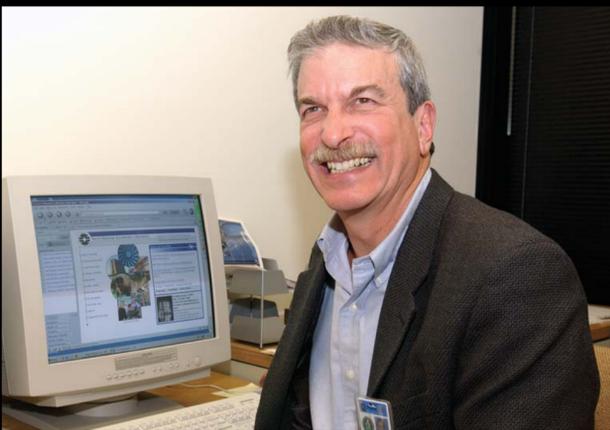


# SCIENTISTS RELY ON COMPUTING



**ELIZABETH BUCKLEY-GEER** has been a scientist at Fermilab since 1992, actively working on physics experiments and assuming leadership roles in the Computing Division on behalf of the experiments. Dr. Buckley-Geer studied strong force interactions on the CDF experiment for several years, then joined the MINOS collaboration to work on neutrino oscillation physics. In a more recent move towards astrophysics, she has studied strong gravitational lensing using Sloan Digital Sky Survey data and recently joined the Dark Energy Survey, contributing to development of its online database.



**JEFFREY APPEL** began his Fermilab career 1975 in the Accelerator Division, later moving to what started as the Computing and Physics Departments. Dr. Appel has held leadership positions in all three areas while investigating the charm and bottom quarks, high-mass lepton-hadron pairs and other phenomena. He has also contributed significantly to the Tevatron's cryogenic system, the development of silicon-based detector components and to many other projects throughout the years. He has participated in International Advisory Committees for many physics conferences and workshops. He currently heads the Program Planning Office at Fermilab, where he is instrumental in establishing research priorities and ensuring progress in the experimental program.



**BARBARA ALVAREZ** is a final-year graduate student at the University of Oviedo, Spain, working on the CDF experiment. She is responsible for data calibration and validation of the "Time of Flight" subdetector, and currently co-leads an analysis effort on the search for the Higgs particle at the Tevatron, on which she'll base her Ph.D. thesis.



**ALEXANDER VALISHEV** arrived at Fermilab in 2003 ready to work on particle beam dynamics. He developed computer models for beam optics and beam-on-beam effects in the Tevatron, both of which have led to the machine's increased performance. Dr. Valishev is currently responsible for the Tevatron's beam optics tuning and improvements. He also leads a project within the U.S. LHC Accelerator Research Program focused on colliding beam simulations and other studies targeting future LHC upgrades.