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The Rockefeller University

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# BENCHMARKS

THE COMMUNITY NEWSLETTER OF THE ROCKEFELLER UNIVERSITY

FRIDAY, NOVEMBER 21, 2014

## ANNOUNCEMENTS

**Tri-I TDI makes modeling software available.** The Tri-Institutional Therapeutics Discovery Institute, Inc. (Tri-I TDI) has signed an agreement to provide access to Schrödinger's materials science, biologics and small-molecule drug discovery suites to researchers within Tri-I TDI's member institutions. The software simulation tools, which perform virtual screening, analyze potential compounds for suitability and model chemical systems, are designed to advance early-stage research toward new therapeutics. The contract includes open access to key industry-leading tools of drug discovery as well as training. For more information, visit [www.tritdi.org/schrodinger](http://www.tritdi.org/schrodinger).

**Bicycle infrastructure is upgraded.** To better accommodate the university's 189 registered bicyclists, new bicycle racks have been installed by the Greenberg building and near Bronx, and two bicycle repair stations have been purchased. The repair stations feature air pumps and hand tools suitable for making adjustments and minor repairs. They are located under the tennis court and near the entrance to Gasser Hall.

**Medallions go up on the street.** As part of an ongoing campaign to improve signage and raise awareness of the university's mission in the neighborhood, medallions bearing the university's seal have been installed near 63rd and 68th Streets. The medallions, along with larger



and more visible signs, will better identify the campus to passersby, especially patients of NewYork-Presbyterian Hospital and drivers entering and exiting the FDR.

Announcements for this page may be submitted to [zveilleux@rockefeller.edu](mailto:zveilleux@rockefeller.edu).

## BENCHMARKS

**Marc Tessier-Lavigne**, President  
**Timothy O'Connor**, Chief of Staff  
**Franklin Hoke**, Executive Director,  
Communications and Public Affairs  
**Zach Velleux**, Executive Editor

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## FACULTY RECRUITMENT

# Geneticist Joe Gleeson joins faculty as professor

by WYNNE PARRY

Joseph Gleeson, a neurogeneticist who uses genetic sequencing to identify the causes of pediatric brain disease across its spectrum, including epilepsy, autism, intellectual disability and structural disorders, has joined Rockefeller as a professor and established the Laboratory of Pediatric Brain Diseases. Dr. Gleeson, formerly a professor at the University of California, San Diego, is one of two mid-career scientists who joined the university this summer (the other, Jue Chen, was featured in the June 13 issue of *BenchMarks*).

"Joe is re-writing classical notions of brain diseases, revealing their true complexity, and in so doing he is making it possible to better diagnose and develop treatments for them," says Marc Tessier-Lavigne, the university's president. "His research is leading to a better understanding of how the human brain develops at the genetic level. We welcome him to Rockefeller and look forward to helping him build on his remarkable accomplishments."

Because disorders caused by single-gene mutations are extremely scarce within the general population, Dr. Gleeson collaborates with physician-scientists in the Middle East, North Africa and Central Asia, where consanguineous marriage between relatives as close as first cousins is common, to recruit affected families. The practice of consanguineous marriage increases the frequency of genetic disorders, since related parents are more likely to share deleterious versions of the same gene. What's more, researchers can easily track the disorder and the mutations within these highly susceptible families.

Dr. Gleeson travels extensively to evaluate patients, most recently to Libya, Egypt, Saudi Arabia, Pakistan and Oman. These outreach efforts can be intense, with his team spending one to two days in each of



PHOTO: ZACH VELLEUX

a dozen or more cities, seeing up to a hundred patients in a day. "Dodging political conflict, communicable disease and war is a risk of the work. These patients and their families are desperate for some hope and some improvement in their lives," says Dr. Gleeson.

Dr. Gleeson, who trained as a pediatric neurologist, wanted to do more for his patients with brain disorders, and his research is focused on delineating these conditions, and developing new treatments. Sequencing technology, with its ability to interpret the entire protein-coding region of a genome at once, as well as mouse, cell and other models of potential culprit mutations, are crucial tools for defining new causes of disease. And with them, he and colleagues have identified mutations that would other-

wise be nearly impossible to pinpoint.

For example, within samples from families with children suffering from autism and seizures, Dr. Gleeson and colleagues identified a cause: a mutation in a gene, BCKDK, involved in essential amino acid metabolism. This discovery brought with it a promising treatment: replacing the depleted amino acids with a nutritional supplement.

"This newly defined disorder is part of a class of diseases we have discovered that have the potential for treatment, at least to some degree, by administering to patients something to replace a natural substance typically made by the body," Dr. Gleeson says. "These discoveries suggest that as-yet-undiscovered treatments exist for other disorders."

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## FACULTY PROMOTION

# Tenure awarded to Hiro Funabiki

by WYNNE PARRY

Hironori Funabiki, head of the Laboratory of Chromosome and Cell Biology, was promoted to professor and granted tenure by the university's Board of Trustees at its June meeting. Dr. Funabiki studies mitosis, the primary type of cell division that underlies all growth, maintenance and reproduction in organisms from plants to fungi.

Growing up with two chemists, his father and grandfather, in Kyoto, the cultural center of Japan, it was natural for Dr. Funabiki to seek logic within nature. He found himself drawn to molecular biology and ultimately to the complex, highly orchestrated process of mitosis. He earned a bachelor's degree in chemistry and a Ph.D. in cell biology from Kyoto University and did postdoctoral work in the physiology department at the University of California, San Francisco, and then at Harvard in mo-

lecular and cell biology before establishing his laboratory at Rockefeller in 2002. Dr. Funabiki was made associate professor in 2007 and his promotion to professor was effective July 1.

To successfully divide, a cell must duplicate its genetic material and segregate it into two daughter cells rapidly and precisely. Errors in the process can produce birth defects or cancer.

