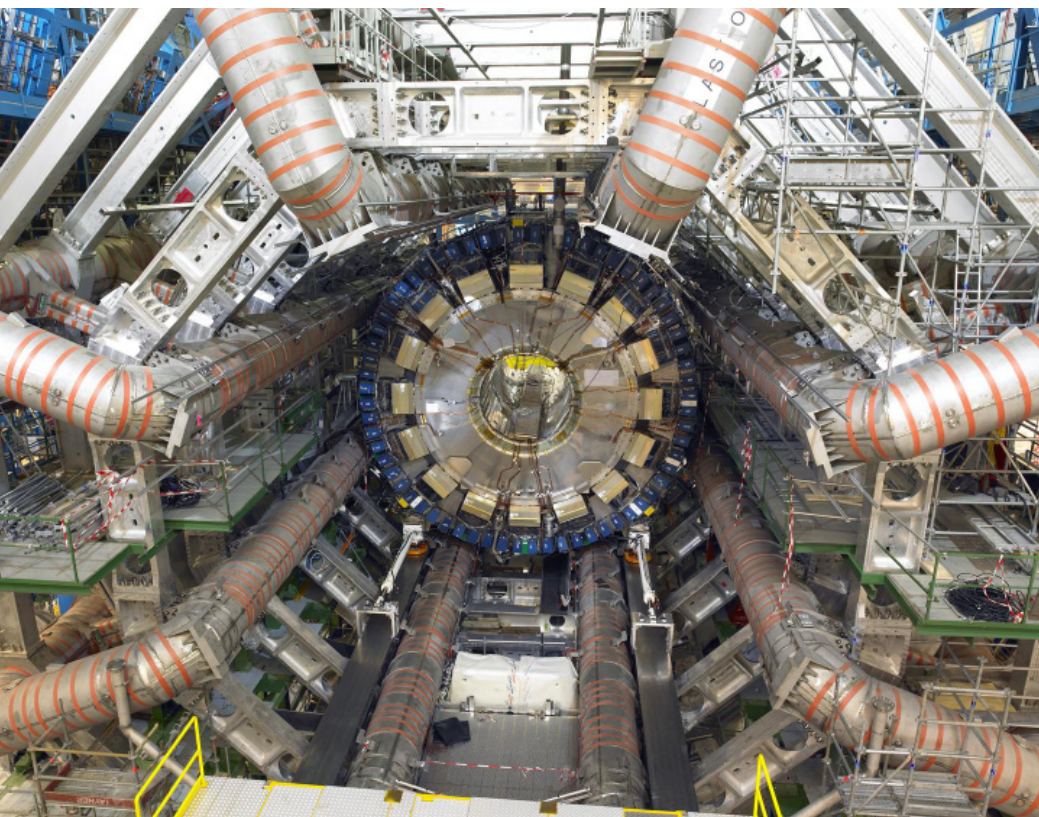


## Science world celebrates startup of 'Big Bang' machine



A view of the toroid barrel magnets of ATLAS, a detector built and funded by the U.S. Department of Energy and the National Science Foundation. Image courtesy of The ATLAS Experiment at CERN.

By Brock Cooper

Some of the biggest questions in particle physics could only be worked through on paper — until now.

The Large Hadron Collider came online in the early hours of Sept. 10, and with it the ATLAS experiment, led in part by Argonne, begins its investigation into the fundamentals of the universe.

ATLAS (which stands for A Toroidal LHC Apparatus) is the biggest of the four experiments currently housed in the LHC at the European Organization for Nuclear Research. The ATLAS detector will search for new discoveries by studying head-on collisions of protons of extraordinarily high energy, shedding light on the inner workings of forces that have shaped our universe. It will also investigate the exotic unknowns of particle physics, such as the origins of mass, extra dimensions in space and evidence of dark matter in the universe.

The LHC, located at the CERN laboratory near Geneva, Switzerland, is now the world's most powerful particle accelerator.

The U.S. Department of Energy and the National Science Foundation (NSF) invested \$531 million in the construction of the accelerator and its detectors, which scientists believe could help unlock extraordinary discoveries about the nature of the physical universe.

Celebrations across the United States and around the world marked the LHC's first circulating beam, an occasion more

than 15 years in the making. An estimated 10,000 people from 60 countries helped design and build the accelerator and its massive particle detectors, including more than 1,700 scientists, engineers, students and technicians from 94 U.S. universities and laboratories supported by DOE's Office of Science and the NSF.

"As the largest and most powerful particle accelerator on Earth, the LHC represents a monumental technical achievement," said U.S. Department of Energy Undersecretary for Science Raymond L. Orbach. "I congratulate the world's scientists and engineers who have made contributions to the construction of the accelerator for reaching this milestone. We now eagerly await the results that will emerge from operation of this extraordinary machine."

