ma, who co-authored a 1998 study of adenovirus vector that called for a "reevaluation" of its use in long-term gene therapy.

Recently, FDA staffers heard from another scientist who concluded 5 years ago that adenovirus capsid protein toxicity was a problem: Prem Seth, senior scientist at the Human Gene Therapy Research Institute in Des Moines, Iowa. Based on studies he did in the mid-1990s, he concluded that "empty capsids appear to be immunogenic, like intact virus," and produce similar effects, like cytokine release. He never published the data, because "there wasn't much interest."

This analysis suggests that even gutless vectors may be dangerous in some circumstances, but the jury is not in. "It's still debatable," says Chamberlain. Beaudet agrees: "Based on our published mouse data," he says, "we think the capsid proteins are not a big problem." But he concedes that there are "not convincing data yet" from nonhuman primates to settle the issue.

As far as Noguchi is concerned, "the most critical issue for the field right now" is determining the risk of these new, "safe" vectors. "Are there two types of toxicity with adenovirus or just one?" he asks. Is the shell itself a problem, in addition to viral gene expression? "What is its inherent toxicity? Is this the dose-limiting thing? We need to rethink these hard questions."

For many people in the field, however, the critical question over the next few months is whether they will be able to continue gene therapy trials while everyone rethinks these questions.

–ELIOT MARSHALL

SCIENTIFIC COMMUNITY

National Academy of Sciences Elects New Members

The National Academy of Sciences last week elected 60 new members and 15 foreign associates. More details are available at national-academies.org/nas

Newly elected members and their affiliations at the time of election are:

Alexei A. Abrikosov, Argonne National Laboratory, Argonne, Illinois; **Peter C. Agre**, Johns Hopkins University; **J. Roger P. Angel**, University of Arizona, Tucson; **Marsha J. Berger**, New York University; **Howard Brenner**, Massachusetts Institute of Technology (MIT), Cambridge; **Steven P. Briggs**, Novartis Agribusiness Discovery Unit, San Diego; **Robert L. Byer**, Stanford University, Stanford, California; **Moses H. W. Chan**, Pennsylvania State University, University Park; **Rita R. Colwell**, National Science Foundation, Arlington, Virginia; **Eric A. Cornell**, National Institute of Standards and Technology and University of Colorado, Boulder; **Robert J. Cousins**, University of Florida, Gainesville; **Francis A. Dahlen Jr.**, Princeton University; **Jack E. Dixon**, University of Michigan Medical School, Ann Arbor; **Kenneth B. Eisenthal**, Columbia University, New York; **Stanley Fields**, Howard Hughes Medical Institute (HHMI) and University of Washington, Seattle; **Jean M. J. Frechet**, University of California (UC), Berkeley; **Lila R. Gleitman**, University of Pennsylvania; **Sen-Itiroh Hakomori**, Pacific Northwest Research Institute and University of Washington, Seattle; **Susan E. Hanson**, Clark University, Worcester, Massachusetts; **Martha P. Haynes**, Cornell University, Ithaca, New York; **Arthur M. Jaffe**, Harvard University; **Charles A. Janeway Jr.**, HHMI and Yale University; **William A. Jury**, UC Riverside; **Jon H. Kaas**, Vanderbilt University; **Thomas Kailath**, Stanford University; **James P. Kennett**, UC Santa Barbara; **Richard D. Kolodner**, UC San Diego; **Robert H. Kraichnan**, Robert H. Kraichnan Inc., Santa Fe, New Mexico; **Simon A. Levin**, Princeton University; **Roderick MacKinnon**, HHMI and Rockefeller University, New York City; **Robert W. Mahley**, UC San Francisco and Gladstone Foundation, San Francisco; **Joan Massague**, HHMI and Memorial Sloan-Kettering Cancer Center; **Barbara J. Meyer**, HHMI and UC Berkeley; **Jacob Mincer**, Columbia University; **Michael E. Moseley**, University of Florida, Gainesville; **William T. Newsome III**, HHMI and Stanford University; **David R. Nygren**, Lawrence Berkeley National Laboratory, Berkeley, California; **Eric N. Olson**, University of Texas Southwestern Medical Center, Dallas; **Peter Palese**, Mount Sinai School of Medicine, New York City; **Jeffrey D. Palmer**, Indiana University, Bloomington; **George C. Papanicolaou**, Stanford University; **Walter C. Pitman III**, Columbia University; **Alejandro Portes**, Princeton University; **Akkihebal R. Ravishankara**, National Oceanic and Atmospheric Administration, Boulder, Colorado; **Douglas C. Rees**, HHMI and California Institute of Technology, Pasadena; **Kenneth A. Ribet**, UC Berkeley; **Richard H. Scheller**, HHMI and Stanford University; **Joseph Schlessinger**, New York University Medical Center; **Eric M. Shooter**, Stanford University; **Robert M. Silverstein**, State University of New York, Syracuse; **Sean C. Solomon**, Carnegie Institution of Washington, Washington, D.C.; **Peter J. Stang**, University of Utah, Salt Lake City; **Leonard Susskind**, Stanford University; **Leslie G. Ungerleider**; National Institute of Mental Health, Bethesda, Maryland; **Grace Wahba**, University of Wisconsin, Madison; **Robert H. Waterston**, Washington University, St. Louis; **Rainer Weiss**, MIT; **Michael J. Welsh**, HHMI and University of Iowa, Iowa City; **Tim D. White**, Cleveland Museum of Natural History and UC Berkeley; **Reed B. Wickner**, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland.

Newly elected foreign associates, their affiliations at the time of election, and their country of citizenship are:

Simon K. Donaldson, Imperial College of Science, Technology, and Medicine, University of London (U.K.); **Reinhard Genzel**, Max Planck Institute for Extraterrestrial Physics, Garching (Germany); **Shirley Jeffrey**, Commonwealth Scientific and Industrial Research Organization, Hobart (Australia); **Yoshito Kaziro**, Tokyo Institute of Technology, Yokohama (Japan); **Willem J. M. Levelt**, Nijmegen University and Max Planck Institute for Psycholinguistics, Nijmegen (Netherlands); **Shigetada Nakanishi**, Kyoto University (Japan); **Roddam Narasimha**, National Institute of Advanced Studies, Indian Institute of Science, and Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore (India); **Eviatar Nevo**, University of Haifa (Israel); **Armando J. Parodi**, University of Buenos Aires (Argentina); **A. M. Celal Sengor**, Istanbul Technical University, Istanbul (Turkey); **Nicholas J. Shackleton**, University of Cambridge and Godwin Institute for Quaternary Research, Cambridge (U.K.); **T. N. Srinivasan**, Yale University (India); **Bruce W. Stillman**, Cold Spring Harbor Laboratory, Cold Spring Harbor, New York (Australia); **Akira Tonomura**, Hitachi Ltd., Saitama (Japan); **Martinus Veltman**, University of Michigan, Ann Arbor (Netherlands).