"There are many mechanisms that ensure the duplicate copies of the genome, packaged as chromosomes, are equally distributed between the daughter cells," Dr. Funabiki says. "I am particularly intrigued by the phenomena in which different kinds of macromolecular machinery are rapidly built on the chromosomes and then disassembled in a highly ordered manner during mitosis to support chromosome segregation."

This machinery includes the mitotic spindle, the dynamic fibrous apparatus that drives cell division by separating the duplicate sets of chromosomes, and the nuclear envelope, which must form around the chromosomes, separating them from the rest of the cell to support chromosome replication. Scientists have suspected that histones, proteins that provide structure for DNA, play an important role in triggering the construction of these elements. Dr. Funabiki's lab has developed a new technique to directly manipulate histones in frog egg extract, making possible new experiments that may provide insight into histones' role in mitosis. A series of studies by Dr. Funabiki's lab has also unveiled a signaling cascade involving the kinases Aurora B and Haspin that puts phosphorylation marks on histones and helps restrict

[continued on page 3](#)



# New cryo-EM suite expands Rockefeller's capabilities in structural biology

by ZACH VEILLEUX

Structural biology, in which scientists examine the shapes of specific proteins and protein complexes at a molecular scale, has driven some of biology's most profound discoveries in the past decade, including insights into neurological signaling, pathogenic processes and DNA transcription. With the acquisition of sophisticated new cryo-electron microscopy tools, the university's labs will be able to benefit from technology that allows for the visualization of three-dimensional structures of molecules and macromolecular complexes in solution.

The new equipment, purchased in October with a grant from the EGL Charitable Foundation — thanks to Rockefeller Trustee Evelyn Gruss Lipper and her daughter Daniella Lipper Coules — will be installed on the C-level of Smith Hall in the coming weeks. It will be operated by a yet-to-be-hired microscopy specialist, and used by more than a dozen laboratories working in chemical and structural biology, molecular and cell biology, immunology, neuroscience and other fields.

A cluster of structural biologists — Roderick MacKinnon, Seth A. Darst, Jue Chen and Sebastian Klinge — has championed the initiative to purchase the equipment and is overseeing its implementation.

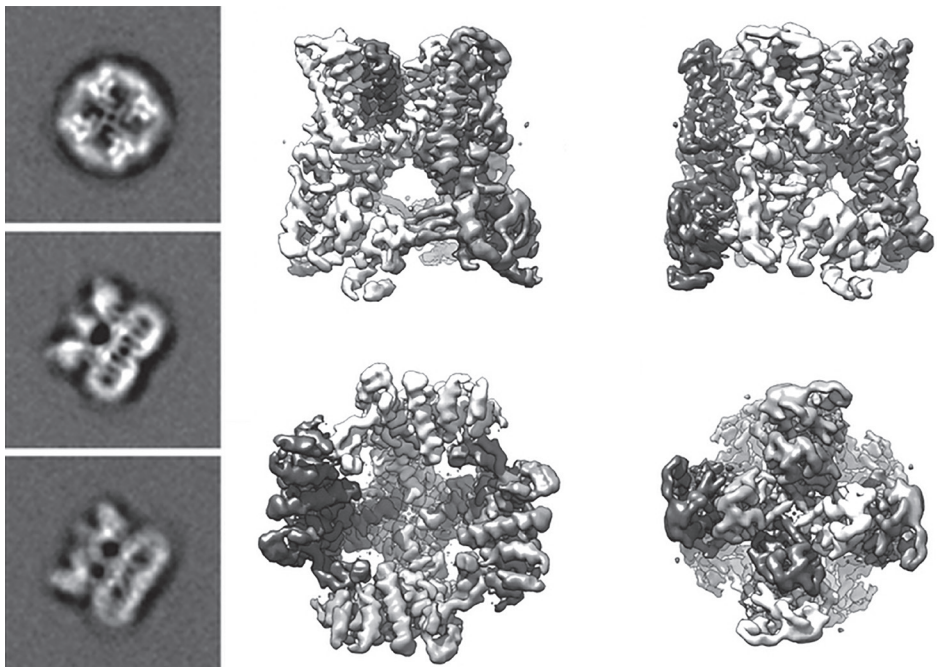
"The advances in the cryo-EM method are revolutionizing structural biology, allowing detailed structural analysis of

proteins and other biological macromolecules, many of which can not be successfully visualized with existing technologies," says Darst, who is Jack Fishman Professor and head of the Laboratory of Molecular Biophysics.

Although cryo-EM has been around for years, its usefulness in biology has been restricted by its inability to yield detailed molecular structures. Biologists interested in understanding the molecular structures of specific proteins or protein complexes have relied on other technologies, primarily x-ray crystallography. Not all biological molecules can be crystallized, however, and the crystallization process itself is both painstaking and unpredictable. Instead of crystals, cryo-EM can be used to examine uncrystallized biological samples at cold temperatures within thin sheets of ice.

A breakthrough in detector technology, made just last year, has dramatically improved the ability of cryo-EM equipment to capture fine structural information at scales as small as tenths of nanometers. The new detectors not only sense electrons with greater precision as they pass through cryogenically frozen samples, they also take advantage of computation methods to correct for disruptions in the data including the effects of motion caused by the electron beam itself.

By offering the possibility to determine the structures of protein complexes that



**Science on ice.** A structure of an ion channel obtained using new cryo-electron microscopy technology by scientists at the University of California, San Francisco, where the technique was pioneered.

have resisted other techniques, and to view variations in those complexes that may occur when they are active, cryo-EM has the potential to drive new discoveries throughout biology.