The first circulating beam is a major accomplishment on the way to the ultimate goal: high-energy beams colliding in the centers of the LHC's particle detectors. Beyond revealing a new world of unknown particles, the LHC experiments could explain why those particles exist and behave as they do. They could reveal the origins of mass, shed light on dark matter, uncover hidden symmetries of the universe and possibly find extra dimensions in space.

The NSF has focused its support on funding university scientists who have contributed to the design and construction of the two largest detectors, CMS and ATLAS, and promoted the

**See "ATLAS" on page 3**

## Laboratory Management System: Rethinking the way Argonne does business



By Argonne  
Director Robert  
Rosner

In the coming weeks and months, you'll be hearing a lot about the Laboratory Management System, or LMS. It's a fundamental rethinking of the way we manage the laboratory to meet our customers' requirements. Over the past 60 years, the laboratory has managed itself through a combination of formal systems (written policies and procedures) and ad hoc systems (some might call these "seat of the pants"). In either case, we desired systems that produced consistent, acceptable results. Through this patchwork quilt, we could not always achieve the desired results consistently.

LMS moves away from an organization-based management system to a process-based management system.

In the past, we counted on our organizations to ensure the desired results were met. LMS relies on the process to produce the desired results, with the organizations supporting the process. Argonne's senior management is committed to LMS, because to remain competitive the laboratory must become more efficient and more results-oriented than it is currently. LMS arises out of modern management techniques and a commitment to adopt more effective management methods, an important part of our winning the five-year contract proposal to manage the laboratory.

This article, and a series of articles to follow in *Argonne News*, will provide a broad-brush outline of the initiative. Broadly speaking, LMS is a tool to improve internal laboratory processes that will help streamline our operations and increase our efficiency in meeting our commitments to our customers so that we can better concentrate our resources on research-focused outcomes.

Improvements will come in the  
**See "LMS" on page 3**

## Strategic planning process at the lab to ensure Argonne's position in the future

The major challenges of the 21st century — energy, the environment, national security and the fundamental science that underpins them — fall squarely into the R&D portfolio of Argonne and the U.S. Department of Energy. Identifying opportunities that position Argonne to make unique, powerful and lasting contributions to address these challenges, and articulating these contributions to our sponsors, is an ongoing endeavor.

Deputy Director for Programs Eric Isaacs will be working to launch a strategic planning effort that will help identify, articulate and execute new opportunities. Together with lab management, he will develop a comprehensive lab plan that will be essential in securing support from DOE and other agencies for existing and future programs. Argonne's strategic planning effort will establish a bold and consistent identity for the laboratory that will look forward to the next 20 years.

In coming months a set of lab objectives will be defined through meetings and position papers to be written by

discussion leaders. Topics will include, but not be limited to, energy storage, leadership computing, materials synthesis, chemical processes and hard X-ray science. Some tough choices will be made, selecting those topics that best position the laboratory for impact and funding opportunities. These choices will be made through discussions with division directors and department heads and the Strategic Planning Group, which consists of Argonne's senior management team, including Argonne Director Robert Rosner, Deputy Director for Operations Steve Richardson, Isaacs and the associate laboratory directors.

By mid-winter, the group will produce a lab plan that will act as a blueprint for executing Argonne's objectives. The plan will provide an opportunity for Argonne to distinguish itself from the other national laboratories, appeal to its customer base and more efficiently allocate its own resources, including LDRD funds. The plan will build on the "business plan" requested by, and delivered to, the DOE Office of Science earlier

