Three Los Alamos Medal winners changed the course of science

October 15, 2018

Los Alamos National Laboratory's highest honor recognizes two weapon designers and a renowned physicist

Los Alamos, N.M., Oct. 15, 2018–Los Alamos National Laboratory today announced that three individuals have been awarded the Los Alamos Medal, the Laboratory's highest honor, for groundbreaking contributions to science and national security. John M. Pedicini, Paul Whalen and Geoffrey West were selected for their distinguished achievements that have impacted the success of the Laboratory, either through mission accomplishments or enhancing the Laboratory's distinction.

"Ever since the Los Alamos Medal was established in 2001, it has been bestowed on only a few individuals whose contributions have greatly impacted the Laboratory's mission and future path and, by extension, national security," said Terry C. Wallace, Jr., director of Los Alamos National Laboratory. "Drs. Pedicini and Whalen are weapon designers and, as such, much of their work is not known to the outside world—yet they have made enormous contributions to national security. Dr. West's work in scaling theory is world-renowned and has fundamentally changed multiple scientific disciplines. The Los Alamos Medal is an opportunity to acknowledge their powerful impacts and their commitment to the Lab's guiding principles of honor, integrity and service."

- Over the course of his career, **John M. Pedicini** established himself as a renowned weapon designer, weapon scientist, and assessor of foreign threats. He first joined the Laboratory in 1981 and worked on 13 nuclear tests—serving as the lead designer on five. His major contributions include pushing the frontiers of primary weapon design with five innovative designs during the mid-1980s to early-1990s. He was the driver behind primary design for the reliable replacement warhead design concept, which promised greatly improved safety and surety while simultaneously returning very high-performance margins. He also developed intelligence tools and insights to ensure adherence to the Nuclear Nonproliferation Treaty. Pedicini pioneered work on plutonium aging and has been an invaluable mentor to more than 50 staff members. His broad knowledge and immense contributions to national security, nuclear technologies and U.S. nonproliferation efforts were recognized when he was named a Los Alamos National Laboratory Fellow at the age of 39, one of the youngest employees to receive that honor.

- **Paul Whalen**'s roles as a primary weapon designer, an expert in weapons physics, and a developer and manager of the complex, multi-faceted physics and computational capabilities developed in support of the Los Alamos weapons community have significantly and positively impacted national security and the success of the Laboratory's weapons program. Whalen joined the Laboratory during the Cold War, in 1956, to perform weapons simulations on designs under development. Throughout his more than 60 years at the Laboratory, he made bedrock contributions to nuclear weapon design and computations. He is renowned for his pioneering work that fundamentally changed the test and evaluation of computational physics codes used for nuclear weapon simulation. He is also credited with groundwork contributions to help enable the nation to move from nuclear weapons testing to science-based stockpile stewardship. Another key contribution was his seminal advancement in understanding the dosimetry of nuclear weapon effects, which has contributed to a better understanding of the health effects of radiation exposure.
- **Geoffrey West**'s contributions to scaling theory have fundamentally changed the course of science in multiple fields, including particle physics, biological systems, economics, urban studies and corporate organizations. West was the founding leader of the Elementary Particle Physics and Field Theory Group at Los Alamos. His ability to find broad patterns in complex systems and develop an understanding of the underlying principles of these patterns has resulted in discoveries that have proved important not only in nuclear physics, but also in atomic and condensed matter physics. He applied the same technique of studying large-scale regularities to understanding scaling in biology, which he has, in turn, applied to human systems comprising cities, organizations and companies. He is currently a distinguished professor at the Santa Fe Institute and remains associated with Los Alamos in various capacities. He was also named by *Time* magazine as one of the "100 Most Influential People" of 2006.

An awards ceremony to recognize the recipients will be held in early 2019.