"Investing in cutting-edge technology such as cryo-EM is critical to maintaining Rockefeller's competitive edge in the life sciences, and we are grateful to Evelyn Lipper

and her family for providing the resources to make this acquisition possible," says Marc Tessier-Lavigne, the university's president. "Obtaining this technology now will assist a number of Rockefeller biologists — including non-specialists in chemistry and structural biology — who want to apply these techniques to their investigations of a wide range of scientific problems."

## ARTS

# Playing doctors: Tri-Institutional Music and Medicine Program features physicians and scientists who also perform music

by LESLIE CHURCH

Maybe it's the fact that they both involve a good amount of discipline, or maybe it's that each requires a certain flair for creative thought. Whatever the reason, many people find themselves drawn to both music and science, and are often faced with the difficult decision of choosing between two passions. The Music and Medicine program at Weill Cornell Medical College aims to make that choice easy for the students and faculty of Rockefeller, Cornell and Memorial Sloan Kettering — they can have both.

The program serves as a means for members of the Tri-Institutional community to play together for patients at NewYork-Presbyterian Hospital and audiences around the city. Founded in 2009, they have performed for audiences large and small, often in Rockefeller's Caspary Auditorium. Groups also play mini-concerts for patients in palliative care, cancer survivors at the Weill Cornell Cancer Center and others. Their fall concert this year is November 25.

"The idea started in my office, interviewing medical school applicants," says David A. Shapiro, clinical professor of psychiatry at Weill Cornell and chairman of the program. "Twenty percent of these students play a musical instrument, and we realized we could give them an outlet to continue that while in school, because it's an important part of who they are."

Run by Weill Cornell medical students and Nancy Amigron, program coordinator for the college's Center for the Performing Artist, the group has had more than 100 members participate in various shows. Those who are interested sign up for a mailing list that sends out requests for musicians at certain events. Groups are organized and given music and rehearsal time. All are welcome — scientists, doctors, nurses, administrative staff, even relatives and friends — and musical abilities vary widely.

"The program gives all members of the Tri-Institutional community an opportunity to exercise and enhance their musical skills, while at the same time enriching us all with uplifting and beautiful music," says Barry Collier, physician in chief of Rockefeller's hospital and a member of the program's advisory board. "That is a great combination."

"We went caroling at the hospital during the holidays. We played for patients on Valentine's Day," says Stefanie Gerstberger, a graduate student in Thomas Tuschl's lab who has been playing the violin since she was six. "Playing at the hospital really gave me a new perspective on music. You think it's not a big deal, but the patients were just so happy. It was very special for them."



**Strings theory.** Stefanie Gerstberger (left, at center) and Johannes Scheid (right) at a 2012 concert at St. Bartholomew's Church. Gerstberger and Scheid are among a handful of Rockefeller scientists lending their musical talents to the Tri-Institutional Music and Medicine Program.

For the Rockefeller researchers who take part, it's a chance to break away from the bench and let another part of the brain take over.

"When you play an instrument you can't do it halfway. It draws your entire body, your mind; it takes up all of your attention," says Johannes Scheid, a member of Michel Nussenzweig's laboratory who holds a diploma in cello from The University of Arts, Berlin. "In a short period of time you're able to gain some distance from your scientific work. When you go back, you find yourself inspired. You have a new perspective."



Dr. Scheid, a physician-scientist in Rockefeller's Clinical Scholars Program, mused on the many correlations between science and art. Aside from the fact that both have the power to heal, and both require people to work together as a team, he says, the two are always evolving.

"Mozart's *Requiem* was written hundreds of years ago, but people are still coming up with new interpretations, and there will never be a perfect one. It is similar with medicine and science. Each door you open leads to 10 more doors," he says. "A certain group of people are attracted by that. It's a moving target, drawing you in."



# Science communicator named new head of Public Affairs

by WYNNE PARRY

An endless stream of compelling discoveries emerges regularly from Rockefeller’s research community and it is the job of the Office of Communications and Public Affairs to make sure those findings are accessible internally and externally. The new executive director of the office, Franklin Hoke, brings with him a background as a veteran science journalist and communications leader in academic settings, and he plans to bolster the office’s core mission to disseminate scientific news. He joined the university in June.

“As Rockefeller strengthens its communications capabilities, we’ll be more closely aligning our efforts with the university’s strategic plan and enhancing our ability to share the powerful science always unfolding at the university,” Mr. Hoke says. “Research at Rockefeller is changing the world, and we want to make sure that fact is well and widely understood and appreciated.”

Mr. Hoke emerged as the top candidate in an extensive national search led by a recruiting firm, PBR Executive Search, under the direction of Timothy O’Connor, the university’s chief of staff. Mr. Hoke, who holds a bachelor’s degree in English from the University of Maryland, traces his interest in science to his father, a biologist and urban parks planner with the National Park Service. His first forays as a science writer, as a young teen writing for *Ranger*