**See "Strategic Planning" on page 4**

### INSIDE

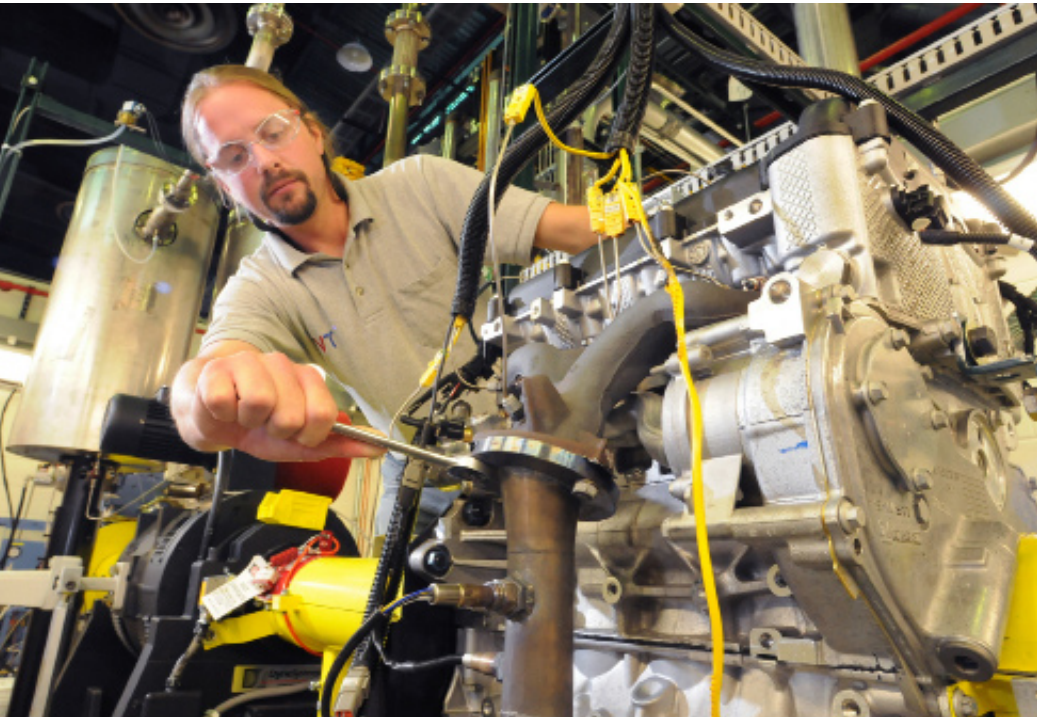
- ARGONNE SCIENTISTS HOPE 'OMNIVOROUS ENGINE' WILL RUN ON MANY FUELS
- 2008 PERFORMANCE APPRAISAL APPLICATION OPENS OCT. 1
- LABORATORY DIRECTOR SEARCH IS TOPIC OF SEPT. 29 TOWN HALL MEETING



UChicago  
Argonne LLC



## Argonne scientists hope 'Omnivorous engine' will run on many fuels



Argonne mechanical engineer Thomas Wallner adjusts Argonne's "omnivorous engine," an automobile engine that Wallner and his colleagues have tailored to efficiently run on blends of gasoline, ethanol and butanol.

By Jared Sagoff

The "omnivorous engine" is no picky eater. Gasoline? Down the hatch. Ethanol? Butanol? It'll slurp those up too. The creators of the omnivorous engine, engineers at Argonne, seek to fashion an engine that can run on just about any type of spark-ignited fuel.

Unlike regular automobile engines, which typically run solely on gasoline or, in rare instances, on a blend of gasoline and ethanol, the omnivorous engine would be able to run on any blend of conventional gasoline, ethanol or butanol, another organic alcohol that scientists are beginning to consider as a potential biofuel. Even more significantly, the omnivorous engine would use a suite of sensors to calibrate itself so that it burns available fuel as efficiently as possible.

Since the Ford Model T, the first car built to run on both gasoline and ethanol, automakers have introduced a variety of these flexible-fuel vehicles, or FFVs. Since both gasoline and ethanol engines rely on a spark plug to ignite the air-fuel mixture, it doesn't take a lot of effort to equip an engine to burn both kinds of fuel, according to mechanical engineer Thomas Wallner (ES).

"Just because an engine is compatible with different fuels doesn't mean that it has the ability to run at peak efficiency regardless of the fuel mixture," Wallner said. "That's where the benefits of the omnivorous engine lie."

According to Wallner, all single-fuel and most flex-fuel engines are typically calibrated to run on a single, usually all-gasoline, fuel source. To calibrate an engine, engineers and auto manufacturers typically tune the engine for several variables, including the amount of fuel injected into the engine per cycle, the time at which the fuel is injected and the timing of the igniting spark.

Each of these parameters will have different optimum values for different fuel blends, Wallner said. Without an omnivorous engine, cars cannot adapt themselves independently to other fuel concentrations and therefore cannot

maximize fuel economy.

"If you just ran on a blend of gasoline and ethanol, it wouldn't be too difficult to find out just what proportions of each you have in your tank," Wallner said. "But if you want to add some butanol in there, discovering how to efficiently burn that whole medley of fuels becomes a much more challenging task."

"The ultimate goal is not to know what's in the tank, but to have it run as efficiently as possible on whatever comes down the fuel line," he added. "This engine can run on pretty much any liquid fuel that can be ignited with a spark."

Instead of examining the contents of the fuel tank, the omnivorous engine will use a suite of different sensors to evaluate the characteristics of the combustion inside the engine as well as its chemical signature, or ionization. If these sensors determine that the engine is not running at peak efficiency, the engine controller will make adjustments to several parameters, including injection strategy and spark timing.

The proposed approach is also relatively simple and cost-effective, Wallner said, enabling the rapid commercialization of the omnivorous engine. The omnivorous engine will run efficiently on a wide range of liquid fuels while running especially well on biofuels, giving the consumer an incentive to use fuels other than gasoline.

