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TheRecord

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NEWS AND IDEAS FOR THE COLUMBIA COMMUNITY

MARCH 21, 2011

DEAN TAKAMURA'S PERSONAL ACCOUNT OF JAPAN'S RESILIENCE

Jeanette Takamura, dean of Columbia's School of Social Work, was in a Tokyo building when an earthquake now estimated at 9.0 struck the coast off northern Japan, setting off a deadly tsunami and triggering an ongoing nuclear emergency. Takamura, who is Japanese American and was in Japan to speak at a conference, flew back to the United States two days later. Here are excerpts of an e-mail she sent to friends and colleagues after returning to New York.

"At 2:46 p.m. on March 11, the earth shook and very heavy tremors—one wave of motion after another—continued on and on and on for what seemed like half an hour. The earthquake was unlike any that I have ever experienced anywhere. Along with everyone else in Tokyo, I walked quickly out into the street and stood as far away as possible from buildings that were older or that have a lot of glass. The Japanese were very calm—no crying or talking, even children and babies were quiet—and millions poured with purpose into streets and parks, all looking up at the very tall buildings that swayed around them like tall palm trees.

"The Japanese were very calm—no crying or talking, even children and babies were quiet."

"... Nothing could have prepared me for the discovery that only two people in the crowd in which I found myself were fluent English speakers, and that they would be Thai. I looked like everyone else in the crowd, but could not speak Japanese and my cell phone could not transmit or receive. Without any trains or buses and few taxis, there was no choice but to attempt an at least six-hour walk back to my hotel, following a route parallel to the train tracks. An hour after I started, a taxi miraculously appeared, unloaded its passengers, and my new Thai friends and I jumped into it. It was a \$60 taxi ride, but a bargain since it would have otherwise been five more hours of traveling by foot. Then, of course, there were 64 flights of stairs that had to be climbed to my room because the elevators were not usable.

"That night, millions were sleeping in subway stations and office buildings all around Japan because the railroad system

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**COLUMBIANews
ON THE WEB**

For details on how to assist those affected by the earthquake, go to news.columbia.edu/japanearthquake

NEW DEAN, NEW UNIVERSE



DIANE BONDAREFF

By Beth Kwon

As a child in Malibu, Calif., Amber Miller was fascinated by the natural world. "I've always been interested in how things work broadly and how the universe came about," said Miller, the Walter LeCroy Jr. Associate Professor of Physics. Now she's applying her analytical perspective to a fresh challenge in the newly created position of dean of science of the Faculty of Arts and Sciences.

Miller's job will be to make science stronger across the University. To that end, she said, "I will be forming a strong faculty committee to take a good look at the needs and priorities in the basic sciences and get a sense of what we need to do to enhance and improve our ability to get things done

around here," she said. Her appointment was announced March 1.

Miller, who joined the University in 2002, assumes her new job at an unparalleled moment for the basic sciences at Columbia. The University officially opened the Northwest Corner Building for interdisciplinary science late last year, and construction is underway on the Manhattanville campus for the Jerome L. Greene Science Center for the Mind Brain Behavior neuroscience initiative.

"Amber will be charged in part with figuring out how to make sure the core departments are fully supported and make sure the newer initiatives feed back with an organic continuity in relation to departmental needs," said Nicholas Dirks, the executive vice president for Arts and Sciences. The newer initiatives include the two new science buildings.

Collaboration has always been a key part of Miller's work. As a researcher, she is

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"I've always been interested in how things work broadly, and how the universe came about."

Will Watson Have the Answer to Why You Are Sick?

By John Ubl

Watson, IBM's celebrity supercomputer, has already trounced the two best human *Jeopardy!* players. But does the computer, which uses natural language processing to interpret complex, nuanced questions and provide accurate answers in English, have a bedside manner?

Herbert Chase, professor of clinical medicine in the Department of Biomedical Informatics, has been working with IBM to retrofit the computer to help doctors diagnose and treat patients. "It's been impossible for probably 20 or 30 years for a human to process the information required to practice medicine at the highest, evidence-based, guideline-based level," Chase says.

If the experiment works, Watson could give physicians immediate, accurate answers to unusual, head-scratching questions that come up in their daily practice and do so based not only

on the latest published research, but also the blogosphere.

For example, while the general practitioner has a great breadth of knowledge, he or she may lack in-depth information about specific diseases or conditions. Similarly, a specialist may have that depth of knowledge but lack the breadth. "Watson has both, breadth and depth," he says. "It can look up anything, in terms of breadth—bone disease, OBGYN, dermatology. But it also has incredible depth. And it can bring to the primary care physician the depth that he or she would not otherwise have access to."

Over the last year, Chase and two of his students at the College of Physicians and Surgeons have been performing a series of tests on Watson that involve asking the computer questions and sorting through its answers.

"Watson has done incredibly well," Chase says. "You say 'fever, weight loss, joint pain, skin rash' and Watson comes up with three or four suggestions [of a diagnosis] which are



COURTESY OF IBM

IBM's Watson computer system competes against *Jeopardy!* champion Ken Jennings.

incredibly accurate." When Watson is off the mark, Chase and his students try to figure out why, and then they report their findings to the programmers at IBM.

Unlike Alex Trebek on *Jeopardy!*, Chase and his students don't want the one best answer, they want several. "We want the top five can-

continued on page 8



ON CAMPUS

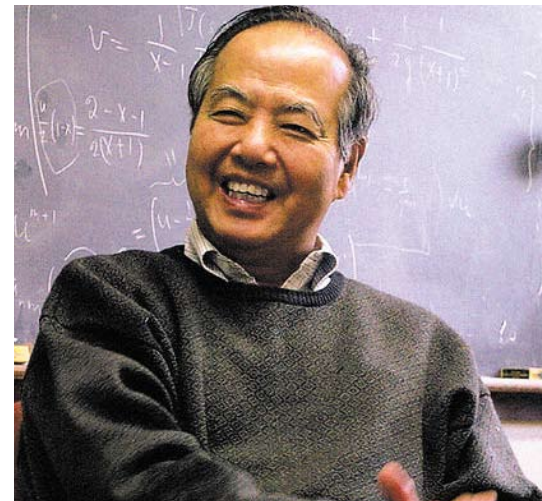


DON SUSSIS

TOUR DES FLEURS

University Facilities will showcase Columbia's award-winning landscaping on the Morningside Heights campus with a series of garden tours, beginning in April. Tours will be led by Richard Bussert, the University's director of landscaping and waste management, and will introduce attendees to the variety of flowers, plants and trees on campus, including red maples, flowering dogwood and oakleaf hydrangeas. Open to the public, tours are scheduled for 1:00 p.m. on April 6, April 27 and June 15, and will be limited to 25 attendees per group. Reservations are required and due by March 31 for the April tours and by June 3 for the final tour. For more information, visit www.facilities.columbia.edu/garden-tours.

MILESTONES



University Professor **T.D. LEE**, who has spent his entire professional career at Columbia and won the 1957 Nobel Prize for physics, is retiring at the end of 2011. Lee got his Ph.D. from the University of Chicago, where he was the doctoral student of another Columbia legend and Nobel laureate, Enrico Fermi. Lee joined Columbia in 1953 and was named a full professor in 1956 when he was just 29. He was the second-youngest Nobel winner the following year, when he received the award for his work refuting the law of parity violation and, in the words of the Swedish Academy, breaking "a most puzzling deadlock in the field of elementary particle physics." Says William Zajc, chair of the Department of Physics, "It is impossible to overstate T.D.'s influence on the Department of Physics, on Columbia and on the entire field of physics."

JACQUES BARZUN (CC'27, GSAS'32) was awarded the 2010 National Humanities Medal by the White House for his distinguished career as a scholar, educator and public intellectual. Barzun, now 103, taught at Columbia from 1932 until 1975, won the Presidential Medal of Freedom in 2003, and has written and edited nearly 40 books.