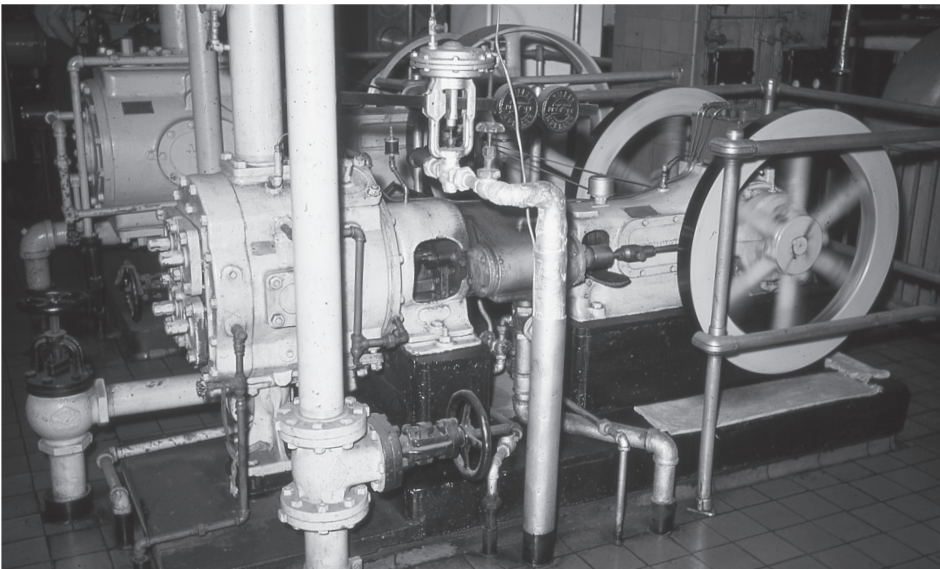
PHOTO: ZACH VELLEUX

*Rick* magazine, grew out of his involvement in his father’s ecological projects. After completing college, Mr. Hoke worked as an academic journal editor, a writer at NASA’s Goddard Space Flight Center and a science policy researcher at Princeton University. From 1992 to 1995, he was senior news editor at *The Scientist*, a science news magazine, where he covered a wide range of beats including the profes-

sion of science, federal research priorities and high-profile scientific research. He moved into academic communications when he took a position as a science writer and press officer working with the biomedical researchers at the University of Pennsylvania Medical Center. He later served as the director of communications for The Wistar Institute, an independent nonprofit biomedical research institution in Philadelphia, before moving to Fox Chase Cancer Center, where he was vice president for communications. Mr. Hoke cites as one of the chief pleasures in his work the close access it has given him to scientists and the chance to watch their research progress over time. The Office of Communications and Public Affairs is responsible both for the external face of the university and for facilitating communication within the Rockefeller community. It oversees the university’s website, social media, press relations, marketing and publications, and it supports the university’s strategic goals, which include fundraising, recruitment and raising Rockefeller’s public and professional profile. The position Mr. Hoke has assumed had been vacant since director Joseph Bonner left in June 2013. “Frank has extensive experience in both science journalism and managing public relations for research-intensive organizations, and he was highly recommended by

his previous employers and by scientists he has worked with,” says Dr. O’Connor. “On visits to the campus last spring he demonstrated a smart and practical approach to institutional communications that respects both the science and the university’s unique culture.” Mr. Hoke has been meeting one-on-one with faculty and others, and immersing himself in Rockefeller’s research enterprise. At the same time, he hired a communications consultant, SteegeThomson Communications, to assist with an audit and competitive review of the university’s communications efforts. Based on interviews with stakeholders inside and outside Rockefeller and best-practices comparisons with peer institutions, the firm’s report will recommend ways the university can refine its messages and shape its future communications initiatives. “I feel privileged to have such an intimate window onto one of the most creative and energetic sectors of our society during what has been a golden era for biomedical science,” Mr. Hoke says. “The opportunity to work at Rockefeller allows me to pursue the central passion of my career — telling the stories of science — on an even higher level, and I look forward to working with all of the scientists at the university to share their important work both within our own community and with the rest of the world.”

## Antique vacuum pump finds new home in Pennsylvania



Not as iconic as the breakthrough discoveries and famous names, but a vital part of Rockefeller’s history nonetheless — a pump that supplied vacuum pressure to Rockefeller labs for over half a century — is having its moment in the spotlight. One of the last of its kind in Manhattan, the 1952 pump (left) has been donated to the National Museum of Industrial History, a new facility now under construction in Bethlehem, Pennsylvania. The pump, powered by a 14.2-horsepower steam engine, was still functioning but had been replaced by more efficient electrically powered pumps a few years ago, and the space it occupied in the university’s Power House was needed for other equipment. By donating the equipment the university did not have to pay to have it dismantled and removed. “This is a very rare opportunity for us,” says Mike Piersa, a historian at the museum. “There used to be steam engines everywhere in Manhattan, used in compressed air machines or in vacuums. To find one surviving today is just amazing, let alone one in such good condition that we could retrieve it.” Mr. Piersa says he knows of only four other steam engines that were found in one piece in Manhattan — two ran elevators and two made electricity — all of which are in museums now. Most others have been either dismantled or entombed in place in concrete. The cast iron and steel pump was built by the now defunct Worthington Corporation in Buffalo, and is eight-and-a-half feet long and 3,500 pounds. It supplied vacuum pressure to the labs on the southern end of Rockefeller’s campus, and the steam it exhausted was recycled to heat the buildings. With two flywheels and an engine that turns at 350 rotations per minute it required daily oiling to keep the moving parts working smoothly. The National Museum of Industrial History, affiliated with the Smithsonian Institution, will showcase the accomplishments of America’s inventors, industrialists and workers, and preserve the record of industrial advancements from the mid-1800s to the present.

## Funabiki (continued from page 1)

assembly of the spindle and the nucleus at the right time and place. Current projects in the Funabiki lab focus on modifications to histones and other processes that affect chromosomes during cell division. For instance, he is examining how a key chemical mark on certain histones attracts proteins that generate tightly packed DNA packages known as heterochromatin, which form at the spot where spindle fibers attach during cell division. He is also interested in the attachment process itself, and in particular how the cell responds when a fiber attaches at the wrong spot. He also wants to better understand how, over generations, cells avoid losing repetitive DNA sequences found at these attachment points — the loss of these sequences can cause errors when chromosomes are segregated, a problem frequently observed in cancer cells. “Hiro’s innovative work is helping us to understand one of the most fundamental processes of life, cell divi-



PHOTO: ZACH VELLEUX

sion, and how structural elements form in the cell to support the mechanical work of segregating chromosomes,” says Marc Tessier-Lavigne, the university’s president. “His research has pointed to a role for DNA-packaging proteins — histones — in regulating these processes, and has suggested means to address errors in cell division, as occurs in a wide variety of diseases. “I am pleased to announce that Hiro has received a much-deserved promotion to full professor, and I am looking forward to seeing where his research leads.” “The sequence of events involved in cell division must happen in exactly the right time and place,” Funabiki says. “By sorting out the details of these events, we could help develop tools to manipulate them and control fates of problematic cells that threaten human health. Rockefeller has been an exceptional place to conduct curiosity-driven basic science, and I am extremely grateful to be part of community that is moving forward to deliver new wonders to our society.”

