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BENCHMARKS

THE COMMUNITY NEWSLETTER OF THE ROCKEFELLER UNIVERSITY

FRIDAY, JUNE 13, 2014

ANNOUNCEMENTS

University ranks first in impact study. An international ranking of 750 universities, conducted by the Center for Science and Technology Studies of Leiden University in the Netherlands, finds that Rockefeller has the highest percentage of frequently cited science publications worldwide, ahead of MIT, Harvard, UC Berkeley, Stanford, Caltech and Princeton, among others. The data, based on publications indexed by Thomson Reuters between 2009 and 2012, revealed that 29.1 percent of the university's publications were among the top ten percent most frequently cited.

River building is approved by NY City Council. The university's proposal to build a 160,000 square foot laboratory building over the FDR Drive was formally approved by the city on May 14. The project, which has been in development for over two years and under city review since last fall, was passed unanimously. The approval paves the way for construction to begin in the second half of 2015.

Outdoor film series premieres. This summer, catch a movie on Peggy Rockefeller Plaza. The film series, presented by Human Resources, will feature *The Intouchables* on June 19 at 8:30 p.m., *The Grand Budapest Hotel* on July 17 at 8:30, and *Frozen* on August 21 at 7:45. Attendees are encouraged to bring lawn chairs and blankets. There will be free popcorn, and ice cream, candy and non-alcoholic beverages will be sold.

Take advantage of new Rockefeller perks. The list of employee perks now includes: discounted member rates at The Cliffs, a climbing gym in Long Island City; reduced entrance fees at Body World at Discovery Times Square; discounts at Slick Rock, a vacation getaway in the White Oak Mountains of North Carolina; discounted rent at 17 Manhattan Mini Storage locations; and a 20 percent discount on airport parking at The Parking Spot. See inside.rockefeller.edu/hr/perks for details.

Announcements for this page may be submitted to zveilleux@rockefeller.edu.

BENCHMARKS

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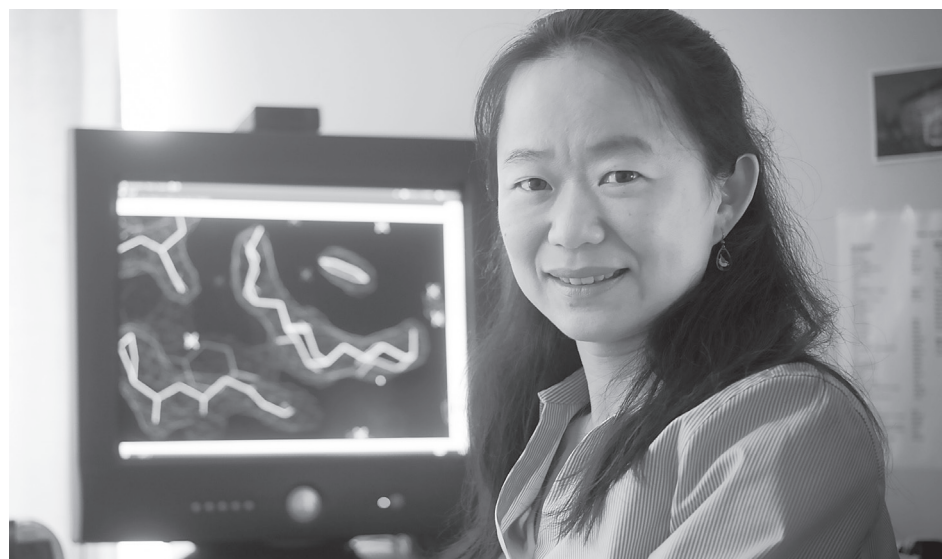
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FACULTY RECRUITMENT

Structural biologist, focused on cell transport machinery, to join faculty

by WYNNE PARRY



Jue Chen, a structural biologist whose research focuses on transporter proteins that act as the cell's pumping machinery, will join Rockefeller as professor and head of laboratory in July. Dr. Chen, currently a tenured professor of biology at Purdue University in Indiana, is especially interested in the role of transporter proteins in health and disease.

Dr. Chen and a second new faculty member, Joseph Gleeson, are the first mid-career faculty members to be recruited to the university since Jean-Laurent Casanova moved his lab to Rockefeller in 2008. (Dr.

Gleeson, from the University of California, San Diego, is a geneticist interested in childhood brain diseases; he will be profiled in the next issue of *BenchMarks*.)

Transporter proteins, located in the cell's membrane, are responsible for hauling some molecules, such as nutrients, into the cell, and pushing others, such as toxins, out. To accomplish this, cells must sometimes work against a concentration gradient, pumping molecules from an area of lower concentration to one of a higher concentration. Like rolling a ball uphill, this process

[continued on page 2](#)

CAMPUS NEWS

Drug discovery fund begins making grants

by LESLIE CHURCH

A new \$25 million initiative, created earlier this academic year to help develop basic research discoveries into new medical therapies, has had a promising launch, with \$1.55 million in awards granted to Rockefeller scientists in its initial phase.

The first awards are for proof-of-concept projects aimed at identifying and validating potential therapeutic targets. They include pilot funding for 12 early stage projects, two novel diagnostics, one vaccine and one stem cell therapy approach. Funding was also provided to four more advanced projects: one for development of a vaccine and three for novel cancer therapeutics. In total, 20 proposals submitted by researchers in 17 Rockefeller labs received funding.