School of Social Work Professor **NABILA EL-BASSEL** has been appointed to the National Advisory Council on Drug Abuse for a term that runs through 2014. The 18-member council advises the National Institute on Drug Abuse, National Institutes of Health director and secretary of the U.S. Department of Health and Human Resources on research and policy initiatives.

DAVID HELFAND, chair of the Department of Astronomy, was elected president of the American Astronomical Society, the professional organization for astronomers, astrophysicists and planetary scientists in North America.



MARK MCDUGALE has been named chief operating officer of Columbia University Medical Center, effective March 1. McDougale will lead medical center operations, including facilities, student services, information technology and human resources, and will also provide

oversight for the ColumbiaDoctors faculty practice. McDougale, who has more than 30 years experience managing hospitals and clinical practices, joins Columbia from Maimonides Medical Center in Brooklyn, where he served as executive vice president and chief operating officer.

GRANTS & GIFTS

WHO GAVE IT: Banco Santander

HOW MUCH: \$755,000

WHO GOT IT: Columbia Business School

WHAT FOR: The Entrepreneurship and Competitiveness in Latin America (ECLA) program, which equips Latin American entrepreneurs with skills and tools to make their companies more efficient and grow internationally.

WHO GAVE IT: Locks of Love, Inc.

HOW MUCH: \$1 million

WHO GOT IT: College of Physicians and Surgeons

WHAT FOR: The gift supports Dr. Angela Christiano of the Department of Dermatology and her team as they conduct human clinical trials in the treatment of alopecia areata, an autoimmune disorder that causes abnormal, and often total, hair loss.

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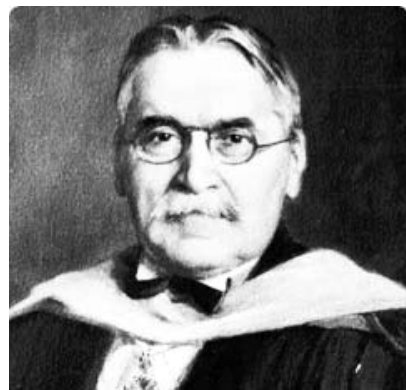
Star Mentors

Dear Alma,
Of Columbia's 79 Nobel laureates,
which department garnered the most?
—Laureate Lover

Dear Laureate Lover,

Of the 79 Nobel prizes that have gone to Columbia professors or graduates, the greatest number of them—27—were awarded in physics. But there are plenty of non-Nobel laureates who have made major contributions to physics since its founding as a graduate department in 1892.

Although Columbia's first physics Ph.D., Robert Millikan (GSAS'1895), won a Nobel in 1923 for his measurement of the charge on the electron, it was his doctoral adviser, longtime physics department chair Michael Pupin, who was the real star. Pupin held 34 patents,



Michael Pupin

for such innovations as rapid X-ray photography, secondary X-ray radiation and the Pupin coil, which made long-distance telephone lines and cables possible. Pupin Hall, where the physics department has its offices today, is named for him.

Like current faculty member Brian Greene, a professor of mathematics and physics, Pupin was particularly gifted at explaining complicated scientific concepts. Although Pupin never won a



ASK ALMA'S OWL

Nobel, he did win a Pulitzer Prize for his 1923 autobiography, *From Immigrant to Inventor*.

Of the 27 Columbia physics Nobel winners, many were recruited here by Prof. I.I. Rabi and did their prize-winning work under his chairmanship of the department in the late 1940s.

Rabi, who received his own Nobel in 1944 for "his method for recording the magnetic properties of atomic nuclei," was described, as "an internationally renowned statesman of science" by Samuel Devons, a Barnard physics professor writing about Rabi in the book *Living Legacies: Great Moments and Leading Figures in the History of Columbia University*. "The history of Columbia spans the whole history of American science, and the lifetime of Rabi covers the overwhelmingly greater part of its growth."

When Columbia created the title of University Professor in 1964, which was to go to "senior professors of the highest distinction," the first went to Rabi.

—The Record Staff

Send your questions for Alma's Owl to curecord@columbia.edu.

Happening at
COLUMBIA

For the latest on upcoming Columbia events, performances, seminars and lectures, go to calendar.columbia.edu

Sociologist Examines A New American Elite

By Roger Fortuna

Shamus Rahman Khan, an assistant sociology professor, is interested in elites. As a graduate of St. Paul's School, one of the most prestigious boarding schools in the nation, he thought that by going back there for a year to teach, he would have the perfect subject for his research on what it means to be elite in 21st-century America.

What he found surprised him and is the subject of Khan's new book, *Privilege: The Making of an Adolescent Elite at St. Paul's School*.

"The school was much more racially diverse, but even though it was more democratic, it was unequal in a new way," he says. "The kids were richer than ever before, and that class difference is the big, new barrier to access at the top. Racial and ethnic diversity doesn't equate to mobility and equality."

The context for his research is the growing income disparity in the United States between the very richest Americans and the average earner. Over the past 40 years, even as great gains in racial and gender equality have been made, the incomes for the richest 10 percent of Americans have grown nearly 100 percent. Meantime, the rest of American earners have seen only a 3 percent increase over that period, according to the Economic Policy Institute at the University of California, Berkeley.

Khan calls this "democratic inequality," and it is at the heart of a resurgent field in social science research that he is leading with fellow Columbia sociology professor Sudhir Venkatesh and Dorian Warren, a political science professor at the University. These scholars contend that even though America has become a more open society, class still plays a major role.

The son of Pakistani and Irish immigrants—Khan's fa-

ther was a successful surgeon and his mother a nurse—Khan grew up in a wealthy suburb of Boston, where his upwardly striving parents made sure he had private music lessons, trips to Europe and other cultural enrichment. When he enrolled in St. Paul's in fall 1993, he found himself assigned to the minority student dorm, surrounded mostly by black and Latino boys from poor, inner-city neighborhoods.

He notes that his Pakistani heritage "hardly afforded one oppressed minority status," yet he was still astonished by what he saw on the campus outside Concord, N.H., which has been attended by generations of America's wealthiest and best connected families, from Vanderbilts to Rockefellers.

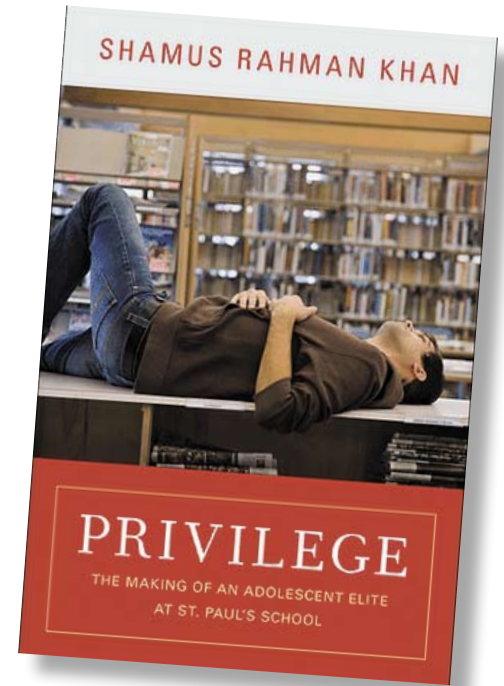
"Children with multiple homes who chartered planes for weekend international trips, came from family dynasties, and inherited unimaginable advantages met me on the school's brick paths," he writes. "My parents' newfound wealth was miniscule compared to many at the school."

"The kids were richer than ever before, and that class difference is the big, new barrier to access at the top."

He expected to find the same patterns when he went back, the old-fashioned ideas of entitlement based on family dynasties, connections and cultural refinement. Instead, he discovered a "new elite" at his alma mater, one that includes more women and minorities and is distinguished by a sense of privilege rather than entitlement. He decided to study how this sense of privilege is conveyed to students and came up with three key lessons.

Kids at St. Paul's and other elite institutions learn that social hierarchies still exist, but they can be treated like ladders, not ceilings. They learn that experiences matter. And they learn how to feel comfortable in just about any social situation, as is required in an integrated and open society that values hip-hop and opera, *Beowulf* and *Jaws*.