## Gleeson (continued from page 1)

When searching for the gene responsible for a disease, Dr. Gleeson uses genetic sequencing, an approach he adopted as a postdoc at Harvard Medical School hunting down the gene behind an abnormal brain development disorder called double cortex syndrome. At the time, in the late 1990s, the technology was just becoming available, and it took years to identify a single gene. Now, with the power of whole-genome sequencing and access to the resources of the New York Genome Center, Dr. Gleeson is greatly accelerating these searches. He hopes to see that power trained not only on the exome, which comprises protein-coding regions of the genome, but on a neglected part of it: DNA not directly responsible for producing protein. Currently, sequencing efforts generally focus only on the exome. “There is a big move afloat to transition to whole genome sequencing where we sequence all three billion bases. The problem is that no one knows how to make sense of the ‘junk’ sequences. But I think our special families may afford us more power to investigate this part of the genome with colleagues at the Genome Center, Rockefeller and elsewhere,” Dr. Gleeson says. Dr. Gleeson also hopes to establish collaborations with neurodevelopmental specialists at city hospitals in order to obtain sequencing data. He envisions someday sequencing every child admitted to the hospital with a brain disease, in order better diagnose patients and to improve textbook descriptions of disorders based on their underlying causes.



# MILESTONES

(continued from page 6)