The grants are from the Robertson Therapeutic Development Fund, established at Rockefeller by noted investment manager Julian Robertson and his family through the Robertson Foundation. Mr. Robertson, chairman and chief executive officer of Tiger Management, has been a member of the university's Board of Trustees since 2001.

A second round of review is now underway to consider larger clinical development grants, which will fund drug design, toxicology testing and, in some cases, phase I clinical trials. The open call period for early clinical development proposals ended in early May, and decisions will be announced this month.

"The Robertson Fund is unique in that it provides the necessary resources to enable Rockefeller researchers to pursue important studies that are rarely, if ever, supported by conventional funding mechanisms," says Bruce Conway, the fund's program director.

The fund is an important complement to the Tri-Institutional Therapeutics Discovery Institute (TDI), a joint venture with Memorial Sloan Kettering Cancer Center and Weill Cornell Medical College designed to link academic researchers with partners in the pharmaceutical sector (see "Tri-I drug discovery institute soon to announce first projects," page 2).

The fund supports projects in the early and late stages of the drug development process that are not covered by TDI, as well as biological products that are not part of TDI's current mission. In this way, the fund will help to bridge critical gaps in drug discovery, ensuring that a range of promising findings made in the university's labs have the best chance of becoming new medicines.

"Julian Robertson's extraordinary gift is already enabling nearly two dozen innovative projects to take an important step forward," says Marc Tessier-Lavigne, the university's president. "The funds make it possible for our scientists to test whether their advances are candidates to become new medicines, and Bruce Conway's guidance is helping to ensure that the resources are used efficiently to support projects that have the greatest potential to benefit patients."

Inaugural 'Science Saturday' draws families



Watch and learn. An attendee of Rockefeller's Science Saturday event, held in May, looks on as A. James Hudspeth, F.M. Kirby Professor and head of the Laboratory of Sensory Neuroscience, demonstrates how nerve cells send electrical signals. Jointly hosted by the Development Office's Parents & Science initiative and the Science Outreach program, headed by Jeanne Garbarino, the day-long event was open to children ages 6 to 18 and their parents, grandparents and teachers. The festivities included more than 20 learning stations, scattered throughout the CRC, which were conceptualized and staffed by nearly 70 Rockefeller lab heads, postdocs and students, as well as former Summer Science Research Program participants.

Attendees were invited to observe scientific demonstrations — a cow's eye dissection and a microscope for exploring the skin, for example — and roll up their sleeves to take part in experiments and activities themselves, such as watching photosynthesis in action, building brain cells out of candy to learn how neurons communicate and extracting DNA from bananas. Staff members led tours of the bio-imaging center and the precision fabrication facility, and Daniel Kronauer, head of the Laboratory of Insect Social Evolution, gave the visitors an inside look at the world of ants and insect societies. In all, 740 guests attended, about half of whom were children.

"Parents & Science has introduced nearly 3,000 new friends to Rockefeller since it was created in 2007," says Marc Tessier-Lavigne, the university's president. "Science Outreach has developed relationships with countless schools in the New York area. As we continue to enhance our efforts to promote scientific literacy, Science Saturday will become a key program for igniting a lifelong interest in science in the youngest generation."

Tri-I drug discovery institute soon to announce first projects

by LESLIE CHURCH

The Tri-Institutional Therapeutics Discovery Institute (Tri-I TDI), an initiative with Memorial Sloan Kettering Cancer Center and Weill Cornell Medical College begun last fall to help expedite early-stage drug discovery, will announce this month the first projects it has selected for funding. Six proposals will be funded from among 48 letters of interest submitted by researchers at the three institutions.

The independent, nonprofit institute represents a novel partnership of academic institutions working to turn discoveries made in basic science labs into therapeutics. With its own scientific advisory board and board of directors, the institute's focus is on the early stages of developing compounds that make possible all-important "proof of concept" studies — those that increase the likelihood that targeting a specific biologic pathway can favorably alter the course of a disease.

Tri-I TDI's collaboration with pharmaceutical and biotechnology companies will benefit drug discovery work at all three institutions; the first such collaboration, with Takeda, a global research-based pharmaceutical company headquartered in Japan, leverages the expertise of Takeda's medicinal chemists and pharmacologists to enhance drug discovery and translational work as

well as educational opportunities.

Founded with a \$15 million gift by Lewis and Ali Sanders, the institute conducts its medicinal chemistry activities on the top floor of the new, state-of-the-art Belfer Research Building at Weill Cornell, which opened in January. A \$5 million gift from the Howard and Abby Milstein Foundation helped enable the creation of the medicinal chemistry facilities.

Projects will likely reflect the diverse interests of the member institutions' faculty, from addressing the developing world's most deadly diseases — tuberculosis and malaria among them — to Alzheimer's, cancer, HIV, heart disease and obesity, to neglected or "orphan" diseases that afflict small numbers of people. Each scientist's home institution will retain its intellectual property.

"The board of directors selects research projects based on the creativity of their ideas and the potential they show for developing therapies," says Michael Foley, the Sanders Director of Tri-I TDI, who was hired in December. "We've received a number of impressive proposals and are excited to get the funding process underway."