"The irony is that it's not the elites that are now culturally exclusive," Khan says. "The disadvantaged in society are the ones who are more culturally limited. That seems to



The year Khan spent teaching at St. Paul's provided the impetus for his new book.

reinforce their position, because they don't have the knowledge they need to move up the class ladder, no matter how talented they are."

Khan, however, doesn't buy the narrative that the new elite has ascended to the top rung of American society, which we think of as a meritocracy, on the basis of innate intelligence and drive. He ascribes it to "differences in opportunity," such as better schools, academic coaching, after-school enrichment programs and a supportive home environment. He also notes that such advantages are increasingly out of reach for everyone but the very wealthy. At some point, he wonders, "Do we have a moral responsibility to address this inequality?"

He believes the answer is yes. "I am among those who believe that too much inequality is both immoral and inefficient."

ON EXHIBIT:

Negro League Baseball in the '40s

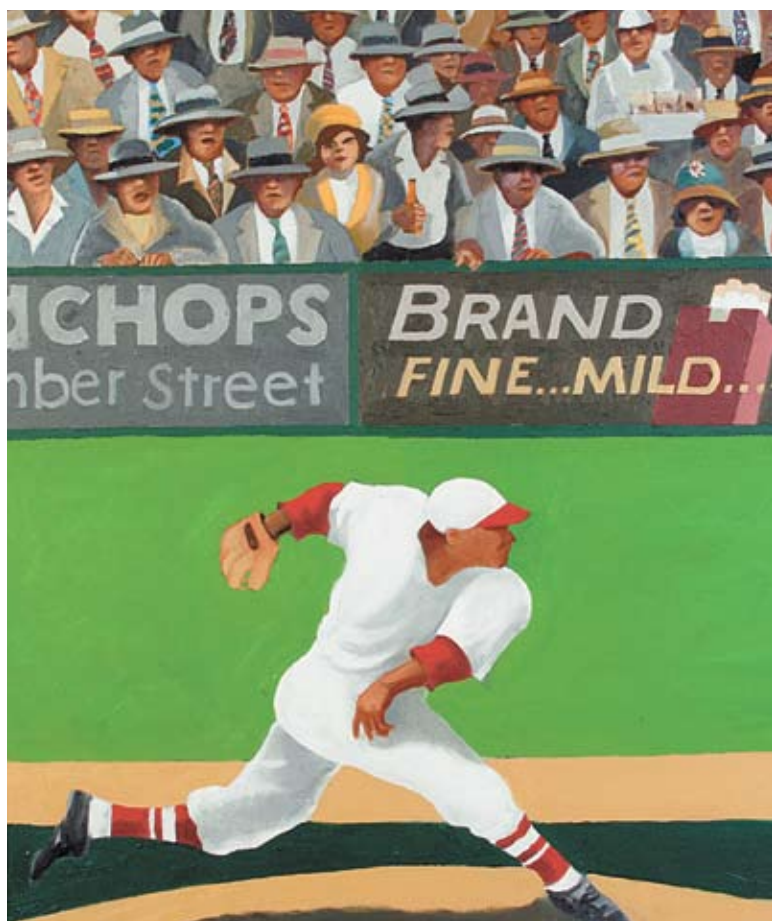
Lou Grant's childhood memories of Negro League Baseball games inspire his latest works. Grant, an African American artist who lives in Harlem, created a series of portraits of players he remembers, reflecting the spirit of another time.

Grant, a talented baseball player himself, first attended Negro League games as a child in the late 1930s and 1940s. He recalls that baseball games were a community event, and families put on their finest clothes and packed

picnics for Sunday double-headers.

Grant attended the High School of Art and Design and Cooper Union for the Advancement of Science and Art in New York City. He is still a Dodger fan.

The show runs from March 21 to April 28 at the Russ Berrie Medical Science Pavilion, Columbia University, 1150 St. Nicholas Ave. at 168th Street. Open Monday through Friday, 9:00 a.m. to 5:00 p.m. For information about the art exhibition, visit www.neighbors.columbia.edu.



Lou Grant's Looks High, oil on canvas 36" x 36"

Committee to Protect Journalists Donates Extensive Archives to Columbia Libraries

By Nick Obourn

In the seven years since the Center for Human Rights Documentation and Research was formed within Columbia Libraries, it has amassed an archive of the world's leading human rights organizations including Amnesty International and Human Rights Watch.

Last year, the Committee to Protect Journalists, the nonprofit organization founded in 1971 by a group of U.S. foreign correspondents in response to the dangers their overseas colleagues faced from authoritarian governments, donated its archives to the libraries.

To honor the acquisition and coincide with the committee's 30th anniversary, CPJ and the libraries hosted a series of panel discussions earlier this month. They also screened an excerpt from Ken Levis's documentary about CPJ, *Without Fear of Retribution: The Fight for Press Freedom*, which will be released later this year.

"With the acquisition of the Committee to Protect Journalists papers, we feel like we have acquired what has become the epicenter of the human rights moment today," said Michael Ryan, director of the Rare Book and Manuscript Library, where the collection will be housed.

The archives of the organization, which documents injustices against journalists and works to protect free speech worldwide, includes photographs, videos, letters, wartime communications, case files and other materials compiled over 30 years.

A March 4 panel titled "Looking Back: Thirty Years of Covering War" was moderated by former CBS Evening News anchor Dan Rather and featured Terry Anderson, former Associated Press chief Mideast correspondent, who was held captive in Lebanon by Hezbollah Shiite militants from 1985 to 1991. Other panelists included Rajiv Chandrasekaran, senior correspondent and associate editor of *The Washington Post*; Maria Teresa Ronderos, editorial adviser for Colombian newspaper *Revista Semana*; and Michael Kamber, three-time Pulitzer Prize-nominated photographer and journalist and former Revson Fellow at Columbia.

The discussion centered on how technology has changed war reporting, including coverage of the recent democratic uprisings in the Arab world, where cameras broadcast round-the-clock footage from Cairo's central Tahrir Square.

"I think it makes major changes philosophically about the way we cover war," said Anderson, who is a CPJ board member. "Twenty-four hours a day you were there in Tahrir Square...As it was happening to them, you were watching it. I think that's a good effect of the technological changes. On the other hand, how many of those correspondents standing on the

"We feel like we have acquired what has become the epicenter of the human rights movement today."

balcony in front of the camera really had a chance to find out what was going on? How many of them were just telling you what somebody had told them?"

The second panel of the day, "Looking Ahead: Social Media and Revolution," examined the role of technology in the citizens' revolts in Egypt and Tunisia and the measures repressive governments are taking to stem

the power of the Internet.

The night before, Columbia President Lee C. Bollinger gave a talk on global press freedom, the subject of his most recent book, *Uninhibited, Robust and Wide-Open: A Free Press for a New Century*. Bollinger drew parallels between the work of scholars and journalists, and recalled how his father, a newspaper publisher, received a death threat in response to a story he planned to publish on police corruption. "I remember my father putting a shotgun by his bed, and as a young boy that was a pretty terrifying thing to see," said Bollinger. "That taste of fear from pursuing the truth as a journalist sits deeply in me."

COLUMBIANews ON THE WEB

To see video of the CPJ panels, go to news.columbia.edu/cpj



EIMICKE EYES THE HUMAN IMPACT OF BUDGET CUTS

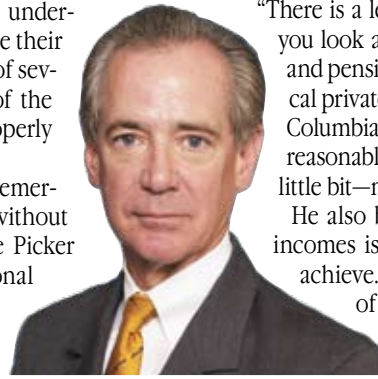
By Melanie A. Farmer

As a former government executive, William Eimicke understands why public officials resort to layoffs to balance their budgets in tough economic times. But as a veteran of several New York state and city agencies, he is also aware of the hazards of public sector layoffs and the advantages of properly targeted tax increases.