The omnivorous engine would benefit the U.S. economy by reducing dependence on foreign oil while increasing the demand for domestically produced biofuels. "The American public will benefit from engines that perform better and that can switch between a wide variety of fuels based on their availability," said Steve McConnell (ES), one of the principal investigators on the omnivorous engine project at Argonne.

The omnivorous engine represents one of several new vehicle technologies in Argonne's Center for Transportation Research, where Wallner and his colleagues work. Research on the "omnivorous engine" was originally supported by resources from Argonne's

## 2008 Performance Appraisal application opens Oct. 1

Oct. 1 marks the beginning of the annual performance appraisal process at Argonne.

Appraisals cover the period from Oct. 1, 2007 through Sept. 30, 2008. Performance appraisals must be completed for all regular full and part-time employees who were active as of July 1, 2008. This year's performance appraisals are due electronically to Human Resources (HR) on Dec. 15.

All regular full- and part-time employee Argonne employees will have access to their own performance appraisals when the system opens Oct. 1. Employees may enter achievements and goals directly into their own performance appraisals and submit these entries to their supervisors. Employees can also upload statements of accomplishments.

After employees have submitted their input, supervisors are responsible for completing the appraisals and then submitting the appraisals to the second-level supervisor for review and approval.

Performance appraisals are completed through the Performance Appraisal Web application. Employees can access the application through Inside Argonne using their Argonne user names and passwords.

More information and resources are available on *Inside Argonne*. Contact HR/Performance Development at ext. 2-8786 with questions.

[inside.anl.gov/hr/performance\\_appraisals/annual\\_review.html](http://inside.anl.gov/hr/performance_appraisals/annual_review.html)

### Performance Management training

HR/Performance Development provides an overview of the performance appraisal process for all employees.

### 'Cascading Goals'

Goal setting at all levels of the organization is an integral part of the performance evaluation process. Laboratory goals are articulated annually and drive the goals of Associate Laboratory Directorships, divisions, and ultimately work groups and employees. FY2009 goals are available on *Inside Argonne* and also appear on performance appraisals.

[inside.anl.gov/divisions/performance\\_goals.html](http://inside.anl.gov/divisions/performance_goals.html)

Laboratory-Directed Research and Development program and is now supported by the Vehicle Technologies Program in the Department of Energy's Office of Energy Efficiency and Renewable Energy.

The U.S. Department of Energy's Vehicle Technologies Program is developing more energy-efficient and environmentally friendly highway transportation technologies that will enable America to use less petroleum. The long-term aim is to develop "leapfrog" technologies that will provide Americans with greater freedom of mobility and energy security, while lowering costs and reducing impacts on the environment. ▀

[www1.eere.energy.gov/vehiclesand-fuels/](http://www1.eere.energy.gov/vehiclesand-fuels/)

• "Performance Appraisal Briefing for Employees" (HR 370) — Oct. 2, 11:30 a.m. - noon, Building 362 Auditorium. More information on this class can be found online at [inside.anl.gov/hr/performance\\_dev/courses/performance\\_appraisal.html](http://inside.anl.gov/hr/performance_dev/courses/performance_appraisal.html).

Performance Management workshops are also available for supervisors.

• "Evaluating Accomplishments" (HR294) — Oct. 14, 2 - 4 p.m., Building 201, Room 190. More information on this class can be found online at [inside.anl.gov/hr/performance\\_dev/courses/writing\\_appraisals.html](http://inside.anl.gov/hr/performance_dev/courses/writing_appraisals.html).

• "Crafting Goals for Next Fiscal Year" (HR295) — Oct. 15, 2 - 4 p.m., Building 201, Room 190. More information on this class can be found online at [inside.anl.gov/hr/performance\\_dev/courses/pa\\_goals.html](http://inside.anl.gov/hr/performance_dev/courses/pa_goals.html).

• "The Conversation" (HR296) — Oct. 16, 2 - 4 p.m., Building 201, Room 190. More information on this class can be found online at [inside.anl.gov/hr/performance\\_dev/courses/conversation.html](http://inside.anl.gov/hr/performance_dev/courses/conversation.html).

• "Correcting Performance Problems" (HR459) — Nov. 20, 1 - 5 p.m., Building 201, Room 190. Costs \$50. More information on this class can be found online at [inside.anl.gov/hr/performance\\_dev/courses/performance\\_problems.html](http://inside.anl.gov/hr/performance_dev/courses/performance_problems.html).

Supervisors should register through their Training Management System (TMS) representatives. A list of TMS representatives can be found online at [www.anl.gov/ESH/tms/ reps.html](http://www.anl.gov/ESH/tms/ reps.html). ▀

## Badges required at all times while on site

Argonne Security reminds all employees and visitors that an employee photo badge or a visitor gate pass must be worn on the front upper portion of the body in plain view at all times while on the Argonne site. This requirement is mandated by DOE Manual 470.4-1 and is consistent with the current SECON Level 3 (modified). Laboratory policy (HR Manual, section 10200.1) also requires employees to wear badges.