Tri-I TDI plans to focus initially on projects that involve small chemical molecules. Candidate drugs may be licensed out to complete the later steps of drug



Discovery center. The Tri-I Therapeutics Discovery Institute's medicinal chemistry activities are housed on the top floor of Weill Cornell Medical College's new state-of-the-art Belfer Research Building.

development, such as manufacturing and the conduct of clinical trials, or trials may be run at the three institutions' clinical and translational science centers and clinical trial offices.

"This institute will greatly enhance the ability of basic science labs at the three institutions to translate their discoveries into new medicines," says Marc Tessier-

Lavigne, the university's president. "This exciting collaboration will also serve as a link between institutional researchers and industry experts in medicinal chemistry, compound screening and drug development. It's a partnership that will help lower barriers in the drug discovery process and ultimately lead to new therapies for some of our most difficult and deadly diseases."

IT amps up bandwidth, eases genomic data transfers

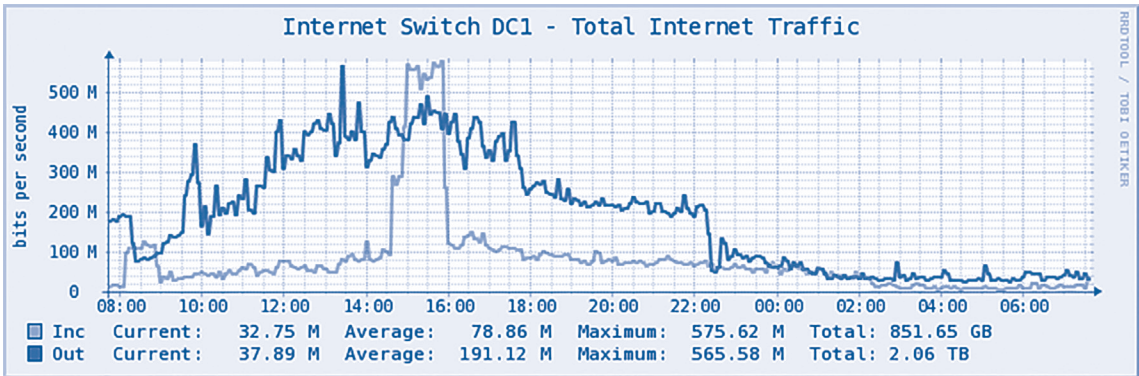
by LESLIE CHURCH

For labs on campus that sequence genomes — and share those large data sets with other institutions — a recent quadrupling in internet bandwidth means an end to the practice of slowing down uploads or scheduling them during overnight hours. In April the university upgraded its internet connection to two gigabits per second for both incoming and outgoing traffic. The new higher speed is approximately 130 times faster than a typical residential broadband connection.

"In recent months we began seeing these big transfers going on during the day, and they had the potential to slow down connections for the rest of campus," says Jerry Latter, associate vice president of IT and the university's chief information officer. "We had to start asking labs if they could perform large data transfers on nights and weekends, or throttle their transfer speeds. We weren't completely maxing out our bandwidth, but it was close enough that we were getting nervous about it."

For large customers like universities, internet service providers sell connections in a wide range of bandwidths. In recent years the university's connection was capable of transferring 300 megabits per second, meaning one user could upload or download 300 megabits — equivalent to

30,000 pages of plain text — every second, or 300 users could each transfer one megabit per second. Although fine for general internet usage such as browsing the web or streaming video, this level of service could not easily accommodate large data transfers.



One day's data. A graph of a typical day's internet traffic, as metered by IT's systems, shows the ebb of flow of data during business hours. A pronounced spike between 2 and 4 p.m. was likely a large set of data being retrieved.

IT, which keeps careful track of internet consumption, notes that usage typically peaks around lunchtime and tapers off after 5 p.m. But with technologies such as high throughput sequencing, which generate data files as large as two terabytes, IT started seeing sharp spikes whenever these files were retrieved or shared.

"The nature of the science is changing," says Mr. Latter. "There is more sharing of data between institutions and

more sequencing being done off-site at places like the New York Genome Center. The need to get large amounts of data on and off campus is greater."

Rockefeller's bandwidth has come a long way since the dial-up era of the 1980s, when the university's T1 connection offering 1.5 megabits per second was considered cutting-edge. In 2002, average usage was just under 10 megabits per second.

Looking forward, the university is poised to continue to expand bandwidth as needed, thanks to its membership in a network-sharing consortium of academic institutions in the state and city. The New York State Education and Research Network (NYSERNet) is a private nonprofit that was founded in 1985 as a way for New York's academic institutions to tap into a high-speed network.

NYSERNet maintains a city-wide network of "dark" fiber that links its institutional members and connects them to a communications hub in downtown Manhattan.

"Dark fiber means that it's only being used by these institutions, which have the option to turn it on when they need it," says Mr. Latter. "We pay for the dark fiber at a fixed price from NYSERNet, so we're able to increase bandwidth as our needs change, at a minimal cost."

Jue Chen (continued from page 1)

requires energy. Transporter proteins consume chemical energy to do this job.

Dr. Chen studies the structure, biochemistry and function of transporter proteins that power themselves with ATP, a molecule often described as the cell's energy currency. For this reason, these proteins are known as ATP-binding cassette (or ABC) transporters. Scientists have identified about 2,000 members of this widely studied family of proteins. Dr. Chen has mapped in detail how the parts of a particular ABC transporter protein, the maltose transporter, work together to transport sugar into the bacterium *E. coli*. She made what is perhaps her most important contribution so far by revealing the complete cycle of the maltose transporter protein, which scientists use as a model to study other members of the ABC family.