"Cities run the police, the fire department, schools, emergency services, sanitation, social services—you can't live without these things," says Eimicke, the founding director of the Picker Center for Executive Education at the School of International and Public Affairs. "It's not like a company that has to cut back, and so we won't have iPods or iPads. They are great. I love them. But we don't need them."

Across the country, as some governments teeter on the brink of bankruptcy, officials are having to manage with a tight fist, proposing massive budget cuts and sharp layoffs in public sector jobs. In New York City, Mayor Michael Bloomberg has announced he will make no additional cuts in city-funded services but intends to slash more than 6,000 teaching positions. New York Gov. Andrew Cuomo has said the state "simply cannot afford to keep spending at our current rate," and has proposed merging and consolidating state agencies with

care plans for public employees. Dozens of states have taken action to reduce their pension and health care liabilities, which has triggered a strong backlash from unions and their supporters.



William Eimicke, a former government executive, is founding director of the Picker Center for Executive Education.

"There is a legitimate argument to say today that if you look at public employee health care benefits and pensions, they are much richer than the typical private employee benefits, even better than at Columbia," he explains. "So I don't think it is unreasonable to say we should ratchet them down a little bit—not retroactively, but prospectively."

He also believes a tax increase on the highest incomes is long overdue, though not so easy to achieve. "We really need to look at the equity of the tax system and the idea that rich people should be paying less and a lower proportion of their income when we're not doing the same thing at the bottom end," he says.

"This is a very biased revenue reduction program that we are engaged in nationally."

He agrees with Cuomo's plan to consolidate public services. In January, Eimicke and Steven A. Cohen, a professor of international and public affairs and co-founder of the Picker Center, released a report recommending that Schenectady County merge its police forces. Although the second smallest county in New York, Schenectady operates seven separate police forces. Eimicke contends a great amount of duplication and overlap would be eliminated under the plan.

"If you want to balance your budget, you work on both ends," he says. "You don't just work on the expenditures side."

Eimicke has a long career in government. Most recently, he was deputy fire commissioner for New York City, in charge of management training and other programs. Previously, he served as housing czar of New York state under former Gov. Mario Cuomo. He was also director of fiscal studies for the New York State Senate, assistant budget director of the City of New York and deputy commissioner of New York City's Department of Housing Preservation and Development.

As Eimicke looks ahead to the July 1 budget deadline, he isn't ready to hit the panic button. "You can't always judge these budget negotiations in the middle," he says, adding that he expects to see more give and take over the next few months.

"We're in a challenging time but not an unprecedented time," he says. "It will be a measure of our intelligence and our sense of justice and our strength of democracy that we get through this in a way that equally shares the pain."

"If you want to balance your budget, you work on both ends, you don't just work on the expenditures side."

similar roles, such as banking and insurance or corrections and parole. Over the long term, he wants to reduce the number of state agencies and commissions by 20 percent.

However, cutting on the employee side has serious consequences, says Eimicke.

"The quality of schools will go down. The streets will be dirtier, there'll be crime, we'll get to fires slower so more houses will burn down, ambulances will be later, and more people will die," he says. "The problem with public services is the consequences are life and death."

Eimicke suggests a more balanced approach: Impose a tax increase on high-income residents, and reform pension and health

Mailman Program Helps Preschoolers With Asthma

By Record Staff

A University program for managing asthma in preschoolers led to a dramatic drop in emergency room visits and hospitalizations.

Asthma Basics for Children (ABC), established by the Mailman School of Public Health in a community partnership, offers educational activities for parents and children in 31 northern Manhattan day care centers, as well as training to community pediatric providers.



Santa Del Rosario of the community group Alianza Dominicana and her son Jeremy, 7, use an asthma spacer.

After participating in the program, 85 percent of parents reported a reduction in their child's asthma triggers. The percent of children with asthma-related visits to emergency departments dropped sharply, from 74 percent to 47 percent, as did asthma-related hospitalizations, from 24 percent to 11 percent. The findings of the study were published in the February 2011 *Journal of Urban Health*.

Nearly one in 11 preschool children in the United States has been diagnosed with asthma, and in some inner city neighbor-

hoods, the figure is closer to one in seven. But few asthma management programs are designed for parents of preschool children.

The ABC program provided opportunities for parents to learn about asthma signs and triggers in health units at day care centers. The program involved social workers, peer counselors and health educators, as in other community-based asthma coalitions. But the ABC program also promoted parent participation by offering flexible workshop scheduling; reinforcing messages to parents through day care center activities for their children; and improving communication between parents and providers. The Columbia researchers found that parent participation rates in the study exceeded rates found in most other preschool or school-based asthma programs.

"Although emergency room visits and hospitalization rates for this age group are more than twice that of older children with asthma, until we developed the ABC model, only a handful of programs had been designed to promote better asthma management by their parents," said Professor Sally P. Findley, first author on the paper. "Our study suggests that the benefits of such a program are huge."

The study found that over a two-week period, the percentage of children reporting any daytime symptoms dropped from 78 percent to 42 percent. Nighttime symptoms fell from 81 percent to 49 percent during one month, and day care absences dropped from 56 percent to 38 percent in the previous six months.

Another key element of the ABC strategy was linking asthma education activities in the day care setting with improving the quality of asthma care

by local health care providers. Parents in the program confided that they were often reluctant to share concerns with their physician, especially about possible side effects of daily use of medications to control asthma. After participating in the program, 89 percent found it easier to talk to their doctor, and 80 percent said they were confident in their ability to manage their child's asthma.

In the group without parent training, only a third had taken at least one step toward reducing triggers; half reported that talking to their child's doctor was easy; and roughly the same number expressed confidence in managing their child's asthma. When parents participated in the program, those numbers improved to 40 percent, 62 percent, and 71 percent, respectively. Children with both parents and health care providers reported still greater increases. The two-pronged strategy of strengthening communication skills of parents and their child's health care provider is likely to have contributed to the changes, Dr. Findley said.

"This study shows that you can improve asthma outcomes for preschoolers with an approach that integrates activities for children, parents, teachers and health care providers," said Dr. Findley, clinical professor of Sociomedical Sciences and Population and Family Health at the Mailman School. "The greatest impact occurs when you combine education interventions at all of these levels."

The project was funded by the CDC's Controlling Asthma in American Cities Project after an assessment by the Northern Manhattan Community Voices Collaborative, an academic-community partnership, documented the need for an asthma intervention targeting local preschoolers.

Six Faculty Members Named 2011 Sloan Research Fellows

By John Uhl

Six Columbia faculty members have been named research fellows by the Alfred P. Sloan Foundation, which awards two-year, \$50,000 grants to support the work of exceptional young researchers early in their academic careers. They are among a total of 112 new fellows working in the fields of chemistry, computer science, economics, mathematics, biology, neuroscience and physics.

Profiles of Columbia's 2011 Sloan Fellows:

Sabin Cautis: An assistant professor of mathematics, Cautis focuses on algebraic geometry, especially the intricate patterns in spaces defined by polynomial equations. In 2008, he received a National Science Foundation grant for his research. Cautis joined Columbia in 2009, following postdoctoral work at the Mathematical Science Research Institute and at Rice University and the Mittag-Leffler Institute in Stockholm.



Sabin Cautis

Dirk Englund: An assistant professor of electrical engineering and applied physics, Englund is developing integrated quantum optic chips that encode and shuttle information in the form of single photons, electrons and nuclei. Englund's Quantum Photonics Group at the School of Engineering is developing applications in quantum computation and communication and novel quantum-assisted sensors for biological systems.



Dirk Englund

Aaron Lauda: The Joseph Fels Ritt Assistant Professor in the Department of Mathematics, Lauda focuses on "categorification," an emerging branch of mathematics that reveals hidden structure in algebraic objects used in mathematical physics. His work uses an intuitive diagrammatic calculus that allows these algebraic structures to be studied using simple pictures in a plane. Lauda joined Columbia in 2006.



