

# In the News

## Popular Lecturer Wins Grammy

Princeton faculty may be better known for winning Nobel prizes, but **Phil Schaap's** students couldn't have been more excited when the visiting lecturer received a Grammy Award in Los Angeles in February. Schaap was honored for his work

as producer of *Louis Armstrong: The Complete Hot Five and Hot Seven Recordings* (Columbia/Legacy Records) which was named best historical album of the year.

A well-known jazz expert and radio commentator, Schaap has taught annually in Princeton's American Studies Program since 1994. Last semester, his course concentrated on Louis Armstrong's life and art. Next fall, he plans to focus on bebop.

This was Schaap's seventh Grammy Award, but he downplays the significance of the acclaim he's received. "I think teaching jazz at Princeton is just as rewarding," he says. "I would equal that to a Grammy."

## USA Today Honors Pierce '02

Many Princeton students juggle academics with work in the arts, athletics or community service, but few do

it better than junior **Lillian B. Pierce '02**, who was one of 20 students recently named by *USA Today* to its All-USA College Academic First Team for outstanding intellectual achievement and leadership. She was chosen from 682 nominees from 49 states and the District of Columbia.

A mathematics major who maintains an above-4.0 average while tutoring as a peer instructor in math and chemistry, Pierce is also a highly accomplished concert violinist who serves as co-concertmaster of the Princeton University Orchestra, co-chair of the Orchestra Committee and founder of the Nassau String Quartet, a student ensemble. In her spare time, she works as a nurse assistant at the McCosh Health



Center — and she is writing a play.

Pierce, along with her younger brother and four other students, was educated at home, in a private school run by her mother. But she

has enjoyed Princeton's traditional college setting so much, she says, that she now plans on making a career in academia.



## Doyle Tapped for Senior U.N. Post

The crucial ties between political scholarship and leadership in the real world were bound tighter recently, when

Princeton professor **Michael W. Doyle** was appointed as a special advisor to United Nations Secretary-General Kofi Annan.

Doyle, the Edwards S. Sanford Professor of Politics and International Affairs and director of the Center of International Studies, has a reputation among his colleagues as both a philosopher and a practical problem-solver. He has written extensively on U.N. peace-keeping efforts in Cambodia and Bosnia and is the author, most recently, of *Ways of War and Peace*, a study of political philosophies of international relations.

As assistant secretary-general of the U.N., Doyle will advise Kofi Annan on policy analysis and strategic planning.

"This is an immense thrill, an honor and a genuine privilege," Doyle said in an interview with *The Daily Princetonian*. "I look forward to making a contribution to addressing

these real global problems, to learning a lot, and to coming back and sharing with my students at Princeton."

## Senior's Research Published

It's impressive for an undergraduate to have research accepted by a professional journal, but quite extraordinary to be published in *Nature*, perhaps the most prestigious science journal. Yet, in the March 15 issue, Princeton senior **Joanna S. Slusky '01** was the primary author of a paper exploring the ways in which

small changes in a metallic compound's composition affect its superconductivity.

Recent superconductivity research has been focused on ceramic compounds.

But Slusky's work, done in conjunction with her advisor, chemistry professor **Robert J. Cava**, and others at the

Princeton Materials Institute, puts the spotlight on "intermetallic compounds," composed of metallics and boron, whose superconductive properties hold enormous promise for practical application.

This may be the first of many journal bylines for Slusky, who plans to pursue graduate and post-graduate work in chemistry. ☺



## Ruby Lee Defines New Computer Paradigms

**C**an your TV dispense cash? Does your hat transmit live images?

They soon will, according to computer architect Ruby B. Lee. She believes that what she calls "teleputers" — interconnected information appliances that will merge the functions of telephones, televisions and computers — will become "the ubiquitous devices of the 21st century."

"Wearing a teleputer, say, on a wristband, you will instantly be able to compare the price of an item in a store with the price for that item locally or globally," says Lee, who is Princeton's Forrester G. Hamrick Professor in Engineering and Professor of Electrical Engineering. "This will significantly impact the way people buy goods." A teleputer could also be used as a personal automated teller machine for e-cash, or as a credit or debit card. A more advanced teleputer with camera input, embedded in a cap, could allow parents to transmit their daughter's soccer game in real time to a large display window built into the wall of her grandparents' home in another country. On a broader level, teleputers could be used to keep politicians honest by testing the veracity of their statements as they speak.

At PALMS, the Princeton Architecture Lab for Multimedia and Security, Lee and her graduate students are researching the technology needed to turn such scenarios into everyday reality. In the classroom, her undergraduate students in computer architecture know that along with theory, they are getting the down-to-earth perspective of a pioneering architect of the computer industry.

Shortly after earning her Ph.D. in electrical engineering from Stanford, where she was one of two female graduate students in the engineering school, Lee was hired by Hewlett-Packard to be part of a select team charged with devising a major new architecture that

would unify the company's top three computer product lines — a rare opportunity for any computer architect, and especially for a freshly minted one. She went on to spend the next 17 years at HP, where she served as chief architect of both the multimedia and security architecture teams. She was responsible for some of the most widely used advanced business computers and technical workstations, and she currently holds 88 U.S. and international patents.

"What's fun about

working with Ruby is that she has both extraordinary technical competency and a philosophical perspective on technology," says Stuart C. Schwartz, professor of electrical engineering.

Both sides come into play in Lee's intense focus on secure information processing. A hallmark of her work is her insistence on "pervasive security" — security that can be built into a system's core hardware and software, rather than added as an afterthought.

"The Internet is a disaster waiting to happen," she says. "It wasn't designed for e-commerce and private data, but rather, to allow for the free exchange of information between scholarly institutions. You can try to retrofit such a

### Computer architect brings real-world experience to the classroom and the lab.

system, but it will always be vulnerable at its core. You have to build security and trust from the ground up."

Lee believes that ideally, values, too, should be incorporated into the hardware and software of the future — otherwise, society will get values by default. "For example, if we had built in a tiny, convenient e-cash deduction — say a fraction of a cent — each time an MP3 music file was downloaded, people might have been encouraged to pay for the music, rather than expecting it to be free," she says.

In fact, Lee would like to mobilize social scientists, humanists and engineers to begin to pinpoint the values that ought to be considered cyber rights and responsibilities — a process that will become far more complex as networking increases among diverse cultures.

"Princeton, with its focus on values, interdisciplinary collaboration and service to all nations is an ideal place for such dialogues," says Lee. ☺