Anyone not wearing a badge may be politely challenged to determine whether or not they are authorized on site. Security may be contacted and asked to perform the challenge. To report suspicious persons, call ext. 2-5737. ▀

## Laboratory director search is topic of Sept. 29 town hall meeting

A town hall meeting with Argonne employees to discuss the search for a new laboratory director will be held Monday, Sept. 29. The meeting will be hosted by Don Levy, University of Chicago vice president for research and for national laboratories and chair of the Argonne Director Search Committee and selected members of the search committee.

The one-hour meeting will begin at 10 a.m. in the Building 402 Auditorium and will be simulcast to the auditoriums

in buildings 203 and 362. An informal discussion with members of the committee will follow in the Lower Level Gallery from 11 a.m. to noon.

All employees whose work schedules permit are invited to attend. Shuttle service will be provided prior to the 10 a.m. meeting to all locations with return service every 10 minutes from 11 a.m. until noon.

For more information, contact Laura Cuddy at ext. 2-3244 or [lcuddy@uchicago.edu](mailto:lcuddy@uchicago.edu). ▀

## Employees interested in exploring nuclear safeguards training invited to take survey

Over the next five years, 50 percent of the International Atomic Energy Agency's (IAEA) top inspectors and senior managers may retire, taking with them key institutional knowledge and technical skills. The simultaneous expansion and evolution of the IAEA mission and anticipated growth in nuclear energy production will lead to a shortage in the number and quality of staff, especially in the Department of Safeguards, because it relies on more advanced and evolving technologies and requires trained staff.

As part of a task to find and develop staff to cover needs at the IAEA, the NNSA Office of International Regimes and Agreements has directed labs to identify staff who might be interested

in developing safeguards expertise by taking an offsite assignment at the U.S. Department of Energy headquarters or at the IAEA in Vienna. DOE is aware of concerns people have regarding current lab HR policies when it comes to pursuing such assignments, and recognizes that policy changes might be necessary for IAEA assignments. They are working to identify impediments and to facilitate employment of U.S. lab experts at the IAEA.

Employees interested in exploring safeguards opportunities are asked to complete a safeguards interest survey, available on Inside Argonne. ▀

[inside.anl.gov/ne/safeguards\\_survey.html](http://inside.anl.gov/ne/safeguards_survey.html)

## Constantinescu named Argonne Wilkinson Fellow in Scientific Computing



Constantinescu

Emil Constantinescu received the 2008 Wilkinson Fellowship in Scientific Computing, one of the world's most prestigious postdoctoral fellowships in computational mathematics. He

joined the Mathematics and Computer Science Division in August.

Constantinescu received his doctoral degree in numerical analysis and scientific computing from Virginia Tech in 2008. For his thesis, he created multirate discretization methods for problems involving time-dependent partial differential equations. These problems are challenging because different scales or physical processes require different computational approaches. Traditional spatial mesh refinement methods used to handle such problems have been hampered by the fact that the time evolving algorithms had to be reduced to accommodate the finest grid resolution. Constantinescu's innovative multirate methods enable large-scale computations to treat each scale with its appropriate time stepping algorithm, thus significantly reducing the simulation time while preserving consistency, stability and conservation properties. The methods have been applied successfully to a large-scale, state-of-the-art atmospheric model, one of the first dynamically adaptive grid studies in air quality resolution.

Constantinescu has also developed ensemble Kalman filtering techniques for chemical data assimilation and has demonstrated the power of these techniques in real-life atmospheric simulations over Asia and the United States. This work has generated considerable interest in the scientific community, with the results reported in two articles in the prestigious *Quarterly Journal of the Royal Meteorological Society*.

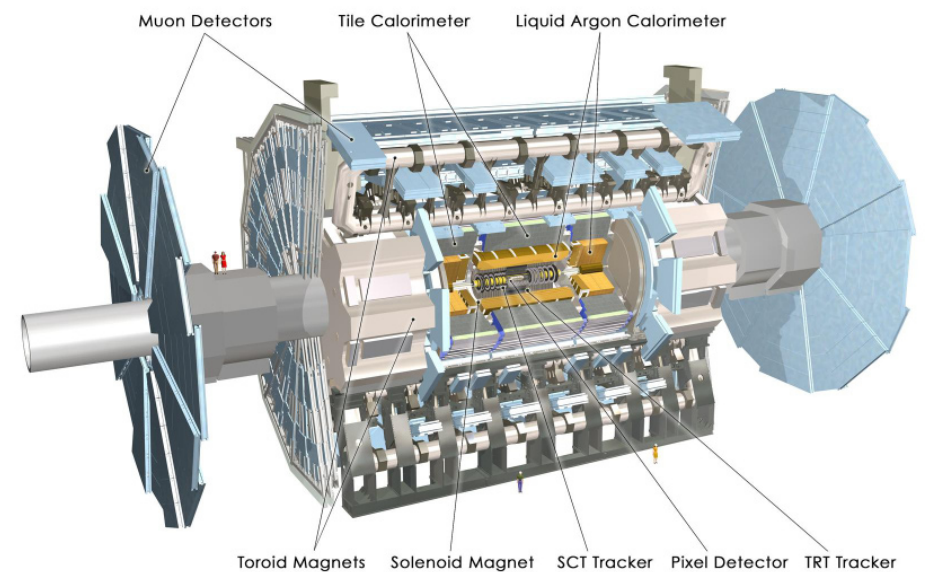
Constantinescu completed an internship at Argonne in 2006 as a Givens Associate.

