

solutions of difficult nuclear explosives experimental problems.” Fortner designed instrumentation for experiments on the basic physics of nuclear explosions, particularly for experiments on nuclear-driven x-ray lasers. He has worked on the Electron Beam Ion Trap, a device to study highly ionized atoms and their transitions, and he led the development of a short-pulse laser facility.

Fortner received his PhD in physics from the University of Notre Dame in 1968. He then joined the staff of Livermore, where he is associate director for nuclear test experimental science.

Linford’s citation commends his “outstanding scientific contributions and personal leadership in the development of magnetic confinement for fusion power applications.” In the mid-1970s Linford found the basic requirements for field-reversed configurations in compact toroids, which he showed had desirable features in potential fusion applications. He and his experimental group examined another compact toroid configuration based on minimum energy states. Linford and his colleagues systematically analyzed nontokamak fusion reactors in a study to help guide ongoing research programs.

Linford got his PhD in electrical engineering from MIT in 1973. He then became a researcher at Los Alamos, where in 1991 he was named director for nuclear systems.

Smalley was cited for his “bold and innovative research and consistent leadership in the generation and characterization of atomic clusters and, in particular, for the discovery of C_{60} (Buckminsterfullerene) and its related compounds.” In 1985 Smalley and his colleagues Robert Curl of Rice and Harold Kroto of the University of Sussex, England, identified the composition and structure of C_{60} , a soccer-ball-shaped molecule, by analyzing carbon clusters synthesized from the condensation of carbon vapor. With other fullerenes such as C_{70} , the molecule is the third elemental form of carbon, after graphite and diamond. In subsequent experiments Smalley and other coworkers created fullerenes with metals trapped inside.

In 1973 Smalley received his PhD in chemistry from Princeton University. He was then a postdoc at the James Franck Institute at the University of Chicago until 1976, when he joined the chemistry department at Rice. Since 1990 he has also been a physics professor there.

VanDevender will receive the Lawrence award for his “outstanding contributions to the generation of

pulsed power. He has demonstrated new concepts and designs for magnetically insulated transmission lines, dielectric and magnetic pulse-forming switches, and magnetically inhibited flashover and has played a central role in the design of new accelerators generating high-intensity, short pulsed beams.” VanDevender has experimented both with triggerless multichannel water switch systems and with efficient, magnetically insulated transmission lines for use in inertial confinement fusion and in high-power, short-pulse x-ray and gamma-ray testing. Among other fusion research efforts, he directed the development of a lithium ion source for the second Particle Beam Fusion Accelerator.

VanDevender earned his PhD in physics in 1974 from Imperial College of Science and Technology in London. He then became a staff member at Sandia, where he has been director of pulsed power sciences since 1984.

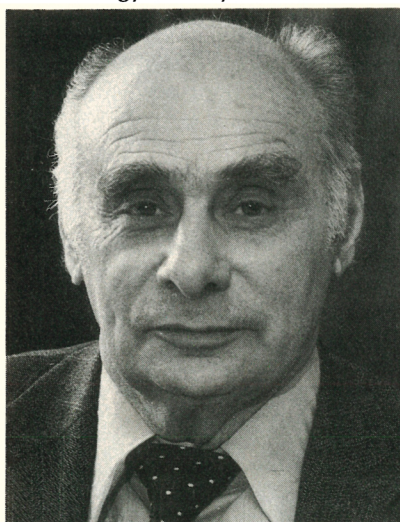
OBITUARIES

Georgy Nikolayevich Flerov

Academician Georgy Nikolayevich Flerov, an outstanding Soviet physicist and a scientist of world renown, died suddenly on 19 November 1990.

Flerov started his scientific career in 1938 at the Leningrad Institute of Physics and Technology and belonged to the famous Soviet scientific school of Academician Abram F. Ioffe. Flerov did basic research in a number of fundamental and applied areas of nuclear physics. He discovered the spontaneous fission of uranium in 1940.

Georgy Nikolayevich Flerov



From 1941 to 1952, Flerov, together with Igor V. Kurchatov, participated in investigations linked directly with strengthening the defense potential of the Soviet Union and with creating the basis for the nuclear power industry. Flerov’s name is associated with the development of a new scientific direction—heavy-ion physics. From 1960 to 1988 he was the director of the Laboratory of Nuclear Reactions (now the Flerov Laboratory of Nuclear Reactions) at the Joint Institute for Nuclear Research, and he was the founder of a scientific school.

The research Flerov and his disciples carried out at the Laboratory of Nuclear Reactions over three decades resulted in the synthesis of new heavy elements, the production of a large number of new nuclei on the border of stability, and the discovery of new types of radioactivity and new mechanisms of nuclear interaction. The state register of the USSR included ten discoveries made by Flerov and his colleagues. Along with solving fundamental problems of nuclear physics, Flerov did much for the application of nuclear physics to other fields of science and technology.

Flerov devoted much effort to developing and strengthening international scientific collaboration and to the organization of science. He was a tutor for dozens of scientists who are now working fruitfully in the countries of the former Soviet Union and in other countries. For many years Flerov was the chair of the USSR Academy of Sciences scientific council on the application of nuclear physics to neighboring spheres of science. He also was a member of several other scientific councils of the Academy of Sciences and served on the editorial boards of several scientific journals.

Flerov’s prestige was immense both in the Soviet Union and abroad, and his reports at major international scientific conferences always attracted general attention. He received recognition from a number of national academies and universities in other countries.

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Robert V. Pyle

Robert V. Pyle, a retired senior staff scientist at Lawrence Berkeley Laboratory and professor in residence at the University of California, Berkeley, died unexpectedly on 12 September 1991, just three weeks short of his 68th birthday.

After graduating with a bachelor’s degree in physics from the University