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Five Honored as LANL Fellows for 2011

LOS ALAMOS, New Mexico, January 13, 2012—Five scientists from Los Alamos National Laboratory have been honored by Laboratory Director Charles McMillan as Laboratory Fellows.

Laboratory Fellows are honored for their sustained, high-level achievements in programs of importance to the Laboratory either a fundamental or important discovery that has led to widespread use or and having become a recognized authority in the field, including outside recognition and an outstanding record of publications. "The Fellows we welcome this year represent the deeply talented pool of scientists at Los Alamos—world leaders in their fields—and we are honored that they are part of our national security science team. Los Alamos has a history of vital contributions, both in basic science and in applied science advancing national security, and these individuals are essential to maintaining that capability," said Alan Bishop, principal associate director for Science, Technology, and Engineering at LANL.

The Fellows organization was established in 1981 and comprises technical staff members who have been appointed by the Laboratory director to the rank of Fellow in recognition of sustained outstanding contributions and exceptional promise for continued professional achievement. Fellows are limited to 2 percent of the Laboratory's technical staff. They advise management on important issues, promote scientific achievement, and organize symposia and public lectures. The organization administers the annual Fellows Prize for Outstanding Research in Science or Engineering and the Fellows Prize for Outstanding Leadership in Science or Engineering.

The new Fellows are Bruce Carlsten, Mike Leitch, Michael MacInnes, Richard Martin, and Amit Misra. The 2011 Fellows were selected from a field of 17 nominees, and a committee of scientists and engineers from across the Laboratory reviewed the nominations and recommended finalists who were confirmed by the Laboratory Director.

Bruce Carlsten, of the Accelerator and Operations Technology Division's High-Power Electrodynamics Group, is a pioneer in the production and use of high-brightness electron beams with applications that span a range of Laboratory programs and which have found widespread usage worldwide. His discovery of techniques that have enabled unprecedented beam brightness has led to a new generation of intense free electron lasers, including the Laboratory's Navy Free Electron Laser, and MaRIE, a premier X-ray FEL facility that is currently in design. These ideas are of such fundamental importance that virtually every free-electron laser in the world has embraced them. As group leader of High-Power Electrodynamics, he has overseen a rapid growth in beam-based applications at the Laboratory including microwave tube development and advanced acceleration concepts, owning six patents in these areas. An APS Fellow since 2005 and recipient of the 1999 Accelerator School Prize for Achievement in Accelerator Physics, Carlsten is recognized internationally as an expert in accelerator physics and is considered among the best and most influential accelerator and FEL physicists in the nation.

Mike Leitch, of the Subatomic Physics Group, is an internationally recognized leader in the study of nuclei and nuclear interactions involving quarks and gluons. One of his letters of reference called labeled him "the" world expert on how binding a nucleon within a nucleus affects the nucleon's ability to produce heavy quarks in high-energy collisions. He is recognized as the leading experimental expert on the effects of nuclear matter on production and propagation of bound states of heavy quark-antiquark pairs. Such pairs are a key probe tool of color screening in quark gluon plasma and have been discovered to be suppressed in high-energy heavy ion collisions. The fact that Leitch holds several of the most important scientific leadership roles within the PHENIX Physics Working Group on heavy quarks demonstrates the high esteem in which the community holds him. He has given 45 invited talks, delivered several plenary lectures at top international conferences, and has over 200 publications with more than 13,000 citations (12 having more than 250 citations each). He was elected a Fellow of the American Physical Society in 2001.

Michael MacInnes, of the Applied Physics Improved Foreign Design Group, is a leader in nuclear weapons evaluation who has developed and refined the science of weapons assessment, and introduced new diagnostic capabilities into our evaluation arsenal. MacInnes's deep understanding of the breadth of nuclear science, radiochemistry, weapons physics, and experimental science at the Los Alamos Neutron Science Center (LANSCE) and critical assembly facilities contributes consistently to weapons program requirements and global security programs. His insight into radiochemical analyses and development of new metrics utilizing available data from the test program has led to new evaluation diagnostics, increasing the fidelity of radiochemistry as a tool. MacInnes represents one of a very few technical experts who has the stature to affect

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People

11,782 total employees
 Los Alamos National Security, LLC 9,665
 SOC Los Alamos (Guard Force) 477
 Contractors 524
 Students 1,116

Place

Located 35 miles northwest of Santa Fe, New Mexico, on 36 square miles of DOE-owned property.

More than 2,000 individual facilities, including 47 technical areas with 8 million square feet under roof.

Operating costs FY 2010: about \$2 billion
 51% NNSA weapons programs
 8% Nonproliferation programs
 6% Safeguards and Security
 11% Environmental Management
 4% DOE Office of Science
 5% Energy and other programs
 15% Work for Others

Workforce Demographics (*LANS and students only*)

42% of employees live in Los Alamos, the remainder commute from Santa Fe, Española, Taos, and Albuquerque.

Average Age: 45
 67% male, 33% female
 43% minorities
 72% university degrees
 · 31% hold undergraduate degrees
 · 19% hold graduate degrees
 · 22% have earned a Ph.D.

Major Awards

118 R&D100 awards since 1978
 28 E.O. Lawrence Awards
 The Seaborg Medal
 The Edward Teller Medal

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