TO HEAL A NATION. As a medical student in the Democratic Republic of Congo in the 1970s, Oscar Kashala led a student movement against corruption and human rights violations in the country. Decades later, as an oncology researcher working in the American pharmaceutical industry, Kashala encouraged his colleagues to develop vaccines for African strains of malaria and other diseases. Now he’s hoping to make a bigger difference by winning Congo’s presidency.

Kashala has taken leave from his job at Millennium Pharmaceuticals Inc. in Boston, Massachusetts, to run against incumbent Joseph Kabila in elections scheduled for June. Although observers think his chances are slim, he has hit the campaign trail with gusto. Public health is part of his platform—“many hospitals [in the country] don’t have mattresses,” he says. He says his expertise and international ties would help in that effort, going hand-in-hand with economic and government reforms aimed at bringing development and peace to the strife-torn nation.

AIDS researcher Max Essex, who was Kashala’s adviser at Harvard, says Kashala is one of many talented foreign-born scientists he’s trained who contribute to their countries. “But none of them try to go back as a political leader,” he says, adding that Kashala’s qualities of being “in charge” and “well liked” bode well for his candidacy in the country’s first election since 1970.

AWARDS
A PRECIOUS RESOURCE. A Canadian ecologist and a Russian hydrologist share the $200,000 Tyler Prize for Environmental Achievement for efforts to protect the world’s water resources.

David Schindler of the University of Alberta, Canada, has done pioneering experiments showing how acid rain destroys freshwater lakes and how phosphorus promotes uncontrolled growth of algae. His research persuaded politicians around the world to ban the use of phosphorus in detergents.

Igor Shiklomanov, who directs Russia’s State Hydrological Institute in St. Petersburg, has studied how local water consumption for domestic and agricultural purposes affects global water supplies.

ENERGY PRIZE. Three pioneers of nuclear fusion will share the $1.1 million Global Energy International Prize. Evgeniy Velikhov, director of the Kurchatov Nuclear Research Center in Moscow; Yoshihisa Masaji, former president of the Japan Atomic Energy Research Institute; and Robert Aymar, director-general of the CERN particle physics lab in Geneva, Switzerland, are being honored for laying the scientific and engineering foundations of the planned International Thermonuclear Experimental Reactor. The annual prize is funded by three Russian power companies.

UNTANGLING WAVES. A French-born mathematician whose work could improve technologies for applications including medical imaging and DNA analysis has won the National Science Foundation’s (NSF’s) top annual prize for researchers aged 35 or younger. Emmanuel Candès, a professor at the California Institute of Technology in Pasadena, will receive a 3-year, $500,000 grant as recipient of the Waterman Award.

Candès, 35, works on harmonic analysis, a field devoted to separating out single waves from complex signals for analysis and processing. His research “promises to take the field to a whole new level,” says John Cozzens, an NSF program officer in the computing directorate.

MOVERS
MASSIVE UNDERTAKING. German physicist Norbert Holtkamp, who is currently working on the Spallation Neutron Source at Oak Ridge National Laboratory in Tennessee, has been chosen to lead the building of the International Thermonuclear Experimental Reactor. Named the principal deputy director-general of the seven-nation project, Holtkamp will serve as the key technical supervisor for the construction of the reactor in Cadarache, France, over the next decade.

CAMPAIGNS
ORGAN OF CHANGE. In August 2004, psychiatrist Sally Satel learned from routine lab tests that her kidneys were failing. Her options were limited to putting her name on a waiting list for cadaver organs, behind some 88,000 Americans, and registering on a Web site that matches willing live donors with recipients who pay to be listed. Those avenues didn’t work out, but Satel was fortunate to have a friend offer a kidney to her. The transplant was performed last month, and both women are recovering well.

Satel, a health policy researcher at the American Enterprise Institute (AEI) in Washington, D.C., says the experience awakened her to the “horribly broken” state of organ transplantation rules in the United States. To improve matters, she is organizing a conference at AEI in June to discuss how the system could be made more efficient. Satel advocates that individuals be compensated for donating their organs, a practice currently prohibited by the 1984 Organ Transplantation Act.

To prevent the exploitation of poor people under such a free-market regime, she says, the government could institute safeguards such as giving donors an income tax holiday for a year—which would appeal more to wealthy potential donors than to poor ones. Also, Satel says, the government could enact “presumed consent,” according to which individuals would automatically be considered organ donors after death. “To ask people to wait in line is almost cruel when there are other options,” she says.