The maltose transporter works by

bringing a sugar, known as maltose, into bacterial cells and converting it into ATP, which in turn powers the transporter. Using a technique known as X-ray crystallography, Dr. Chen and her colleagues explored the protein's structure down to the atomic level and devised a way to capture the transporter in mid-action.

"Jue's research has thrown light onto the operation of ubiquitous cellular machines that transport key molecules into and out of cells, and her ongoing work will have many important implications for human health," says Rockefeller president Marc Tessier-Lavigne. "It is my pleasure to welcome her to the Rockefeller community, where she will join a strong group of structural biologists working to solve some of the toughest problems in biology."

Moving forward, Dr. Chen wants to apply the lessons from the maltose

transporter to human disease and immune response. The human body contains 48 different ABC transporters that participate in all kinds of important cellular processes. About a dozen have been linked to various diseases, including cystic fibrosis.

One such protein, for instance, plays a protective role in the blood-brain barrier that protects the central nervous system. This transporter, p-glycoprotein, turns harmful in cancerous cells. "It has turned out that p-glycoprotein actually pumps the drugs out of the cancer cell before they reach their targets inside the cell," Dr. Chen says.

She is also tackling new questions related to transporter proteins. "The move to Rockefeller appeals to me because I know it will give me the opportunity to establish collaborations with colleagues, particularly in immunology and biophysics," she says.

Chen was born in Changsha in China's

Hunan province. After three years at Tongji University in Shanghai, she transferred to Ohio University in Athens, where her uncle was a math professor. She did her doctoral work at Harvard University with Don C. Wiley, a prominent structural biologist. She went on to Baylor College of Medicine for her postdoc, and then to Purdue.

Dr. Chen will bring a handful of students and postdocs from Purdue with her to Rockefeller. Her lab will be located in the Rockefeller Research Building, where a new cluster of structural biology labs will be grouped.

"As a scientist, you are trying to solve a puzzle, and to go after nature's secrets with the hope that your work can benefit humanity in the end. To me, it is about going after something so beautiful," Chen says. "I cannot believe I am paid to do what I want to do anyway."

Surgeon and writer Atul Gawande awarded Lewis Thomas Prize

by LESLIE CHURCH

Among the limits of modern medicine is the element of human error. Atul Gawande, surgeon, professor, writer and public health researcher, reminds us that doctors make mistakes. But as an advocate for reducing error and increasing efficiency in health care, he also wants to help the profession make fewer of them.

Dr. Gawande, who practices general and endocrine surgery at Brigham and Women’s Hospital, was honored with the 2014 Lewis Thomas Prize for Writing about Science at a ceremony in Rockefeller’s Caspary Auditorium in March.

“Through his books, Dr. Gawande achieves the ideal of the Lewis Thomas Prize, which is to write about science in a way that inspires others to think about it from a new perspective,” said Mike Young, vice president for academic affairs and head of the Laboratory of Genetics, who spoke at the award ceremony. “Dr. Gawande is not only changing the way we think about best practices in medicine, but also about the U.S. healthcare system.”

The Lewis Thomas Prize was established in 1993 by the university’s Board of Trustees and honors “the rare individual who bridges the worlds of science and the humanities — whose voice and vision can

tell us about science’s aesthetic and philosophical dimensions, providing not merely new information but cause for reflection, even revelation.” It was named after its first recipient, writer, educator and physician-scientist Lewis Thomas. Past recipients of the award include Oliver Sacks, Jared Diamond and E.O. Wilson. Last year’s prize honored research physiologist Frances Ashcroft, who wrote *The Spark of Life*, in which she explains electricity in the body through experiences the reader can relate to.

Dr. Gawande’s books have all been *New York Times* bestsellers. *Complications*, a collection of stories about his experiences as a surgical resident, was a finalist for the National Book Award in 2002. In it, Dr. Gawande, who is also a professor of surgery at Harvard Medical School and a professor in the department of health policy and management at the Harvard School of Public Health, uses a disarming style to detail the sometimes

alarming accounts of medical mishaps and miracles.

Better, which was selected as one of the 10 best books of 2007 by Amazon.com,



PHOTO: SCOTT RUDD

Bestselling surgeon. Gawande (left), whose books explore ways to improve patient outcomes, received the Lewis Thomas Prize, presented by Vice President for Academic Affairs Mike Young, at a ceremony in Caspary Auditorium in March.

and *The Checklist Manifesto*, published in 2009, are explorations of ways to improve patient outcomes, including how a simple checklist in the operating room can have

profound effects on health.

After earning his B.S. from Stanford University, Dr. Gawande received a master’s degree in philosophy, politics and economics from Balliol College at Oxford University, where he was Rhodes Scholar. He earned his M.D. from Harvard Medical School and his M.P.H. from the Harvard School of Public Health.

Dr. Gawande was a senior adviser in the Department of Health and Human Services in the Clinton administration. He is executive director of Ariadne Labs, a joint venture of Brigham and Women’s Hospital and Harvard School of Public Health, and is cofounder and chairman of Lifebox, an international not-for-profit. He has received two National Magazine Awards, an Academy Health’s Impact Award

and a MacArthur Fellowship, and he has been named one of the world’s hundred most influential thinkers by *Foreign Policy* and *TIME*.

