

we have never had before,” adds SFI awardee Michael Coey, a physicist at Trinity who specializes in spin electronics. “For the past 20 years, I’ve supported my research on outside money, mostly from the European Union, and it was mainly applied. SFI changes the climate. It gives more room for basic research.” Still, he adds, “don’t bet on that lasting. At the end of five years, we have to show we have done something significant.”

“We want people to make the connection between the research they propose and the payoff for biotechnology and ICT,” says Alastair Glass, who oversees information and communications technology for SFI. The hope is that the new research money will catalyze companies to set down R&D roots, stimulating the economy and creating jobs. Says Treacy, “For the past century, we’ve been exporting our best and brightest to foreign shores. We feel we should be able to absorb our own people.”

Seven of the eleven initial awards went to researchers in physics or a related field, mostly nanoscience. About half of the awardees were already in Ireland, and the rest are moving from the US or UK.

The next SFI competition will again aim to attract top-notch scientists from abroad. But in February SFI decided to flesh out its programs, and the new round of awards adds funding for researchers in Ireland, as well as for visitors, conferences, workshops, and interdisciplinary centers.

Strains of success

While information and communications technology and biotechnology are the clear winners in Ireland’s spending spree, money for research has risen across all fields, including the humanities. Non-SFI science funding for new projects, for example, doubled to €6 million this year. “SFI is building two narrow spikes of excellence on a foundation,” says Walsh. The expansion of SFI programs, adds Brian Harvey, vice president of research at University College Cork, “has dispelled the initial disquiet that SFI was very narrow and that they were focused on bringing in outside talent rather than funding researchers here.” Still, fields such as astrophysics and zoology fall outside SFI’s range, Harvey says, “and we need to be vigilant about supporting excellent researchers even if they are not in mainstream areas—to offer tenure and retain them.”

Not surprisingly, the sudden influx of money puts a strain on universities,

which not only have to cope with jealousies arising from the focus on two niche fields, but also have to find space and money for new people. With an additional €605 million from the government for bricks and mortar, the biggest challenge for universities is to offer permanent positions and pay internationally competitive salaries to newcomers.

“We are putting down metrics to measure our progress,” says SFI’s Glass. “One is the people we attract. Another is the number of postgraduate students here. We want the rest of the world to say, Wow! What’s happening in Ireland?” **TONI FEDER**

Physics Project Scores in Siemens Westinghouse Competition

While other students their age were off on their summer vacations, Shira Billet and Dora Sosnowik, seniors at the Stella K. Abram High School for Girls in Hewlett Bay Park, New York, were putting time in at the lab. Their work paid off last December when they placed first in the team category of the 2001 Siemens Westinghouse Science and Technology Competition. They shared the \$100 000 prize for their viscometer for ultrathin films.

In Billet and Sosnowik’s viscometer, two distinct layers of liquid polymers are painted on a silicon wafer, with the more viscous film on top. The difference in surface tension between the two films causes the upper layer to dewet, a process similar to water beading into droplets on the hood of a car. The dewetting forms holes in the upper film, exposing the lower film, whose viscosity is then calculated from the rate of hole growth. “We were

interested in this topic,” says Billet, “because it’s very difficult to measure the viscosity of thin-film lubricants using existing methods and [we] wanted to get involved with a modern and real problem.”

And they succeeded, says Miriam Rafailovich, director of the NSF Materials Research Center at SUNY Stony Brook and Billet and Sosnowik’s mentor. Rafailovich predicts the new method “will have far-reaching consequences in the fields of electronics and micromechanical systems.”

Billet and Sosnowik, whose interest in science was sparked by their chemistry teacher, will use their winnings to pay for college. Billet plans to major in chemistry or journalism and Sosnowik wants to become either a musician or doctor.

The individual prize went to Ryan Patterson, a senior at Central High School in Grand Junction, Colorado, for a glove that translates the hand movements of sign language into text displayed on a screen.

ANTHONY TWEED

New Medal Named for Rosalind Franklin

The UK is honoring crystallographer Rosalind Franklin (1920–58) by creating a medal in her name to recognize innovations in science. Franklin’s research was largely ignored during her lifetime, but is now widely accepted as having been key to discovering the structure of DNA. The new medal—the Royal Society’s first to carry a woman’s name—has a purse worth £30 000 (approximately \$42 000).

Franklin died four years before the Nobel Prize in Medicine went to Francis H. C. Crick, James D. Watson, and Maurice H. F. Wilkins for the discovery of the structure of DNA. “It has been a long haul to bring Rosalind’s contribution into the light of day,” says the University of Cambridge’s Joan Mason, who has given lectures on Franklin’s research. Watson, now at Cold Spring Harbor Laboratory in New York State, agrees: “It’s a great idea, not just honoring a woman, or a crystallographer, but also the memory of a fantastic scientist and a good friend.”

But according to Franklin biographer Lynne Elkin of California State University, Hayward, Watson and Crick did not give Franklin’s contribution its due in their seminal 1953 *Nature* article. She says that it was not until years later, in his book *The Dou-*



TOP HONORS in the 2001 Siemens Westinghouse Science and Technology Competition went to Shira Billet (left) and Dora Sosnowik (team winners) and Ryan Patterson (individual winner).

SIEMENS FOUNDATION