Aaron Lauda

Abhay Narayan Pasupathy: An assistant professor of physics, Pasupathy specializes in condensed matter physics. He develops "scanning tunneling" microscopes to collect data to help scientists understand the behavior of new materials at the atomic scale. His work contributes to the understanding of materials like graphene that are being developed for use in electronics. Pasupathy came to Columbia in 2009 following postdoctoral work at Princeton.



Abhay Narayan Pasupathy

Nathaniel Sawtell: An assistant neuroscience professor, Sawtell is a member of the Kavli Institute for Brain Science. His work focuses on understanding the functions of cerebellum-like sensory structures and the cerebellum in fish and mammals. Sawtell is particularly interested in how experience shapes neural circuits and behavior through synaptic plasticity, the ability of synapses to change strength in response to use. He joined Columbia in 2009.



Nathaniel Sawtell

Latha Venkataraman: An assistant professor in Columbia Engineering's Department of Applied Physics and Applied Mathematics, Venkataraman works on understanding how current flows through electronic devices at the nanometer scale. Her research takes place on the molecular level, where she probes, manipulates and controls single molecules as active elements in electrical circuits. She came to Columbia in 2003.



Latha Venkataraman

South Asia Scholar Says Police, Not Military, Is Key to Fighting Terrorism in Pakistan

By Melanie A. Farmer and Tanya L. Domi

Fourteen years ago, Hassan Abbas served on the police force in his homeland, Pakistan. Now from his perch at the School of International and Public Affairs, Abbas has come up with a plan to reform his country's weak police system, which he argues would be far better than the military at fighting terrorism.

"Nuclear bombs and attacks are not going to save Pakistan from militant threat," says Abbas, the Quaid-i-Azam Professor with the South Asia Institute. "You need better law enforcement mechanisms to tackle the growing violence and crime in the country."

In February, Abbas' research was published in a report released by the nonpartisan United States Institute of Peace. His recommendations include improving coordination between various policing agencies, streamlining the decision-making process, modernizing investigative skills and increasing police salaries.

Abbas' research is timely as Pakistan becomes increasingly dangerous. Earlier this month, minority affairs minister Shahbaz Bhatti was gunned down in his car. Bhatti, a Roman Catholic, was the second government official to be assassinated in the past two months for seeking to reform Pakistan's harsh blasphemy laws, which impose the death penalty for insulting the Prophet Muhammad. Salmaan Taseer, the Punjab governor, was murdered in January by one of his own bodyguards after he called for a pardon of a Christian woman sentenced to death under the law.

Pakistan's law enforcement system has remained weak and corrupt because most of the international support for counterterrorism in the past decade went to the armed forces, says Abbas. Yet Abbas argues that only a civilian police force can do effective counterterrorism. "Police action also supports rule of law and legitimacy of a democratic system—two issues that need immediate attention in Pakistan," he stresses. "Military should



Hassan Abbas is developing police reforms for Pakistan.

always be a backup force."

This April, Abbas will begin to implement his ideas for police reform. In a yearlong project supported by a grant from the Asia Society, he will interview dozens of police officers and policy makers in Pakistan to find out what they need for more effective policing, then write up specific recommendations for the government. According to Abbas, the U.S. government has expressed its support for police reforms as well.

To comprehend Pakistan's relationship with the military, one must understand its past, says Abbas. Even though the biggest security threat currently facing Pakistan is terrorism, "historically speaking, Pakistan viewed India as the biggest threat, and it fought three wars with it," he says. "Pakistan's conventional military force and nuclear capability was developed keeping that in view. But to fight religious extremism, terrorism and insurgency, only a law enforcement model can work. Nuclear bombs cannot stop suicide bombers from blowing up themselves."

During the 1990s Abbas served as a government official in the administrations of Prime Minister Benazir Bhutto

and President Pervez Musharraf. He was also a member of the National Police Service for five years. The son of a professor, he grew up surrounded by books and discussions of history and politics. When he decided to pursue an academic career, his wife joked that "I was transitioning from cop to human being."

Abbas joined Columbia in January 2010 from the Belfer Center for Science and International Affairs at Harvard's Kennedy School of Government, where he is a senior adviser. While at Harvard, he was also a fellow at the law school's Islamic Legal Studies Program and a visiting scholar with its program on negotiation. Last year, he served as a Bernard Schwartz fellow at the Asia Society in New York. At Columbia, Abbas teaches a course titled "The Idea of Political Islam," along with other courses on religion and security in South Asia.

Despite the complex challenges facing Pakistan, Abbas says he is optimistic. "We have to view this as a country with just 60 years of history," he says. "The state is coming along. There will be changes. I see a lot of hope in ordinary people's desire to be governed through a democratic dispensation. That hope that I see in many Pakistani people gives me hope."

Takamura

continued from page 1



School of Social Work Dean Jeanette Takamura

tem, which is usually so efficient, could not run until all the tracks had been fully inspected. Hotels brought blankets out to those who could not get a hotel room—there was not one to be had. I heard from our alumni, who were going to come from Osaka and other parts of the country that evening and the next morning, that they were unable to make the trip and thus were safe at home. Our temporary discomfort does not compare to the devastation that the people in Sendai and other cities and villages in northern Japan are still experiencing. ... It is horrendous. One good piece of news: Our best information is that a CUSSW alumna and her husband, both deeply respected educators in Japan who reside in Sendai, are fine.

"Because transportation systems were down and all of the major highways were closed to all but rescue crews, it took a three-hour taxi ride, two train rides and running on foot

to get to the airport. A remarkable man named Mr. Ohno was assigned by the Japan Travel Bureau to get me to Narita. His colleagues gave him and the taxi driver instructions by cell phone about side streets that could be taken and train schedules and routes. Six hours later, we arrived at Narita, 40 minutes after the plane had departed without a full load of passengers. I am sure others were being as creative in their efforts to get to Narita as we were.

Mr. Ohno stayed with me until his colleagues located an airport hotel room where I could stay overnight. I could not get him to leave me so he could begin to find his own way home. He had no idea what transportation would be available to him, and his trip would be a least three hours long, if he were lucky enough to find some mode of transportation. I will never forget him bowing to me from outside the shuttle as the bus I was finally seated in left for the hotel. It was only then that he would permit himself to begin his own journey home. I am hugely indebted to Mr. Ohno and to the conference organizers. I have never experienced such dedicated, thoughtful, determined, courteous service.

After a night and a morning full of earthquake tremors, I was finally able to get to Narita again, where others who recounted their experiences noted, to a person, how awed they were by the calm, composed responses they had seen in the face of tragedy.

"... Now that I am back in New York City, I am seeking meaningful, appropriate ways to be of assistance to the communities that have been devastated. ... We are fortunate to be beginning spring break at Columbia. As we do so, let us do more than count our blessings. I trust that we will find individual and collective ways to convey our heartfelt concerns for the people of Japan and for all others who are victims of natural disasters and other tragedies beyond their control."

COLUMBIA INK

New Books by Faculty

The Demon at Agi Bridge and Other Japanese Tales

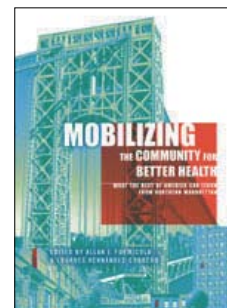
BY HARUO SHIRANE
Columbia University Press

Haruo Shirane, the Shincho Professor of Japanese literature at Columbia, introduces English-speaking readers to the vivid world of medieval Japanese folk tales. From thousands of oral and written stories called setsuwa, Shirane has selected 38 that help illuminate the foundations of Japanese culture. Translated by Chinese and Japanese scholar Burton Watson, the stories recount the exploits of warriors, farmers, priests and aristocrats and touch on poetry, violence, sex and power. Shirane, who has written and edited numerous books on Japanese literature, briefly introduces each tale, while Watson's translations preserve the wit, mystery and Buddhist sensibility of these compact stories.