"We are delighted that Constantinescu will join us again," said Mihai Anitescu, computational mathematician and head of the Wilkinson Fellowship selection committee.

Anitescu noted that the search committee was impressed by the breadth and depth of Constantinescu's knowledge in computational science, his strong background in mathematics and numerical analysis, and his creative problem-solving skills. Constantinescu has already published 11 articles in refereed journals and refereed conference proceedings, and he was first author of seven of these — an outstanding record for a scientist at the start of his career.

The Wilkinson Fellowship was created at Argonne in 1988 in honor of the late James Hardy Wilkinson, noted computational mathematician and Fellow of the Royal Society. The fellowship, renewable for a second year, is intended to encourage young scientists actively engaged in state-of-the-art research in scientific computing. ▀

## ATLAS



A detailed computer-generated image of the ATLAS detector and its systems. Image courtesy of The ATLAS Experiment at CERN.

### Continued from page 1

development of advanced computing innovations, essential to address the challenges posed by the enormity and richness of data to be accumulated. Continued support will enable scientists to optimize detector performance and the successful data accumulation and sophisticated analysis necessary for discovery.

"This national and international collaboration of unprecedented scope, and our investment in basic science, fundamental to the NSF mission, provide an exciting opportunity to solve some of the core mysteries of the universe," said Arden L. Bement, Jr., director of the NSF. "With the operation of the LHC, anticipation of transformative scientific discoveries soars to new heights."

DOE provided support for the design and construction of the ATLAS and CMS detectors through two DOE national laboratories — Brookhaven and Fermilab. Although the construction was managed

through Fermilab and Brookhaven, scientists and engineers at universities and other DOE national laboratories — Argonne and Lawrence Berkeley — played key roles in the design and construction and are finalizing preparations to collect and analyze the data at the energy frontier. In addition, DOE supported about 150 scientists, engineers and technicians from three DOE national laboratories — Brookhaven, Fermilab and Berkeley Lab — that built critical components for the LHC accelerator. They are joined by colleagues from DOE's Stanford Linear Accelerator Center and Texas A&M University in ongoing accelerator R&D.

"The LHC is a discovery machine," said CERN Director General Robert Aymar. "Its research program has the potential to change our view of the universe profoundly, continuing a tradition of human curiosity that's as old as mankind itself." ▀

[atlas.web.cern.ch/Atlas/index.html](http://atlas.web.cern.ch/Atlas/index.html)

## LMS

### Continued from page 1

form of better communications across the laboratory, clearly identified roles and responsibilities and more accessible documented systems that repeatedly produce the desired outcomes. Fundamental to this new system is the focus on continued improvement — the need to constantly challenge what we do and how we accomplish our work.

This initiative is focused on improving the laboratory's ability to perform world-class science and encompasses our research divisions, user facilities and operational staff.

LMS was developed using ISO 9001 (quality management systems) and ISO 14001 (environmental management system) standards as guidelines for how to create and manage a business with process-based systems. Using these standards calls for inclusion of all parts of the organization to identify what they do, how they do it and how what they do integrates with the other parts of the organization to achieve the desired results.

### Competition

Moving from an organizational-based management system to a process-based management system will require a change in how we operate. In the past, we counted on our organizations

to ensure the results desired were met, but now we will rely on the process to produce the desired results. Argonne's senior management is committed to LMS because the laboratory must change the way it does business or get left behind. Competition for dollars is fierce in this era of flat or declining budgets for science, continuing resolutions and sudden, arbitrary funding cuts by Congress. Demonstrating that we adhere to internationally accepted management practices will be a visible signal to our customers that we are responsible stewards of their money, helping the laboratory attract additional business.

In short, LMS is the foundation for sustaining our world-class research facility — a facility where people want to come and work and that funding agencies want to fund.