MILESTONES (continued from page 4)

Michel Nussenzweig, a member of The Practitioners Society of New York, a distinguished organization of medical doctors that was founded in 1882. Dr. Nussenzweig, Zanvil A. Cohn and Ralph M. Steinman Professor, is head of the Laboratory of Molecular Immunology and a Howard Hughes Medical Institute investigator. He studies molecular aspects of adaptive and innate immune responses.

Published:

Jesse Ausubel, *La Liberazione dell’Ambiente* (*The Liberation of the Environment*), an autobiography published in April by the Italian publisher Di Renzo. It is part of a series of such books on people with interesting careers. The book spans Mr. Ausubel’s roots, childhood and education, as well as the major chapters of his career: climate change, industrial ecology, Census of Marine Life, DNA barcoding, Encyclopedia of Life and Deep Carbon Observatory. Mr. Ausubel is director of the Program for the Human Environment.

An interview with **Sebastian White** in *How We Found the Higgs Boson*, a book by Michael Krause published by Rich & Famous Publishing Berlin. Dr. White, a senior research associate in Mitchell Feigenbaum’s Laboratory of Mathematical Physics, describes his role as a project manager for the Zero Degree Calorimeter experiment in the framework of the ATLAS collaboration at CERN.

Featured:

Luciano Marraffini, in *Cell*’s “40 Under 40,” a collection of profiles recognizing accomplished young researchers shaping current and future trends in science. The profiles will be featured throughout 2014 in print and online issues, as well as on the web at cell.com/40/under40. Dr. Marraffini is head of the Laboratory of Bacteriology and investigates the exchange of genetic material among bacteria.

Hired:

John Aitchison, visiting professor, Rout Lab.
Natalie Alejandro, cage card compliance assistant, Comparative Bioscience Center.
Alexander Antipenko, research specialist, Casanova Lab.
Tobias Bartsch, postdoctoral associate, Hudspeth Lab.
Serkan Belkaya, postdoctoral associate, Casanova Lab.
Shawn Belton, animal attendant, Comparative Bioscience Center.
Sivan Ben Avraham Shulman, study coordinator, Nussenzweig Lab.
Tobias Bengtsson, visiting student, Collier Lab.

Amanda Bermudez, teacher, Child and Family Center.
Clementine Boccon-Gibod, foreign research intern, Casanova Lab.
Kathleen Bonifacio, postdoctoral associate, Krueger Lab.
Elia Bove, research associate, Ruta Lab.
Eleni Bratanis, foreign research intern, Fischetti Lab.
Jacinta Bustamante, member of the adjunct faculty, Casanova Lab.
Jorg Calis, postdoctoral fellow, Rosenberg Lab.
Julio Cesar Cetrulo Lorenzi, postdoctoral associate, Nussenzweig Lab.
Mei Ki Chan, grants management specialist, Sponsored Research and Program Development.
Aurelie Cobat, visiting fellow, Casanova Lab.
Bruce Conway, program director, Therapeutic Development Fund.
Marshall Crumiller, postdoctoral associate, Knight Lab.
Maxwell Dalmasi, receiving clerk, Purchasing.
Diane Darneau, foreign research intern, Casanova Lab.
Theresa Desmond, special assistant, Chief of Staff.
Brian Dill, research support specialist, Proteomics Resource Center.
Dorit Farfara, postdoctoral associate, Gleeson Lab.
Fabian Fechner, foreign research intern, Tuschl Lab.
Jun Funabiki, research associate, Nurse Lab.
Sandra Garcet, research associate, Krueger Lab.
Alan Gerber, postdoctoral fellow, Roeder Lab.
Beatrice Goilav, visiting assistant professor, Tuschl Lab.
Riva Gottesman, manager of health information systems, Hospital HIS.
Juan Grau, member of the adjunct faculty, Collier Lab.
Antoine Gruet, research specialist, Klinge Lab.
Beverley Guthrie-Turenne, lab helper, Media and Glassware Resource Center.
David Hoytema van Konijnenburg, visiting student, Mucida Lab.
Kuangfu Hsiao, postdoctoral associate, Heintz Lab.
Julien Hsieh, instructor in clinical investigation, Vossall Lab.
Richard Hutt, clinical research coordinator, Hospital Program Direction.
David Kaback, visiting professor, Rout Lab.
Joo Yong Kim, visiting student, Chua Lab.
Sandra Kurz, foreign research intern, Rice Lab.