Mobilizing the Community for Better Health: What the Rest of America Can Learn from Northern Manhattan

EDITED BY ALLAN FORMICOLA AND LOURDES HERNANDEZ-CORDERO
Columbia University Press

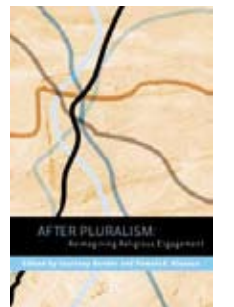


For 10 years, Columbia and its hospital affiliates worked to improve health care in Northern Manhattan by working with community organizations and churches through the Northern Manhattan Community Voices Collaborative. This volume, written by staff members of participating institutions, reviews the challenges the coalition faced as it sought to improve dental care, nutrition and other health measures from 1999 to 2009. The editors are Dr. Allan Formicola, dean emeritus of the College of Dental Medicine and a key figure in establishing the coalition; and Dr. Lourdes Hernandez-Cordero, assistant professor of clinical sociomedical sciences at the Mailman School of Public Health. The program offers lessons in health care reform, according to former Surgeon General David Satcher.

After Pluralism: Reimagining Religious Engagement

EDITED BY COURTNEY BENDER AND PAMELA E. KLASSEN
Columbia University Press

Courtney Bender, an associate professor of religion at Columbia, has edited a collection of essays on religious pluralism, defined as the commitment to recognize and understand people who espouse different religious beliefs. Bender's co-editor is Pamela E. Klassen, an associate professor of religion at the University of Toronto. The book is a result of their four-year collaboration, during which they sought to understand both how people construct their religious identities and how they live with religious differences. Contributors examine pluralism in the context of Broadway plays, Polish Holocaust memorials, Egyptian dream interpretations, German jails and various legal theories.



Economy, Difference, Empire: Social Ethics for Social Justice

BY GARY DORRIEN
Columbia University Press



Gary Dorrien's latest book explores the major traditions of progressive Christian social ethics. Dorrien, the Reinhold Niebuhr Professor of Social Ethics at Union Theological Seminary, a professor of religion at Columbia and an Episcopal priest, argues that these traditions share a fundamental commitment to transform society. He offers analyses of major figures such as Niebuhr, Walter Rauschenbusch, James Burnham, Norman Thomas and Michael Harrington, and discusses the work of contemporary intellectuals including Rosemary R. Ruether and Cornel West. Dorrien weaves his personal experiences into his narrative, and includes a chapter on the 2008 presidential campaign and historic candidacy of Barack Obama.



SENATE BEGINS ROTC DEBATE



Before an unusually large audience of 35, the University Senate began the final leg of its deliberations on ROTC on March 4, taking the baton from its own Task Force on Military Engagement at the end of a whirlwind, monthlong lap that included three open hearings, a student survey and more than 100 e-mail submissions, all of it contained in a lengthy report (www.columbia.edu/cu/senate/militaryengagement).

Task Force co-chairs Roosevelt Montás, associate dean of Columbia College for the Core Curriculum, and Sen. Ron Mazor (Stu. Law) presented highlights of the report. The survey, which canvassed students in the five Columbia schools that have had cadets in off-campus ROTC programs in recent years (Barnard, Columbia College, SEAS, GS, and SIPA), found that 60 percent favored “a return of ROTC to Columbia’s campuses.” A majority in all of these schools except Barnard shared this opinion. The participation rate for the 11,629 students surveyed was 19 percent.

The report confined itself to neutral descriptions of the contentious issues involving ROTC and avoided major recommendations. The Task Force concluded that current relationships with the military “enrich the Columbia community”; that Columbia should “support the endeavors of individual students to participate in ROTC programs, whether on or off campus”; that if ROTC were to return, Columbia faculties must retain full control of questions of academic credit and faculty appointments; and that the University’s nondiscrimination policy is “deeply important to Columbia’s identity.”

Montás did not explicitly go beyond these mild recommendations in his remarks, but he did cite three strong reasons for reconsidering ROTC: the student survey favoring its return, the repeal of Don’t Ask, Don’t Tell and the firm academic rules that ROTC follows at peer institutions. “Whether or not this process leads to an ROTC program at Columbia, we, the Senate, should initiate action on this issue without delay,” he said.

President Bollinger offered his own take on the course of ROTC deliberations. “I think this is an issue that has significantly stirred the interest of the community, and it is important for the community to have a sustained, serious, factually based discussion about it,” he said. “The Senate is the place, the body, to institute that discussion. I do think there are other bodies that ought to be brought into this conversation, particularly the Council of Deans. Out of this should hopefully be a sense of what the community feels about this. And then the University—the administration—should take this and find ways to achieve this.”

The University Statutes say in Chapter 2 (“The University Senate”), Section 25, that acts of the Senate become final on passage, subject to trustee concurrence.

Substantive issues emerged in a truncated ensuing discussion, including the incompatibility of Columbia’s principles of academic autonomy with key provisions of current laws governing ROTC programs. Those place control of the ROTC curriculum at each institution in the hands of the relevant service branch and require a professorial title for the military officer in charge of each campus ROTC program.

ROTC will be on the Senate agenda for discussion and a possible vote on April 1. Anyone with a CUID is welcome.

Tom Matheuson is manager of the University Senate. His column is editorially independent of The Record. For more information about the Senate, go to www.columbia.edu/cu/senate.

COLUMBIA PEOPLE

Ruth Kreshka



ELEEN BARROS

WHO SHE IS: Director of Production, School of the Arts Theatre Program

YEARS AT COLUMBIA: 12

WHAT SHE DOES: Kreshka is the producer for acting, directing and playwriting students as they mount their thesis productions. She advises them on budgets and scheduling, helps them secure theatrical rights and venues, and mentors them through rehearsals. Initially hired as production manager of the Theatre Arts Program, Kreshka became its director in 2003 after helping launch the Stage Management Program, a concentration within the M.F.A. in theatre arts. This semester, Kreshka is juggling thesis productions by five student directors and nine playwrights.

ROAD TO COLUMBIA: A California native, Kreshka graduated from the University of California, Berkeley in 1973 with a bachelor’s degree in wildlife ecology and a minor in theater. After college, she settled in New York City in 1976 to work in the theater, becoming production stage manager for Manhattan Theatre Club and Joseph Papp’s Public Theater. Her Broadway productions include *Cuba and His Teddy Bear* with Robert DeNiro in 1986 and

Tru, the 1989 one-person show which won Robert Morse a Tony. In all, Kreshka worked on some 40 productions. In 1998, she applied for the job of School of the Arts’ production manager. That summer, she officially made the switch from working in the field to training future artists.

BEST PART OF THE JOB: “Seeing the emergence of the next generation of theater artists and knowing that the future of American theater is in wonderful hands.”

MEMORABLE COLUMBIA MOMENT: Reconnecting with theater arts alumni. “It is truly thrilling to meet up with alums and hear about their successes and feel their enthusiasm for the profession.”

