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# Four professors elected to the National Academy of Sciences

Acemoglu, Brown, Grossman, and Grove bring to 77 the number of MIT faculty who are NAS members.

News Office  
April 30, 2014

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Four MIT professors have been named to the prestigious National Academy of Sciences (NAS), an honor recognizing distinguished and continuing achievements in original research.

National Academy of Sciences announcement

This year's new NAS members are **Daron Acemoglu**, the James R. and Elizabeth Killian Class of 1926 Professor in Applied Economics; **Emery Brown**, the Edward Hood Taplin Professor of Medical Engineering and professor of computational neuroscience; **Alan Grossman**, the Praecis Professor of Biology; and **Timothy Grove**, the Cecil and Ida Green Professor in Earth and Planetary Sciences.

MIT-affiliated members of the National Academy of Sciences

Department of Economics

Department of Brain and Cognitive Sciences

Including these four, 77 MIT faculty members now hold NAS membership. The four MIT professors were among 84 members and 21 foreign associates from 15 countries elected to the NAS this year.

Department of Biology

Department of Earth, Atmospheric and

NAS membership is one of the highest honors afforded to scientists and engineers. Past members have included Albert Einstein, Thomas Edison, and Alexander Graham Bell; nearly 200 living NAS members have earned Nobel Prizes.

The NAS, when founded in 1863, called upon a group of scholars to “investigate, examine, experiment, and report upon any subject of science or art” whenever requested by the U.S. government. There are currently 2,214 active NAS members and 444 foreign associates.

### Daron Acemoglu

Acemoglu’s research centers on political economy; economic development and growth; human capital theory; growth theory; innovation; search theory; network economics; and learning. He has written three books and numerous journal articles. He is the co-author, with James Robinson, of “Why Nations Fail: The Origins of Power, Prosperity, and Poverty” (Crown Publishers, 2012), which asserts that manmade political and economic institutions determine economic success or failure. “Why Nations Fail” won the George S. Eccles Award for Excellence in Writing in 2013.

Among a long list of awards, Acemoglu received the Erwin Plein Nemmers Prize for achievement and work of lasting significance in the field of economics in 2007. He was the 2005 winner of the John Bates Clark Medal, which is bestowed on economists under 40 who have made the most significant contribution to economic thought and knowledge.

Acemoglu holds a Ph.D. from the London School of Economics and has been a member of the MIT faculty since 1993. He is the editor-in-chief of *Econometrica*, a publication of the Econometric Society, and a member of the Institutions, Organizations, and Growth Program of the Canadian Institute of Advanced Research. He is a research associate of the National Bureau of Economic Research and a research fellow of the Centre for Economic Policy Research. In the past, Acemoglu has served on the executive committee of the American Economic Society and as chair of the nominating committee of the American Academy of Arts and Sciences.

### Emery Brown

Brown is the Edward Hood Taplin Professor of Medical Engineering and professor of computational neuroscience, as well as the Warren M. Zapol Professor of Anesthesia at Harvard Medical School and Massachusetts General Hospital. He is an anesthesiologist-statistician whose statistics research focuses on the development of signal-processing algorithms to characterize how the patterns of electrical discharges from neurons in the brain represent information from the outside world. By using a wide array of methods

in interdisciplinary collaborations with investigators from several institutions, Brown has made important contributions in his experimental research toward understanding the neuroscience of how anesthetic drugs act in the brain to create the states of general anesthesia.

Brown received his AB, AM, and PhD at Harvard, as well as an MD at Harvard Medical School. He currently serves on the NIH BRAIN Initiative working group. Brown is a fellow or elected member of several prestigious academic societies, including the Institute of Medicine of the National Academies, the American Academy of Arts and Sciences, and the American Association for the Advancement of Science. His previous awards include the Jerome Sack Award for Cross Disciplinary Research from National Institute of Statistical Science in 2011, an NIH Director's Pioneer Award in 2007, and an NIH Director's Transformative Research Award in 2012.

#### Alan Grossman

Grossman, the Praecis Professor of Biology and associate head of the Department of Biology, combines genetic, molecular, physiological, biochemical, cell-biological, and genomic approaches to study how bacteria sense internal and external conditions, and control basic cellular processes in response to these conditions. Focused on the organism *Bacillus subtilis*, Grossman's research seeks to define signals that are sensed; characterize signal transduction and regulatory outputs; and study mechanisms controlling cell-cell signaling, gene expression, development, DNA replication, chromosome dynamics, and horizontal gene transfer.

Grossman received a BA in biochemistry from Brown University in 1979, followed by a PhD in molecular biology from the University of Wisconsin at Madison in 1984. After a postdoctoral fellowship in the Department of Cellular and Developmental Biology at Harvard University, Grossman joined MIT's Department of Biology in 1988. He received a life-saving heart transplant in 2006. He is a fellow of the American Academy of Arts and Sciences.

#### Timothy Grove

Grove's research focus is on the processes that have led to the chemical differentiation of the crust and mantle of the Earth and on the processes of formation and evolution of the interiors of other planets, including the moon, Mars, and meteorite parent bodies. Combining geology, geophysics, and geochemistry to interpret the thermal histories of geologic materials, his group studies magma-generation processes; crystal growth and nucleation; phase transitions in minerals; diffusion in crystalline solids and silicate melts; and the time dependence of diffusion-controlled processes.

Grove holds a Ph.D. from Harvard University (1976) and has been a professor

at MIT since 1979. He is a member of the American Academy of Arts and Sciences, a fellow of the Mineralogical Society of America and of the American Geophysical Union, and is the recipient of the 2014 Goldschmidt Award of the Geochemical Society. He was the president of the American Geophysical Union from 2008 to 2010. He is the executive editor for *Contributions to Mineralogy and Petrology*.

Grove's award brings to 10 the tally of National Academy members within MIT's Department of Earth, Atmospheric and Planetary Sciences. He joins professors Ed Boyle (2008), Clark Burchfiel (1984), Kerry Emanuel (2007), Richard Lindzen (1977), Gordon Petengill (1979), Susan Solomon (1992), Jack Wisdom (2008), Carl Wunsch (1978), and Maria Zuber (2004).

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