Armin Lahiji, postdoctoral associate, Tarakhovsky Lab.
Diane Lane, visiting fellow, McEwen Lab.
Theo Lasseau, foreign research intern, Casanova Lab.
Melanie Laurin, postdoctoral associate, Fuchs Lab.
Juan Li, postdoctoral associate, Casanova Lab.
Juncheng Li, research assistant, Heintz Lab.
Thomas Liebmman, postdoctoral associate, Greengard Lab.
Sophia Lindkvist, visiting student, McEwen Lab.
Sylvia Lipford, animal technician, Heintz Lab.
Max Luedemann, foreign research intern, Tuschl Lab.
Maryem Manzoor, research assistant, Pfaff Lab.
Christian Mayer, postdoctoral associate, Nussenzweig Lab.
Jackie McHugh, manager, Faculty and Students Club.
Kiley McKinstrie, human resources generalist, Human Resources.
Lucian Medrihan, research associate, Greengard Lab.
Fabio Melo, visiting fellow, Allis Lab.
Aaron Mertz, postdoctoral associate, Fuchs Lab.
Eleftherios Michailidis, postdoctoral associate, Rice Lab.
Katrina Millard, clinical research nurse, Hospital Nursing Inpatient.
Rand Miller, postdoctoral associate, Kapoor Lab.
Assia Mouri, foreign research intern, Greengard Lab.
Awni Mousa, bioinformatics specialist, Heintz Lab.
Kian-Hong Ng, postdoctoral fellow, Chua Lab.
Shinji Noda, research associate, Krueger Lab.
Leonora Olivos Cisneros, research assistant, Kronauer Lab.
Francesca Ortenzio, visiting medical student, Krueger Lab.
Christopher Park, visiting fellow, R. Darnell Lab.
Michael Pearce, lab manager, Rice Lab.
Capucine Picard, member of the adjunct faculty, Casanova Lab.
Lauren Pietila, research assistant, Brivanlou Lab.
Anne Puel, member of the adjunct faculty, Casanova Lab.
Zorine Ramcharan, accountant, Finance Controllers Office.
Noe Ramirez Alejo, foreign research intern, Casanova Lab.

Alessandro Rosa, member of the adjunct faculty, Brivanlou Lab.
Anthony Sacchetti, payroll manager, Finance Controllers Office.
Ilaria Sani, postdoctoral associate, Freiwald Lab.
Kirsty Sawicka, postdoctoral associate, R. Darnell Lab.
Jessica Schneider, postdoctoral associate, Brady Lab.
Robert Schwartz, member of the adjunct faculty, Rice Lab.
Orli Sela, assistant, Nottebohm Lab.
Megan Sribour, research specialist, Fuchs Lab.
Alice Stanton, research assistant, Tessier-Lavigne Lab.
Sarah Stern, visiting fellow, Friedman Lab.
Shay Stern, postdoctoral fellow, Bargmann Lab.
Tomohisa Sujino, postdoctoral fellow, Mucida Lab.
Raissa Tanquedo, research assistant, Tavazoie Lab.
Emmanuelle Thinon, postdoctoral associate, Hang Lab.
Karen Tumaneng, postdoctoral associate, Fuchs Lab.
Hasan Vatandaslar, foreign research intern, Tuschl Lab.
Jimmy Weidmann, visiting student, McEwen Lab.
Jonathan Whicher, postdoctoral associate, MacKinnon Lab.
Xianfang Wu, postdoctoral associate, Rice Lab.
Xiao-Lun Wu, visiting professor, Libchaber Lab.
Meg Younger, postdoctoral associate, Vossall Lab.
Romy Zemel, visiting assistant professor, Rice Lab.
Susan Zolla-Pazner, member of the adjunct faculty, Nussenzweig Lab.

Promoted (academic appointments):

Judilyn Fuentes-Duculan, to senior research associate, Krueger Lab.
Florian Klein, to assistant professor of clinical investigation, Nussenzweig Lab.
Kunihiro Uryu, to research assistant professor, Office of Academic Affairs.
Kimihisa Yoshida, to senior research associate, Blobel Lab.

This publication lists new hires, awards and promotions. Staff promotions are listed yearly; academic promotions and appointments are listed monthly.

Awarded:

C. David Allis, the 2014 Japan Prize in Life Sciences from the Japan Prize Foundation, for his pioneering work in epigenetics and his discovery that chemical modifications of DNA-packaging proteins play a key role in regulating the activity of individual genes. The prize, worth approximately half a million dollars, is among the most prestigious international prizes in science. Dr. Allis is Joy and Jack Fishman Professor and head of the Laboratory of Chromatin Biology and Epigenetics.

Jesse Ausubel, the 2014 Paradigm Prize from the Breakthrough Institute, a California-based think tank focused on ecological issues. Mr. Ausubel, director of the Program for the Human Environment, was chosen for his research and writings on population, technology, energy, materials, agriculture and pollution — work that has implications for reducing humankind’s negative impacts on the nonhuman world.

Jean-Laurent Casanova, the Presidential Award from the Clinical Immunology Society. Dr. Casanova researches the genetic basis of pediatric infectious diseases and is head of the St. Giles Laboratory of Human Genetics of Infectious Diseases and a Howard Hughes Medical Institute investigator.

Jean-Laurent Casanova, the Norman J. Siegel New Member Outstanding Science Award, from the American Pediatric Society, for his discoveries of single-gene lesions in children that confer selective vulnerability to certain infectious illnesses.

Brian Chait and **Michael Rout**, an award from the Jain Foundation, which aims to find cures for muscular dystrophies caused by dysferlin protein deficiency. Dr. Chait, Camille and Henry Dreyfus Professor and head of the Laboratory of Mass Spectrometry and Gaseous Ion Chemistry, specializes in the development and use of mass spectrometry as a tool for investigating a variety of biological and biochemical phenomena. Dr. Rout, head of the Laboratory of Cellular and Structural Biology, uses biochemical, biophysical and structural approaches to characterize macromolecular assemblies, with an emphasis on the nuclear pore complex.

