their chosen fields. The students learn how to turn what they do in the laboratory into lesson plans and activities for elementary and high school students.

"I have had the chance to network with many scientists and learn firsthand about the current research instead of reading about old research from a science textbook," said Jamaris Ealy, an intern working in Argonne's Environmental Assessment Division. The program is sponsored by the Department of Energy's Office of Science and the National Science Foundation.