

Stanford Report, May 2, 2001

# Two campus scholars elected to National **Academy of Sciences**

SEARCH BY DAWN LEVY

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Charles Y. Prescott, physics professor and faculty chair at the Stanford Linear Accelerator Center (SLAC), and Christopher Field, biology professor, by courtesy, and staff scientist at the Carnegie Institution of Washington on campus, have been elected to the National Academy of Sciences, the academy announced Tuesday.

They are among 72 new members and 15 foreign associates selected in recognition of their distinguished and continuing achievements in original research. In addition, one member was elected posthumously.

Election to the academy is one of the highest honors that can be accorded a U.S. scientist or engineer. This election brings the total number of Stanford faculty serving on the academy to 124, plus an additional three affiliated with the Hoover Institution. The total number of active members rises to 1,874.

The National Academy of Sciences is a private organization of scientists and engineers dedicated to the furtherance of science and its use for the general welfare. Established by a congressional act in 1863, the academy, upon request, advises the federal government on matters of science and technology.

Prescott was most recently involved in the SLAC Linear Collider Large Detector (SLD) collaboration to measure properties of the Z boson produced in highenergy electron-positron collisions at the SLAC Linear Collider (SLC). Using the polarized electron beams of the SLAC facility, the researchers have been able to obtain the most precise single measurement of an important type of particle interaction, the electroweak process. His previous research projects include measurements in inelastic electron scattering from polarized targets to study the spin structure of the proton and neutron, deep inelastic scattering of polarized electrons off deuterium to study parity nonconservation in electromagnetic processes, and electron-positron annihilation processes at the Positron Electron Project (PEP). He was active in the development of a laser-driven source of polarized



Charles Y. Prescott, Stanford **Linear Accelerator Center** (SLAC) physics professor and faculty chair. Photo credit: Visual Art Services. Photo courtesy: SLAC.

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electrons that are injected into the linear accelerator beam.

Field, in contrast, studies ecosystems and global ecology ranging in scale from effects of individual species on ecosystem function to effects of vegetation on global climate. He has conducted fieldwork in environments ranging from tropical rainforests to deserts to coastal swamps in the Americas, Asia, Africa and Australia. Currently, most of his field research is focused on Stanford's Jasper Ridge Biological Preserve, where he uses grasslands as a model for understanding long-term ecosystem responses to interacting global changes, including warming, elevated carbon dioxide concentration, nitrogen deposition and altered water balance. His models integrate satellite and surface data, with a focus on understanding the carbon cycle of the land and oceans, especially the present and future fate of the carbon dioxide released by human activities.