**Louis Lucas**, member of the adjunct faculty, McEwen Lab.

**Ana Maria Magarinos**, visiting fellow, Pfaff Lab.

**Jordan Marrocco**, postdoctoral associate, McEwen Lab.

**Sandra Nissan**, visiting student, Pfaff Lab.

**Michael Oldham**, senior research associate, Chen Lab.

**Ana Belen Oromendia**, postdoctoral associate, Strickland Lab.

**Samantha Peneyra**, postdoctoral fellow, Comparative Bioscience Center.

**Richard Phillips**, visiting fellow, Allis Lab.

**Christina Pressl**, instructor in clinical investigation, Freiwald Lab.

**Brandon Razooky**, postdoctoral associate, Tarakhovsky Lab.

**Katharina Rehkla**, postdoctoral associate, Heintz Lab.

**Yuttana Roongthumskul**, postdoctoral associate, Hudspeth Lab.

**Susanne Roosing**, postdoctoral associate, Gleeson Lab.

**Ozgur Rosti**, research associate, Gleeson Lab.

**Fabian Scheid**, instructor in clinical investigation, Nussenzweig Lab.

**Till Schoofs**, postdoctoral fellow, Nussenzweig Lab.

**Saera Song**, postdoctoral associate, Gleeson Lab.

**Elizabeth Stewart**, visiting medical student, Smogorzewska Lab.

**Petr Sulc**, fellow in physics and biology, Center for Theoretical Studies.

**Ji Sun**, postdoctoral associate, MacKinnon Lab.

**Atsushi Tabata**, visiting assistant professor, Fischetti Lab.

**Masoud Tavazoie**, visiting fellow, Tavazoie Lab.

**Frej Tulin**, postdoctoral associate, Fred Cross Lab.

**Gali Umschweif Nevo**, postdoctoral associate, Greengard Lab.

**Benjamin Ungar**, visiting medical student, Krueger Lab.

**Andrew Varble**, postdoctoral associate, Marraffini Lab.

**Koen Vercauteren**, postdoctoral fellow, Rice Lab.

**Peter Waltman**, research associate, Gleeson Lab.

**Liling Wan**, postdoctoral associate, Allis Lab.

**Yen-Chih Wang**, postdoctoral associate, Hang Lab.

**Kuanhui Xiang**, visiting student, Rice Lab.

**Peng Xu**, postdoctoral associate, Greengard Lab.

**BingKan Xue**, visiting fellow, Leibler Lab.

**Ilker Yildirim**, postdoctoral associate, Freiwald Lab.

**Zorana Zeravcic**, postdoctoral associate, Leibler Lab.

**Yinxin Zhang**, postdoctoral associate, Friedman Lab.

**Zhengdong Zhao**, visiting student, Friedman Lab.

**Minghao Zhong**, member of the adjunct faculty, James Darnell Lab.

## Hired (staff):

**Devrim Acehan**, research support specialist, Electron Microscopy Resource Center.

**Atsuko Adachi**, research specialist, Maimon Lab.

**Amr Almaktari**, research assistant, Nussenzweig Lab.

**Ricardo Azevedo**, research assistant, Tessier-Lavigne Lab.

**Andrea Bae**, research assistant, Shaham Lab.

**William Philip Bartel**, research assistant, Ravetch Lab.

**Katelyn Bastert**, recruitment assistant, Hospital Medical Science.

**Colin Belanger**, research assistant, Simon Lab.

**Doris Berman**, research assistant, Blobel Lab.

**Timothy Blanchfield**, fitness manager and trainer, Human Resources.

**Kimberly Bogardus**, research assistant, Tuschl Lab.

**Nathaniel Braffman**, research assistant, Darst Lab.

**Timothy Buckley**, human resources assistant, Human Resources.

**Hoang Chuong Bui Nguyen**, research assistant, Tavazoie Lab.

**Caroliena Cabada**, manuscript coordinator, *JCB*, Rockefeller University Press.

**Jason Carrington**, laboratory helper, Fischetti Lab.

**Melina Casadio**, associate editor, *JCB*, Rockefeller University Press.

**Danielle Casazza**, clinical research nurse, Hospital Nursing Outpatient.

**Yaneth Castellanos**, research specialist, Ravetch Lab.

**Oscar Chavez**, laboratory helper, Fuchs Lab.

**Daniel Cole**, research assistant, McEwen Lab.

**Brett Copeland**, scientific programmer, Gleeson Lab.

**Deborah Coutavas**, teacher, Child and Family Center.

**Kevin Dam**, research assistant, Greengard Lab.

**Ermelinda Damko**, laboratory manager, Chen Lab.

**Chelsea Daniels**, research assistant, Greengard Lab.

**Jakob Dobrowolski**, research assistant, Ruta Lab.

**Nicholas Dragotakes**, research assistant, Greengard Lab.

**Ainslie Durnin**, assistant director, Parents and Science, Development.

**Chad Ethier**, director of hospitality services, Human Resources.

**Kathleen Gaffney**, development assistant I, special events, Development.

**Melanie Gao**, research assistant, Greengard Lab.

**Lauren Gerber**, research assistant, Brivanlou Lab.

**Mondana Ghias**, research assistant, Greengard Lab.

**David Giordano**, lead doorman, Housing Faculty House.

**Emma Gordon**, research assistant, Brady Lab.

**Beth Graczyk**, laboratory manager, Kapoor Lab.

**Emily Greene-Colozzi**, research assistant, Simon Lab.

**Catherine Guariglia**, research assistant, Kreek Lab.

**Ndeye Fatou Gueye**, research assistant, Blobel Lab.

**Sonya Hadrigan**, clinical research nurse practitioner, Nussenzweig Lab.

**Kaitlyn Hajdarovic**, research assistant, McEwen Lab.

**Michael Heke**, laboratory manager, Brivanlou Lab.

**Paige Helmer**, research assistant, Tarakhovsky Lab.

**Erin Henegan**, development assistant I, MIS, Development.

**Raquel Hernandez-Solis**, research assistant, Gilbert Lab.

**Josh Hillman**, research assistant, Kreek Lab.

**Franklin Hoke**, executive director, Communications and Public Affairs.

**Peh Hsia**, grants and financial administrator, Greengard Lab.

**Shinya Iguchi**, research assistant, Ruta Lab.

**Salina Kalik**, research assistant, Greengard Lab.

**Sarah Keegan**, scientific programmer, Chait Lab.

**Elizabeth Kennedy**, development assistant I, Development.

**Yasmen Khan**, science outreach administrator, Dean's Office.

**Nancy Kline**, director, Heilbrunn Family Center for Research Nursing, Hospital Administration.

**Joshua Kogan**, research assistant, McEwen Lab.

**Kristie Koos**, teacher, Child and Family Center.

**Elliot Kramer**, research assistant, Casanova Lab.

**Manjunath Kustagi**, computational biologist, Tuschl Lab.

**Hannah Lee**, research assistant, Ravetch Lab.

**Sharon Lee**, research assistant, Blobel Lab.

**Jenny Leung**, research assistant, Greengard Lab.

**John Levorse**, research specialist, Fuchs Lab.

## ANNIVERSARIES AND RETIREMENTS

# 130 employees honored for longtime service



Several ceremonies were held this year to commemorate years of service to the university by Rockefeller employees. This month, 45 members of the university were celebrated for 10 years of service. And in May, an Employee Recognition Reception was held to honor 29 employees who have worked at Rockefeller for

20 and 25 years, followed by an anniversary dinner honoring 16 retirees and 40 employees with 30, 35, 40, 45, 50 and 60 years of service. To see more photos from the three events, visit [www.rockefeller.edu/employeeerecognition](http://www.rockefeller.edu/employeeerecognition).

### Retiring

Irma Cardinale  
Kathleen Cassidy  
Zheng-Yuan Fu  
Josip Golja  
Patrick Griffin  
Mary Margaret Hickey  
Ann Ho  
Artemis Khatcherian  
Kenneth Kramer  
Yuk Ching-Ku  
Tatyana Leonova  
Ellen Martin  
Scott McNutt  
Arquelio Negrón  
John Tooze  
Yuk-Wah Tsang

### 60 years

Te Piao King  
Victor Wilson

### 50 years

Vincent A. Fischetti

### 45 years

Sarah F. Leibowitz

### 40 years

Vincent Alleyne  
James Darnell  
Angelina Dohnert  
Herbert Gibbs Jr.  
Cynthia A. Payne-Williams

### 35 years

Adelaide Acquaviva  
Carmine Denisi  
Armand Gazes  
Michael Perrino

Rosemary Williams  
Michael W. Young

### 30 years

Maryse V. Aubourg  
Joann Greene  
Leonida C. Fleming  
Charles D. Gilbert  
Catherine M. Vanchieri  
Ira Robert Woods  
Torsten Wiesel

### 25 years

Anthony Agosto  
Alex Buenaventura  
James E. Carozza  
Frederick R. Cross  
Marta Delgado  
Anthony A. Drummond  
Lanie Fleischer  
Andrew Gallina

Celia Gonzalez  
Sara C. Gonzalez  
Roberto Gualtieri  
Ian Huggins  
Sonoko Ogawa  
Ruben D. Peraza  
Ecie R. Prince  
Magdalena L. Rondiak  
Ismael Serra Ramon  
Monica A. Sweeney

### 20 years

Rita Gordon  
Bhagwattie Haripal  
Yolanda P. Hornedo-Brooke  
Julie Hui  
Jeffrey V. Ravetch  
Frank Schaefer  
Eric Siggia  
Ann Viteri-Jackson  
Sharon J. White  
Chingwen Yang  
Vadim Yuferov