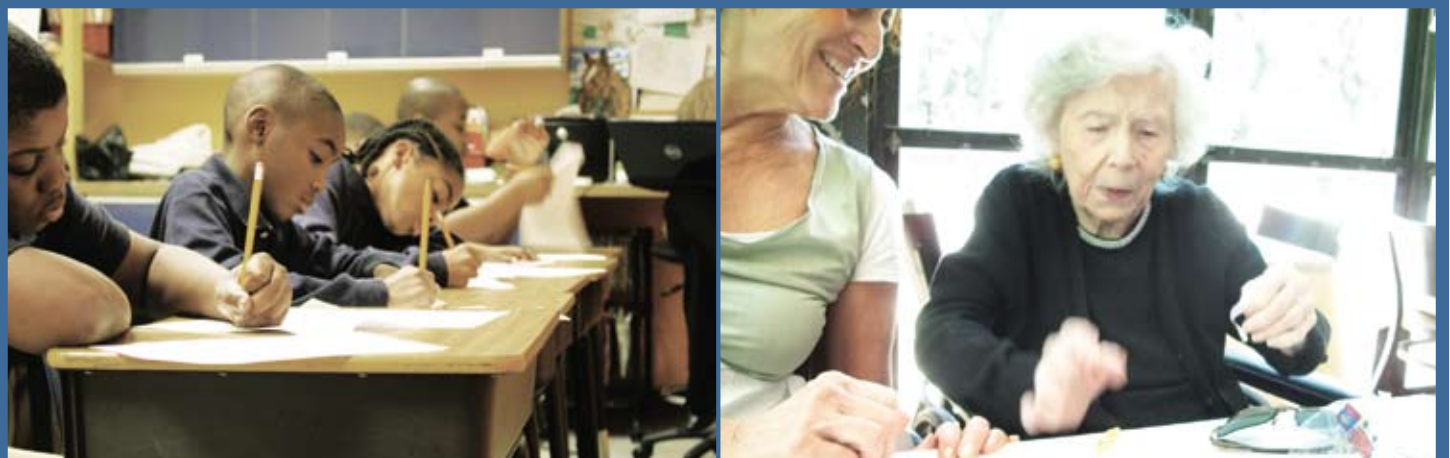
IN HER SPARE TIME: As a veteran of the theater, Kreshka is used to working nights and weekends. When she has some down time, she likes to “nurture my love of reading, quilting and knitting.” She lives in Manhattan with her husband, actor Dan Moran, with whom she has raised two children: Ella, 26, a student at Bank Street College, and Miles, 23, a musician.

—By Melanie A. Farmer



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FACULTY Q&A

BRIAN GREENE

POSITION:

Professor of Mathematics and Physics

JOINED FACULTY:

1996

HISTORY:

Assistant Professor, Cornell University, 1990–1995

Professor, Cornell University, 1995–1996

Co-director of Columbia’s Institute for Strings, Cosmology, and Astroparticle Physics, 2000 to present

Co-founder and board member, World Science Festival, 2007 to present

By Bridget O’Brian



LARK ELLIOT

You might think it’s hard to have a conversation with theoretical physicist Brian Greene. His research specialty is superstring theory, the hypothesis that everything in the universe is made up of minuscule, vibrating strands of energy. Luckily for an interviewer, Greene has a knack for explaining difficult concepts to non-scientists.

His first book, the best-selling *The Elegant Universe*, which explains the quest to unify all the laws of nature, was a finalist for the Pulitzer Prize and led to an award-winning PBS series. He is a co-founder of the World Science Festival, an annual event in June whose aim is to make “the esoteric understandable and the familiar fascinating,” which pretty much sums up Greene’s *modus operandi*.

“Science is a living, breathing, exciting, evolving subject,” he says. “A large part of my motivation in reaching out to a general audience is to show people that science is not this finished subject where all of the results are in these thick textbooks that you lug around when you’re taking a science course.”

Greene, 48, grew up on the Upper West Side and spent many a rainy day at the Hayden Planetarium, when it was a dark and musty place and not the shiny glass cube it is today. “That definitely played a part in my excitement for these ideas.” But it was the pure beauty of mathematics that really grabbed him.

“As a kid I was playing with numbers all the time,” he says. “And when I learned that those numbers could be more than a game, those numbers could actually describe stuff that was out there in the real world, that’s when I was hooked for good.”

His latest book, *The Hidden Reality*, explores another mystery: whether there are other universes beyond ours.

Q. *Your new book talks about the concept of a multiverse. Can you explain what that means?*

A. When we hear the word “universe,” we think that means everything: every star, every galaxy, everything that exists. But in physics, we’ve come upon the possibility that what we’ve long thought to be everything may actually only be a small part of something that is much, much bigger. The word “multiverse” refers to that bigger expanse, the new totality of reality, and our universe would be just a piece of that larger whole.

Q. *So what kinds of other worlds might there be?*

A. Scientists have many proposals. In some, the other universes have the same laws of physics and the same particles making up matter. So except perhaps for some environmental differences, pretty much what we see here is what happens there. In some multiverse proposals, the other universes could be radically different from what we know, the particles could be different, the laws of physics could appear different. And in others—ones that frankly don’t compel me—even the kinds of mathematics that govern the physics in those realms might be different from the math that we are familiar with.

Q. *Do you think that one of the multiverse theories will be proven in your lifetime?*

A. You never know when that big breakthrough is going to happen. I could come to work tomorrow, go to the website that posts all of the physics papers that people completed in the previous day, and there could be the paper that shows how to test string theory, or how to test some of these multiverse proposals. Could it be tomorrow? Could it be 10 years from now, or a hundred years? That’s part of what the excitement is.

Q. *Do you have a favorite among the theories?*

A. All of the ideas are compelling and come from a sober assessment of certain mathematical developments. Which do I think has a chance of being experimentally verified in the next few decades or within our lifetime? I would suggest the brane multiverse, in which our universe is envisioned to reside on a giant membrane, an ingredient that comes out of string theory. It’s actually a three-dimensional membrane, but thinking in two-dimensional terms is easier. Think of our universe as if it were a huge slice of bread, with all the stars and all the galaxies sprinkled across its surface. The math of string theory suggests this picture, along with the possibility that there are other universes, other slices of bread, all constituting a big cosmic loaf. This is an idea that might be testable at the Large Hadron Collider, the big accelerator in Geneva, where protons are slammed against each other at fantastically high velocity. Calculations show that some of the debris created in those collisions might be ejected off our universe, off our slice of bread, and if so, that debris would carry away some energy. Scientists will look for these missing energy signatures for evidence that we live on one of these membranes and that there are other membranes out there.

Q. *How does string theory research tie in with Einstein’s search for a unified theory?*

A. Einstein’s goal was to find what he called a unified theory of physics. By that he meant a theory that might embrace all the known laws of physics and describe them within a single mathematical framework. He didn’t find the unified theory, and since his day we’ve recognized that in some ways the problem is even more difficult than he envisioned. He was really only aware of the force of gravity and the electromagnetic force. We now know about the strong nuclear force and the weak nuclear force, operating inside of atoms according to the rules of quantum mechanics. We believe string theory may be the unified theory that Einstein was looking for. It unites quantum mechanics and gravity, and has the capacity to embrace the strong nuclear force, the weak nuclear force, the electromagnetic force, all the particles of matter in one coherent mathematical structure.

Q. *What would you say is the biggest misconception people have about physics?*

A. One significant difficulty people have is in understanding how mathematics gives rise to these strange ideas. You need to realize that when we physicists look out in the universe, we see patterns, we see repetitive phenomena, and math is the language of pattern. When you teach little kids to count by twos, and they can keep on going, they see the pattern. Just as the little kid can say, “Oh, after 10, it’s 12,” we can look at our mathematics and say, “Look, after that universe, there’s another.” We can see it in the pattern encapsulated in the mathematics.

Q. *Can you provide examples of how string theory could be tested?*

A. The full name of string theory is superstring theory. The “super” refers to something known as supersymmetry, a kind of mathematical pattern which implies there should be a whole class of particles, called supersymmetric particles, that we have not yet seen. The Large Hadron Collider may have enough energy in its collisions to conjure up those particles. If they’re found, will it prove string theory?

No, but it will be a strong piece of circumstantial evidence. Another way of testing string theory could be seeing if the collisions produce microscopic black holes. When people first heard about this possibility back in 2008, it generated some degree of public anxiety—the thought being that these black holes might swallow Geneva and then engulf the world—which is not a real worry at all. But string theory does suggest that in these collisions, little black holes might be formed. If they are, again you have a piece of circumstantial evidence. The missing energy experiments I mentioned before are also worth adding to the list—these experiments could test for the existence of extra dimensions and string theory’s brane model of our universe.