Barry Collier, the Karl Landsteiner Memorial Award and Lectureship, from the American Association of Blood Banks. The award honors Karl Landsteiner, a former Rockefeller professor whose research laid the foundation for modern blood transfusion therapy. Dr. Collier is recognized for his dedication to improving patient and donor care and safety within transfusion medicine and cellular therapy. He is physician in chief, David Rockefeller Professor and head of the Allen and Frances Adler Laboratory of Blood and Vascular Biology.

Titia de Lange, the Canada Gairdner International Award, given for significant discoveries in medical science. The Gairdner is Canada’s highest scientific award and is considered among the most prestigious international prizes in science. Dr. de Lange, who is Leon Hess Professor and head of the Laboratory of Cell Biology and Genetics, is one of six recipients of the award this year, and will receive approximately \$90,000.

Elaine Fuchs, the 2014 Pezcoller Foundation-AACR International Award for Cancer Research from the American Association for Cancer Research, for her contributions to the understanding of skin, skin stem cells and skin-related disease. The award recognizes an individual scientist of international renown who has made a major scientific discovery in basic or translational cancer research. Dr. Fuchs is Rebecca C. Lancefield Professor, head of the Laboratory of Mammalian Cell Biology and Development and a Howard Hughes Medical Institute investigator.

David D. Ho, the 2013 Prince Mahidol Award in Medicine, from the Kingdom of Thailand. The award, which comes with a medal and a \$100,000 prize, is given for outstanding achievements in medicine. Dr. Ho pursues the development of drugs and vaccines to prevent HIV transmission. He is Irene Diamond Professor and scientific director and chief executive officer of the Aaron Diamond AIDS Research Center.

Kayo Inaba, the L’Oréal-UNESCO Women in Science award, which supports eminent women throughout the world who are working in the life and physical sciences. Dr. Inaba, known for her work on dendritic cells, is being honored as the Asia-Pacific recipient. Dr. Inaba is an adjunct faculty member in Michel Nussenzweig’s Laboratory of Molecular Immunology at Rockefeller, and previously worked with Ralph Steinman. She is also a professor in the Graduate School of Biostudies at Kyoto University in Japan, as well as the vice president for gender equality and the director of the Center for Women Researchers at Kyoto.

Sebastian Klinge, a Career Development Award from the Human Frontier Science Program for his work on the early events of eukaryotic ribosome assembly. The award provides \$300,000 over three years to establish each researcher’s first independent laboratory. Dr. Klinge, one of 12 recipients, joined Rockefeller in August. He is head of the Laboratory of Protein and Nucleic Acid Chemistry.

Sebastian Klinge, a Sloan Research Fellowship from the Alfred P. Sloan Foundation. The fellowship supports early-career scientists who have demonstrated special creative ability in science, technology, engineering, mathematics and economics. The grant is \$50,000 over a two-year period to support Dr. Klinge’s research on the structure and function of ribosomes, the cell’s protein factories.

Mary Jeanne Kreek, the Lifetime Service Award from the NIH’s National Institute on Drug Abuse, in recognition of outstanding contribution to the field of drug addiction research. Dr. Kreek, Patrick E. and Beatrice M. Haggerty Professor and head of the Laboratory of the Biology of Addictive Diseases, is the inaugural winner of this award, which was presented in May.

Gaby Maimon, a Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the U.S. government to scientists and engineers in the early stages of their careers. Dr. Maimon, head of the Laboratory of Integrative Brain Function, was one of 20 NIH-funded scientists chosen to receive this recognition, and was honored by President Obama at a White House ceremony on April 14.

Nora Pencheva, a Harold M. Weintraub Graduate Student Award, one of the country’s most prestigious graduate student prizes. The award is given by the Fred Hutchinson Cancer Research Center and recognizes outstanding achievement during graduate studies in the biological sciences. Ms. Pencheva, a graduate fellow in Sohail Tavazoie’s Laboratory of Systems Cancer Biology, was one of 13 recipients from across North America. She studies the molecular biology of metastatic melanoma — the most deadly type of skin cancer.

Thomas P. Sakmar, the Invitation Fellow Award from the Japan Society for the Promotion of Science. The award supports a one-month visit to Japan where Dr. Sakmar will give scientific lectures at several Japanese universities and research centers. Dr. Sakmar, Richard M. and Isabel P. Furlaud Professor and head of the Laboratory of Chemical Biology and Signal Transduction, conducts biological and chemical investigations of G protein coupled receptors.

Daniel Schramek, the 2nd Annual Regeneron Prize for Creative Innovation, from Regeneron Pharmaceuticals, Inc. Applicants submit a “dream” project in biomedical research, and the awardees — one graduate student and one postdoc — receive a \$50,000 prize and a \$5,000 donation to support seminars at their home institutions. Dr. Schramek’s proposal used the idea of sequence-based personalized medicine to tackle the most devastating features of cancer such as metastasis and drug resistance. He is a postdoc in Elaine Fuchs’s Laboratory of Mammalian Cell Biology and Development.

Agata Smogorzewska, an inaugural Pershing Square Sohn Prize for Young Investigators in Cancer Research from the Pershing Square Sohn Cancer Research Alliance, for her proposal on the role of genome instability in driving tumor formation. The prize, which includes \$200,000 per year for up to three years, provides funding to New York scientists with innovative ideas in cancer research and is meant to bridge the gap between academic science and the business community. Dr. Smogorzewska is head of the Laboratory of Genome Maintenance.

