

Each prize is worth 1 million Swiss francs (about \$715 000).

Genzel is being honored for his “fundamental contributions to infrared astronomy,” according to the citation, which adds that he “has developed instrumentation which enabled him and colleagues to make outstanding discoveries, including evidence for a massive black hole in the center of our galaxy.” (See *PHYSICS TODAY*, February 2003, page 19.) At the Max Planck Institute for Extraterrestrial Physics, based in Garching, Germany, Genzel directs the infrared and submillimeter astronomy group. Their principal research efforts involve investigating galactic nuclei and massive black holes, examining star formation and the dense interstellar medium, and aiming at a better understanding of how galaxies have formed and evolved. He also is a professor in the physics department at the University of California, Berkeley.

Genzel says his group has built instrumentation for studying with unprecedented spatial resolution the motions and orbits of stars in the core of the Milky Way. From those measurements, Genzel’s group could determine the gravitational potential of the core on scales of 10–20 light hours and show that the core contains a central mass concentration of 3 million solar masses. The data provide compelling evidence that this mass must be in the form of a massive black hole.

The group performed another experiment at the European Infrared Space Observatory. Genzel says their observations revealed “that the most luminous infrared bright galaxies in the local universe are powered by a fireworks of galactic star formation that followed the collision of two gas-rich galaxies. Those measurements give important clues about the star-formation processes that probably dominated during the galaxy formation epoch 1–3 billion years after the Big Bang.”

Two Physicists Claim Share of Dutch Science Prize

In February, the Netherlands Organisation for Scientific Research (NWO) will honor the four recipients of the 2003 NWO/Spinoza Prize, the most prestigious Dutch award for science. During the ceremony in The Hague, each of the awardees will receive both a statuette and €1.5 mil-

lion (about \$1.7 million) to use for research.

Cees Dekker, professor of molecular biophysics at the Delft University of Technology in the Netherlands, is being recognized in particular for his work on carbon nanotubes. According to the NWO, Dekker and his group “were the first in the world to measure the electrical conductivity of a single molecule . . . [and] developed the first nanotransistor, which was based on a nanotube.” His most recent work is in the emerging field of nanobiophysics.

Robbert Dijkgraaf will receive the prize for his contributions to mathematics as well as for his work on string theory. His contributions include mathematical concepts important to physics, such as the Dijkgraaf–Witten invariants and the Witten–Dijkgraaf–Verlinde–Verlinde equations. Dijkgraaf was a doctoral student of Gerard ‘t Hooft, a 1995 winner of the NWO/Spinoza Prize; that makes Dijkgraaf the first Spinoza laureate to have studied under a Spinoza winner. He is a professor of mathematical physics at the University of Amsterdam.

Amols Elected to Lead AAPM

Members of the American Association of Physicists in Medicine have selected a new president-elect: **Howard Amols**, chief of clinical physics at the Memorial Sloan–Kettering Cancer Center in New York City since 1998 and a professor of physics in radiology at Cornell University. Amols will become president-elect on 1 January 2004, begin his term as president in 2005, and will chair the AAPM board in 2006. He succeeds **G. Donald Frey**, who will take the presidency in January (see *PHYSICS TODAY*, October 2002, page 67).

“Medical physics, diagnostic radiology, and radiation oncology have all undergone tremendous changes over the last 10 years, driven mostly by technological advances,” said Amols. “Most significantly, computer-controlled linear accelerators in radiation therapy and computer-intensive imaging modalities in radiology, such as CT [computed tomography], PET [positron emission tomography], and MRI [magnetic resonance imaging]

have radically changed the practice of medicine and medical physics,” he said. “As a result, the AAPM must address new questions about medical physics training programs, continuing education, and professional practice and credentialing. Our interactions with medical societies and our medical colleagues have also changed as a result of increasingly complex technology.”

Amols added that “the AAPM itself has grown in terms of membership, budget, and staffing—all of this in the backdrop of a nationwide shortage of medical physicists and decreasing reimbursement rates from both Medicare and HMOs [health maintenance organizations] for medical physics services. In short, the AAPM, now 46 years old, has reached middle age! As president-elect, I hope to get our membership more involved in meeting these new challenges.”

Amols received a BS in physics in 1970 from the Cooper Union for the Advancement of Science and Art in New York City. He earned his MS in 1973 and his PhD in 1974, both in physics, from Brown University. From 1974 to 1976, Amols was a National Cancer Institute postdoctoral fellow at Los Alamos National Laboratory in New Mexico before becoming a member of the research staff there. He held that position for three years.

Amols joined the University of New Mexico, Albuquerque, in 1979 as an assistant professor in the radiology department. He became chief physicist in the radiation therapy department at Rhode Island Hospital in Providence in 1981 and concurrently was an associate professor of radiation medicine at nearby Brown University. In 1986, he took the post of chief physicist in the radiation oncology department of what is now New York–Presbyterian Hospital in New York City and began teaching at Columbia University, where he later (1991) was appointed a full professor.

In other AAPM election results, **Maryellen Giger** (University of Chicago) was elected treasurer, effective 1 January. Also taking office in January for three-year terms are the new board members: **David Pickens** (Vanderbilt University), **Beth Schueler** (Mayo Clinic in Rochester, Minnesota), and **J. Anthony Seibert** (University of California, Davis).



Amols