Q. *Are these theories applicable in the real world? If true, could they affect everyday life in some meaningful way?*

A. What if I were to ask you, What is the concrete application of Beethoven’s Fifth Symphony? Or the *Mona Lisa*? Or the works of James Joyce? It’s a little hard to find concrete applications. But do they enrich life, are they part of what makes us excited to get up in the morning? Yes. I think these ideas in physics can paint a large view of reality that allows us to place our piece of it in a much grander context. And that’s deeply enriching. Let me also note this: If, 80 years ago, you had asked Niels Bohr, “Niels, this quantum mechanics stuff that you guys are going on about, what’s it good for?” he probably would have said, “Well, it’s not really going to change everyday life. We’re talking about atoms and subatomic particles.” But now we’ve harnessed the understanding of quantum mechanics, and because of that, you have a cell phone and a personal computer and your life may be saved by an MRI machine. Quantum physics gave rise to the integrated circuit, and the integrated circuit is in all of these devices, which is just to say that you don’t know where basic research is going to lead. It may take 80 years, as with quantum mechanics; it may take 500 years; but when you deeply understand something, you can begin to manipulate the environment in ways that can revolutionize everyday life.

Q. *How do you feel about the general attitude toward science?*

A. In the broader public, there is significant resistance to engaging with science. This is largely due to the way that many have encountered science in the classroom, where there’s a tendency to focus on details without an equal focus on the big, wondrous scientific ideas—the very ideas that can inspire passionate interest in learning those details. We need to embark on a radical cultural shift in which science takes its rightful place alongside music, art, theater and literature as an absolutely indispensable part of a full life. We need to make clear that science is not something that you can willfully ignore. All of the major decisions going forward, from stem cells to nuclear proliferation to nanotechnology to genetically modified food to alternative energy sources to climate change, have a scientific component. How can you be part of a democracy if you can’t participate in the discussion about these ideas?

COLUMBIANews ON THE WEB

To see video of Brian Greene, go to news.columbia.edu/briangreene



EILEEN BARROSO

Journalism luminaries attended the 30th anniversary of the Committee to Protect Journalists, which held a series of panels on the group's work. In the audience at the March 4th panel were, from left, Dan Rather, former CBS anchor and host of Dan Rather Reports on HDNet; former *Wall Street Journal* managing editor Paul Steiger, the committee's chair and editor-in-chief of *ProPublica*, a nonprofit investigative news organization; and Matthew Winkler, editor-in-chief of Bloomberg News.



EILEEN BARROSO

Michelle Bachelet, former Chilean president and the recently inaugurated executive director of U.N. Women, commemorated International Women's Day with SIPA Professor Elisabeth Lindenmayer, director of the U.N. Studies program on March 2nd. Lindenmayer and Bachelet engaged in a conversation about Bachelet's vision of UN Women's programs, policies and initiatives followed by a question-and-answer period with faculty and students.



EILEEN BARROSO

Five Columbia College alumni were honored for distinguished professional achievement on March 2 at the annual John Jay Awards Dinner. This year's crop of awardees, pictured here with Columbia President Lee C. Bollinger (far left), are from left to right: Andrew F. Barth '83, chair of Capital Guardian Trust Company and Capital International Limited; Kenneth Ofori-Atta '84, executive chairman and co-founder of Databank Financial Services and the first African-born recipient of the John Jay Award; Elizabeth D. Rubin '87, an award-winning journalist who has served as a war correspondent for more than 15 years, reporting from the front lines in the Balkans, Iraq and Afghanistan; Alexander Navab '87, a partner and co-head of North American Private Equity for Kohlberg Kravis Roberts & Co.; and Michael Oren '77, Israel's ambassador to the United States since 2009. The annual dinner benefits the John Jay Scholars Program, enhances the academic and extracurricular experiences for outstanding first-year College students.



EILEEN BARROSO

Columbia's Public Safety department honors Fire Safety Officer Robert Jackson (holding plaque) with the Ricardo Morales Crime Prevention Award for his outstanding commitment to maintaining a safe campus. Jackson was one of several Columbia employees honored at the Feb. 23 Promotion, Awards and Recognition Ceremony in Low Library. The ceremony also recognized employees for not missing a day of work in five to 10 years of service. Pictured above from left to right: James McShane, vice president for public safety; Delano Steele, captain; Ricardo Morales, crime prevention manager; Jackson; and Daniel Ayala, lieutenant and past recipient of the crime prevention award.

Amber Miller

continued from page 1

in charge of Columbia's part of the E and B Experiment (EBEX), a 6,000-pound balloon-borne telescope that will be launched into the stratosphere over Antarctica to record traces of the big bang. "It'll take baby pictures of the universe—an imprint potentially of what the universe was like when it was much less than one second old."

Two years ago Miller's team took EBEX to New Mexico for an engineering test flight; it's now back at Nevis Laboratories, Columbia's facility in Westchester for experimental physics research, where she and her five-person team are preparing to integrate the components built at Columbia with those from collaborating institutions, including the University of Minnesota, to ensure that all is in working order before the trip to Antarctica.

Miller has two other related projects: QUIET (the Q U Imaging Experiment), a telescope in northern Chile, and the Sunyaev-Zel'dovich Array, telescopes based in Owens Valley, Calif.

Miller graduated from the University of California, Berkeley with a B.A. in physics and astronomy and received her Ph.D. from Princeton in 2000. She was a Hubble Fellow at the University of Chicago before arriving at Columbia. She has received a National Science Foundation Career Award, an Alfred P. Sloan Fellowship and the Columbia Distinguished Faculty Award.

On the administrative side, she has served on the University's Faculty Budget Group, the Space Planning Committee and the Academic Review Committee; and as chair of the Executive Committee of the Faculty of Arts and Sciences, which helped prepare her for her new role.

"Miller was absolutely critical in formatting the new faculty governance plan and really making it work," said Dirks of her work with the executive committee. "She quickly established herself as somebody who clearly had extraordinary scientific knowledge and imagination as well as the political savvy and skill that allowed us to figure out how to set up a new governance structure in a single year."



WHAT ARE YOU LOOKING AT?

Hint: Walking up these shallow steps, you will soon find yourself in a section of campus where the profound careers of many government officials and diplomats have been born. Where are they? Send answers to curecord@columbia.edu. The first person to email the right answer wins a *Record* mug.

ANSWER TO LAST CHALLENGE: The fountain, donated to Columbia by George T. Delacorte Jr., is located between Hamilton Hall and Hartley Hall on the Morningside campus. WINNER: Alex Sachare (CC'71)

Watson

continued from page 1

didates of the possible illness. We don't care what is No. 1 and No. 2 and No. 3, because although in medicine we certainly pay attention to the likelihood of something, we have to keep in mind the least likely possibilities as well."

Chase believes Watson's greatest potential is in the area of personalized medicine. Since two patients with the same diagnosis won't respond identically to the same treatment, every patient's care needs to be, in effect, custom-designed. With its ability to process vast amount of data, Watson might be able to suggest tailor-made treatment options by factoring in a patient's medical history.

But Watson is unlikely to replace a doctor anytime soon. "The computer is never going to be able to read the signals that the patient is emoting, like 'I don't really want to do that' or 'I'm a little afraid of that,'" Chase says. Watson still has to go through a series of tests to assess how comfortable patients are with seeing their doctor speak to a computer during an exam. It's possible that Watson will play a largely behind-the-scenes role, receiving dictation and answering the doctor's questions about diagnoses and treatment options after the patient has left.

Chase, a kidney specialist, joined the Columbia medical faculty in 1978 as a laboratory scientist. In the 1990s he helped redesign the basic science course for first-year medical students at P&S. In 2000, he left Columbia to become the dean of medical education at Yale, only to return in 2006 with an idea for a study on prescription efficacy that would require more training. He entered Columbia's masters program in biomedical informatics, taking introductory computer science courses with 18-year-old first-year students.

"You remember when you were in college, there was always some old guy sitting in the front row?" he says. "I was that guy!"

He went on to create a machine that could read electronic patient records and identify patients with undiagnosed chronic kidney disease. Now he is a professor in the biomedical informatics department.

Chase thinks a generation of computers based on Watson has the potential to fundamentally change the nature of the doctor-patient relationship, actually bringing patients closer to their caretakers. "I have this vision that Watson will free us to do what we do best," he says, "which is to communicate with the patient."

COLUMBIANEWS ON THE WEB

To see video of Amber Miller's research, go to news.columbia.edu/ambermiller