This is a huge undertaking, and more than 300 employees from all areas of the laboratory have been working to lay the groundwork for LMS. In coming articles, we'll provide details on how we have set out to create the new LMS. We'll discuss the approach we took, who has been involved, current status and the rollout plan, including system education. ▀

[inside.anl.gov/lms/](http://inside.anl.gov/lms/)

## Lab developing roles, responsibilities, accountabilities and authorities

The laboratory is currently undertaking an initiative to develop a system of roles, responsibilities, accountabilities and authorities (R2A2s) that clarify reporting relationships within the laboratory and identify clear lines of authority and responsibility. Laboratory Director Robert Rosner, Deputy Director for Operations Steve Richardson and Deputy Director for Programs Eric Isaacs have been working with a Human Resources (HR) team to develop documents to:

- Make clear line manager responsibilities and the expectations for full support of the organization performance objectives and expectations.
- Increase clear communication with stakeholders.
- Make line management oversight functions explicit.
- Eventually, clarify expectations for all lab employees.
- Make clear reporting lines for safety.

These documents are based on the role held within the organization. The following definitions help explain these documents.

- **Roles:** Broadly defines the function an individual holds within the organization. The role might match a job title; in some cases it might be broader.
- **Responsibilities:** Defines the obligation to carry out activities associated with the role, which might include

ensuring initiation, implementation and completion of an activity.

- **Accountabilities:** Identifies the person, such as associate laboratory director, or organization, such as the U.S. Department of Energy or UChicago-Argonne, LLC, to whom the person is answerable to for fulfilling the responsibility.

- **Authorities:** Delineates the decision-making powers and controls allowed without concurrence or approval of others and required to fulfill responsibilities.

This process has been started by initiating R2A2s for the lab's key personnel as defined in our Prime Contract with DOE. Those documents are found on the LMS Web site.

The use of R2A2s as a way to describe the work of various roles at the lab is encouraged by DOE and is also being used by other national labs.

HR is creating a plan for expanding R2A2s to define lab-wide roles beyond those of key personnel. HR will integrate the process into the Laboratory Management System (LMS), develop a set of criteria to define lab-wide roles and begin the initial evaluation of R2A2s as the guiding documents for describing work at the laboratory. The goal is to create a coherent lab-wide structure. Expect more information to appear in *Argonne Today* and *Argonne News* as the process moves forward. ▀

## SPOT Awards

The SPOT Award recognizes employees' contribution to safety and quality at the laboratory. The award recognizes employees "on-the-spot" who exhibit good safety behavior or initiative. Congratulations to the following employees that have recently received SPOT awards.

- Jonathan Levine (MSD) discovered a relocatable power tap with ungrounded outlets. Any electrical device plugged into it would have been ungrounded and potentially quite hazardous. Levine removed it from service, replaced it, and alerted the division electrical inspector.

- Boyd Veal (MSD) detected water leaking from the roof into a laboratory during evening hours. Veal notified security and the off-hours facilities group. His prompt action protected valuable equipment and prevented a potentially hazardous electrical safety condition from developing.

Employees also receiving SPOT Awards include:

- Darius Buntinas (MCS)
- Tad Jesionowski (FMS)

Any authorized manager or supervisor may give a Spot Award to an employee when the safe behavior or initiative is displayed, which gives the employee immediate recognition. ▀

## Strategic Planning

**Continued from page 1**

this year, which is available online. Although the lab plan will be critical in identifying objectives and how to reach them, it is not an end in itself. It will be the first big milestone of an ongoing process that will be established in the coming months.

Such a plan can only work if strong engagement exists across the laboratory. Town hall meetings will be held in the future. Toward this effort, a lab-planning Web site has been established that will make available planning documents, position papers, milestones and general updates on an ongoing basis. ▀

## Radiation badge late rate doubles; wearer help needed

The External Dosimetry Group experienced a doubling of the late return rate for radiation badges at the end of the second quarter. More than eight percent of the badges were late. Late returns delay the reporting of radiation exposures and increase processing costs.

Help from badge wearers is needed to reduce the late rate. The exchange date for quarterly badges is the last business day of each calendar quarter.

Badge wearers should return their third quarter badges to their badge rack or local badge distribution office by Tuesday, Sept. 30. Users with questions should contact External Dosimetry at ext. 2-3355. ▀

## Classified ads

### MISCELLANEOUS

COMPUTER – HP Pavilion, 192 MB RAM, Celeron processor (564 MHz), ethernet 10/100 NIC installed, Windows OS installed, also some software installed. Capable of running Windows XP SP2 and Microsoft Office XP, includes mouse, keyboard and speakers. \$75 OBO. Marshall Mendelsohn. (630) 852-7092.

MISCELLANEOUS - Season 1 "Lost" DVD, un-opened. \$35. ELNA 6003 Quilters Dream, almost new, used 20 hours only, comes with small sewing table. \$550. Suzanne Miller. (630) 808-3434.