### 10 years

Cori Bargmann  
Victor Cisneros  
Cameron Coffran  
Felix Cosme  
Roxana Cubias  
Pauline Curtis  
Tina Dardac  
Emily Diaz  
Katrina Gray  
Evan Greene  
Chia-Yun Han  
Jennifer Isbell  
Atanas Kaykov  
Steve Kovalenko  
Andrew Krutchinsky  
Xander Lago  
James Lapple  
Erika Layfield  
Zhiying Li  
Amanda Martinez  
Eduardo Martinez  
Mor Mboup

Jane Middleton  
Ana Milosevic  
Rada Norinsky  
Erin Norris  
Paul Parke  
Jane Rendall  
Luis Rivera  
Jose Manuel Rodriguez  
Michael Ruberto  
Anne Schaefer  
Ashley Searles  
Irina Shimeliovich  
Benjamin Short  
Tushit Shukla  
Tari Suprpto  
Kaori Takai  
Victor Thompson  
Garvin Tyson  
Heather Van Epps  
Dejun Wan  
Elizabeth Waters  
Iddo Wernick  
Pearly Mingzhu Ye



Marler (continued from page 6)

content, and helped to establish that animal calls could encode specific meanings. After one of his students observed that African monkeys known as vervets had specific alarm calls for snakes, eagles and leopards, Dr. Marler and his colleagues followed up by playing back recorded calls to free-ranging vervets and observing how the monkeys responded. The vervets’ responses were appropriate to the inferred nature of the threat: They looked intently at the ground around them when the snake alarm was played back, scrutinized the sky when they heard the eagle call, and climbed to the tree tops when hearing the leopard alarm call. While Dr. Marler’s primary expertise



was birdsong, he encouraged his students to follow their interests wherever they led. “While I was his student at Berkeley, a woman in his lab was studying the motor behavior of tarantulas, how they integrated those eight legs, and another young lady was interested in the wing vibrations and sounds of courting flies,” says Fernando Nottebohm, Dorothea L. Leonhardt Professor and head of the Laboratory of Animal Behavior. All these projects got Marler’s enthusiastic support. He believed in allowing full independence to his students. Dr. Marler later invited Dr. Nottebohm to join him at Rockefeller.

“What characterized his science was a very systematic approach that took into account the physical nature of the signal, how the signal travelled and was detected, its context, who produced it and what kind of response it elicited. By bringing all of those together, you could make a catalog as well as broad theories of how animals communicated,” Dr. Nottebohm says. “In this way, Peter organized the field for people who later pursued issues of animal communication at other levels of analysis, such as neurophysiology, anatomy, cell and molecular biology. When I became interested in the neurobiology of bird song, he had already set up the behavioral frame in such a way to make the central questions clear.”

Dr. Marler’s honors included membership in the Royal Society of London and the National Academy of Sciences. He is survived by his wife Judith, children Christopher, Catherine and Marianne, two siblings, and two grandchildren.

Lino Saez, member of the Young lab, dies at 64

by ZACH VEILLEUX

Lino Saez, a senior research associate and member of Michael W. Young’s Laboratory of Genetics for nearly 30 years, died October 24 at the age of 60.

Born in Traiguén, Chile, Dr. Saez was the second youngest of eight brothers and the only one to leave for a career outside of Chile. He came to the United States after being accepted for graduate work by the Einstein College of Medicine, where he studied genes encoding human muscle myosins as a graduate student with Leslie Leinwand. He planned to do postdoctoral work focused on molecular mechanisms of learning and memory in mice, but instead became interested in new work being done in Dr. Young’s Rockefeller lab that was exploring the molecular basis of circadian rhythms using mutants of *Drosophila*. He joined Rockefeller in 1986.

Dr. Saez’s first studies at Rockefeller identified developmental patterns of expression of the clock gene *period*. He later devised techniques to create partial clockworks in cultured cells, allowing important insights into the functions and interactions of clock proteins.

“Over the years, technicians, graduate students and postdocs came to depend on Lino for his enormous technical and scientific expertise,” says Dr. Young, who is Richard and Jeanne Fisher Professor and vice president for



academic affairs. “He was extremely generous with his time and advice, and everyone appreciated a certain push that reflected the high expectations he held for his colleagues.”

Dr. Saez died at Memorial Sloan Kettering Cancer Center, 13 years after first receiving a diagnosis of renal cancer.

He is survived by his wife Monica Roth, a daughter Paloma, and a son Daniel.