OBITUARY

Nobel laureate and longtime faculty member Gerald Edelman dies at 84

by LESLIE CHURCH

Gerald M. Edelman, a Rockefeller alumnus, former faculty member and Nobel laureate who uncovered the chemical structure of the antibody in 1961, died on May 18 at the age of 84.

A graduate of Henry Kunkel’s laboratory and a member of the university’s second graduating class, Dr. Edelman received his Ph.D. in 1960 and remained at

Rockefeller for 34 years, becoming Vincent Astor Professor. He also served as assistant and then associate dean of graduate studies.

He left the university in 1992 to become director of The Neurosciences Institute in San Diego and president of the institute’s publicly supported nonprofit parent organization, the Neurosciences Research Foundation. He was also professor and chairman of the department of neurobiology at The Scripps Research Institute.

“Dr. Edelman left an indelible mark on the university,” says Marc Tessier-Lavigne, the university’s president. “He sparked scientific progress in numerous fields — biophysics, protein chemistry, immunology, cell biology and neurobiology. Just as importantly, he also helped shape Rockefeller’s graduate program and served as a mentor to dozens of young scientists.”

Dr. Edelman was born in New York City on July 1, 1929. At first embarking on a career as a professional violinist, he changed course to pursue science, earning a bachelor’s degree at Ursinus College in 1950 and his M.D. at the University of Pennsylvania in 1954. He spent a year at the Johnson Foundation of Medical Physics, and, after a medical house officership at the Massachusetts General Hospital, he served as a captain in the Army Medi-

cal Corps attached to the American Hospital in Neuilly-sur-Seine, France.

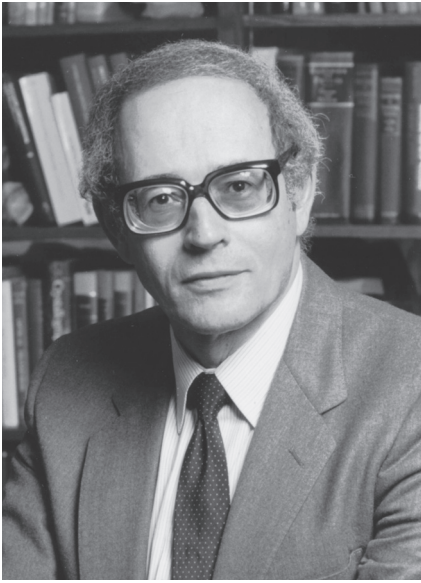
Dr. Edelman began his research career with an interest in the immune system. By severing the sulphide bonds that hold together immunoglobulin G, he showed that this antibody was made of more than 1,300 amino acids in four chains. It’s these chains that create a

pocket capable of capturing an antigen, which triggers an immune response. These studies led to his receiving the 1972 Nobel Prize in Physiology or Medicine, which he shared with Rodney R. Porter. As a result of Dr. Edelman’s work, mammalian antibodies were classified and harnessed for use in the diagnosis of infectious diseases.

Turning his attention to developmental processes in the 1970s, Dr. Edelman made important discoveries on cell adhesion molecules and their roles in the development of an animal’s shape as well as its nervous system. He then focused on neurobiology, specifically brain function and human consciousness, and in recent years became a leading figure in the emerging field of synthetic neural modeling.

Dr. Edelman was one of three alumni to be presented with an honorary degree at the university’s 2008 convocation, which recognized the graduate program’s 50th anniversary. He used his speech to convey the importance of one particular component of the scientific endeavor: “Science is imagination in the service of verifiable truth. ... And in fact, there are some times when imagination leads to a world change.”

Dr. Edelman is survived by his wife, Maxine Morrison, sons Eric and David and daughter Judith.



Marc Tessier-Lavigne, the Burke Award from Burke Rehabilitation Hospital in White Plains, given for significant contributions to the field of rehabilitation. Dr. Tessier-Lavigne, president of the university, Carson Family Professor and head of the Laboratory of Brain Development and Repair, is one of four recipients who will be honored at a ceremony in June.

Named:

Shruti Naik and **Alexey A. Soshnev**, Damon Runyon Cancer Research Foundation fellows. The nonprofit organization, which supports innovative early-career researchers, grants this three-year award to outstanding postdoctoral scientists conducting basic and translational cancer research in the laboratories of leading senior investigators across the country. Each received more than \$150,000 to work on innovative projects. Dr. Naik is a member of Elaine Fuchs’s Laboratory of Mammalian Cell Biology and Development and Dr. Soshnev is a member of C. David Allis’s Laboratory of Chromatin Biology and Epigenetics.

Thomas Tuschl, a finalist for the European Inventor Award 2014, the first European prize to distinguish inventors who have made an outstanding contribution to innovation, economy and society. Dr. Tuschl is a finalist for his work on an RNA interference method in human cells. The final winners of the award will be announced in Berlin in June. Dr. Tuschl is head of the Laboratory of RNA Molecular Biology and a Howard Hughes Medical Institute investigator.

Elected:

Robert B. Darnell, a member of the National Academy of Sciences. Dr. Darnell is one of 84 new members, elected for their distinguished and continuing achievements in original research. Dr. Darnell studies a group of rare brain diseases, the paraneoplastic neurologic disorders, and how they arise in conjunction with immune responses to cancer. He is Robert and Harriet Heilbrunn Professor, head of the Laboratory of Molecular Neuro-oncology and a Howard Hughes Medical Institute investigator.