SERVERS - Dell PowerEdge 2300 Server, 1 gb RAM, 50 gb SCSI RAID, SCSI CD & Tape backup. Win2K Server. Exchange 5.0. \$350. Chuck Mansfield. (815) 409-2183.

BOOKCASES - Modular bookcases, bricks-and-boards construction. 33 bricks (1ft x 1ft) + 28 boards (4ft x 1ft) make 14 ft of 3-shelf bookcases in one or more sections. Decorative gray concrete bricks weight 20 lb. \$60 for all or \$1.25 each for bricks, \$2.50 each for boards. David Ayres. (630) 969-0192.

DRUM SET - Ludwig nine-piece Super Classic Drum set, black, great condition. \$850. Jay Johnson. (630) 378-1248.

BUFFET - Antique European buffet,

mahogany wood with mirror, 47" wide, 20" deep, 40.25" high. \$900. Michele Nelson. (708) 246-3345.

SAW - 10" table saw, Grizzly Inc. model G1022, tilting arbor contractor-style saw. Table height 37", size 27" x 20", overall size 48" x 46". 255 lbs. 1 1/2 HP motor, belt drive. Some rust, but good condition, you transport. \$200. Steve Ross. (630) 769-1861.

CLUB SEATS - Founders Pass, Section 402 Row 62 in the shade, preferred parking, Chicagoland Speedway, paid \$1,500 for each seat, 4 available, make offer. Nicole Green. (815) 462-4272.

GUITAR – Peavey Impact electric guitar with hardshell case. Black with silver metal flake, whammy bar and dual humbuckers. \$500 OBO. Julian Leal. (815) 436-7785.

MISCELLANEOUS – Final Fantasy III for Nintendo DS, The Sims 2 for Nintendo Gamecube, The Sims Bustin' Out for PlayStation 2, RPG Maker II for PlayStation 2. \$15 each. The Emperor's New Groove on VHS. \$5. Dawn Ferazzi. (815) 886-4177.

### AUTOMOBILES

2002 MERCURY – Cougar, 2DHB, 67K miles, 2.5L EFI-OHC, automatic, PS, PB, PD, PW, AC, 17" alloy wheels, AM/FM/CD, sunroof. Photos online at www.znl.com. \$6,000. Nestor Zaluzec. (630) 881-6038.

1999 FORD - Mustang, red with 5 speed manual transmission, 129,421 miles, CD player, runs and looks great. \$3,500. Burk Marler. (815) 721-9709.

2000 CADILLAC – Escalade, excellent condition, many deluxe options. \$6,995. Pam Styka. (630) 986-1970.

2005 HONDA – Odyssey, Touring minivan, 44k miles, silver, navigation, DVD and CD system, power window, locks and doors, heated seats, sun roof, extended warranty, good condition. \$20,000. Jianhong Yang. (630) 717-7851.

1996 TOYOTA - Camry LE, auto transmission, power door/windows, gray, new battery, new tires, 11K miles, very good condition. \$4,000 OBO. Hong Huo. (630) 210-1450.

1999 CHRYSLER – Sebring convertible, black, 6 cylinder, leather, new brakes, runs great, 97,000 miles. Reduced to \$5,300. Pat Herman. (815) 436-5680.

### HOUSING

HOUSE/SALE – Bolingbrook, 3 bedroom, 2 bath, 1650sq/ft ranch w/ full unfinished basement. Remodeled throughout, 42" kitchen cabs w/granite countertops and island. 12 x 24ft sunroom, laminate floors, windows, doors, HVAC, roof all since 2000. MLS #07014338. \$229,000. David Gosztola. (630) 759-4205.

HOUSE/SALE - 3 BR, 1 1/2 Bath, handicapped-accessible, seven-year-old ranch-style home in Plainfield. Basement, large kitchen, 2-car attached garage, appliances included. \$234,900. Christine Van Horn. (815) 439-1210.

TOWNHOUSE/SALE – Lockport, four years old, 3BR, 2.5BA, full, finished basement, 2.5 car garage, hardwood floors, all appliances included, one mile from new I-355, 20 minutes from lab, MLS #07017096. Eric Rod. (815) 838-0655 or erod810@hotmail.com.

### WANTED

ROOM/RENT - I want to rent a room in a house within 10 miles of the lab and no later than Oct. 1. Yuri Georgievski. (530) 574-8645.

APARTMENT/SALE - Moderately priced single floor apt/townhouse/duplex in town/Plainfield. Denise Moores. (630) 778-0250.

TREADMILL – Must have motor and incline. Mark Sreniawski. (815) 254-8702.

SPONSORS – Interested in helping provide clean drinking water to children in Africa. Sponsor me in the Chicago Marathon through World Vision by visiting firstgiving.com/kknep. R. Keith Knepper. (815) 922-1129. ▀