**Ceyda Llapashtica**, research assistant, Greengard Lab.

**Caroline Lynch**, development assistant II, Parents and Science, Development.

**Helen Lyons**, human resources associate, Human Resources.

**Thomas Mazzarella**, mechanic III, Plant Operations Power House.

**Sarah McCarry**, administrative assistant, Chen Lab

**Christopher Morales**, custodian, Plant Operations Custodial Services.

**Assia Mouri**, research assistant, Greengard Lab.

**Damir Musaev**, research assistant, Gleeson Lab.

**Corbyn Nchako**, research assistant, Brivanlou Lab.

**Jason Ni**, research assistant, Greengard Lab.

**Brooke Nnatubeugo**, research support assistant, Genomics Resource Center.

**Jenna O’Neil**, research assistant, Young Lab.

**Stephanie Phillips**, veterinary technician supervisor, Comparative Bioscience Center.

**Eliza Prangley**, research assistant, Tarakhovsky Lab.

**Isidore Ramkissoon**, media and design support specialist, Information Technology.

**Lisa Randolph**, research assistant, Greengard Lab.

**Roger Regis**, welder, Plant Operations Power House.

**Joseph Rios**, operations lead, Comparative Bioscience Center.

**Basak Rosti**, research assistant, Gleeson Lab.

**Catarina Sacristan**, scientific editor, Rockefeller University Press.

**Misa Saito**, research assistant, Ravetch Lab.

**Saranya Santhosh Kumar**, research assistant, Hynes Lab.

**Glen Santiago**, administrative assistant, Rice Lab.

**Rachel Sarnoff**, research assistant, Friedman Lab.

**Alan Shan**, research assistant, Shaham Lab.

**Lei Shang**, bioinformatics specialist, Casanova Lab.

**James Sheridan**, carpenter foreman, Plant Operations Carpenter Shop.

**Anne Shutkin**, assistant general counsel, General Counsel.

**Jake Suarez**, custodian, Plant Operations Custodial Services.

**Jason Tchao**, research specialist, Gleeson Lab.

**Neena Thomas**, research specialist, Nussenzweig Lab.

**Helen Tian**, research assistant, Tavazoie Lab.

**Namita Trikannad**, research support assistant, High Throughput Screening Resource Center.

**Viet Truong**, computer support specialist, Information Technology.

**Lisa Tsatsas**, clinical research nurse, Hospital Nursing Outpatient.

**Rebecca Wahrman**, development assistant I, Development.

**Elizabeth Waters**, lead lab scientist, Dean’s Office.

**Jenny Wong**, teacher, Child and Family Center.

**Mengyu Wu**, research assistant, Darst Lab.

**Lihong Yin**, laboratory manager, Freiwald Lab.

**Lola Yu**, research assistant, Kapoor Lab.

**Hina Zafar**, research assistant, Collier Lab.

**Leah Zamechek**, laboratory manager, Gleeson Lab.

**Julie Zimmer**, project coordinator, Heintz Lab.

**Ilana Zucker-Scharff**, research assistant, Robert Darnell Lab.

Promoted (academic appointments):

**Karima Bettayeb**, to senior research associate, Greengard Lab.

**Hironori Funabiki**, to professor and head of laboratory, Funabiki Lab.

**Jodi Gresack**, to senior research associate, Greengard Lab.

**Jean-Pierre Roussarie**, to senior research associate, Greengard Lab.

**Yotam Sagi**, to senior research associate, Greengard Lab.

Promoted (staff):

**Hans Alcindor**, to human resources associate, Human Resources.

**Polina Bulkina**, to administrative manager, Krueger Lab.

**Emmeline Cardozo**, to assistant director, Parents and Science, Development.

**Jeanne Chiaravalli Giganti**, to research support specialist, High Throughput Screening Resource Center.

**Victor Cisneros**, to senior computer support specialist, Information Technology.

**Camille Clowery**, to production manager, Rockefeller University Press.

**Lindsey Cole**, to associate director, Development.

**Emily Conrad**, to associate director, Development.

**Eric Davis**, to network engineer, Information Technology.

**Marta Delgado**, to senior graduate program administrator of finance and student affairs, Dean’s Office.

**Benjamin DiMatteo**, to development officer, Development.

**Denisoon Espinoza**, to environmental assistant, Laboratory Safety and Environmental Health.

**Evan Greene**, to director, MIS, Development.

**Sachin Kadam**, to associate safety officer, Laboratory Safety and Environmental Health.

**Christine Lai**, to research support associate, Genomics Resource Center.

**Jewel Leonardo**, to senior analyst, treasury and accounts payable, Finance Accounting Services.

**Margo Lettsome-Henry**, to associate director, Development.

**Kara Marshak**, to senior manager of talent, Human Resources.

**Jeanine McSweeney**, to assistant university librarian of library operations, Library.

**Rada Norinsky**, to director of transgenic services, Comparative Bioscience Center.

**Erika O’Shea**, to director, MIS, Development.

**Brian Oh**, to client systems support manager, Information Technology.

**James Pring**, to research specialist, Steinman Lab.

**Devin Ramdhani**, to systems developer, materials management, Purchasing.

**Magdalena Rondiak**, to executive administrator, Development.

**Jason Rothauser**, to production editor, Rockefeller University Press.

**Anthony Santoro**, to assistant director, Laboratory Safety and Environmental Health.

**David Seay**, to senior network engineer, Information Technology.

**Irina Shimeliovich**, to manager of the clinical processing laboratory, Nussenzweig Lab.

**Karen Ann Smith**, to senior director, development and campaign management, Development.

**Teresa Solomon**, to senior associate general counsel, General Counsel.

**Ilene Spitzer**, to associate, Investments.

**Emma Stevens**, to development officer, Development.

**Selamawit Tadesse**, to research support specialist, Flow Cytometry Resource Center.

**Marlowe Tessmer**, to executive editor, *JEM*, Rockefeller University Press.

**Jillian Tittle**, to development officer, Development.

**Catherine Vanchieri**, to senior director, development communications and grant management, Development.

**Laura Votey**, to assistant director, Development.

**Todd Wells**, to lead media and design support specialist, Information Technology.

**Bryan Whitefield**, to environment of care specialist, Hospital Administration.

**Brent Winborn**, to assistant director, finance and business, Comparative Bioscience Center.

**Kathaliya Wongsatittham**, to program coordinator, Research Support.

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



# MILESTONES

## PROMOTIONS, AWARDS AND PERSONNEL NEWS

### Awarded:

**C. David Allis**, the 2015 Breakthrough Prize in Life Sciences. The award recognizes Dr. Allis “for the discovery of covalent modifications of histone proteins and their critical roles in the regulation of gene expression and chromatin organization, advancing the understanding of diseases ranging from birth defects to cancer.” The Breakthrough Prize, worth \$3 million, was launched in 2013 by a group of Internet and technology entrepreneurs to recognize transformative advances toward understanding living systems and extending human life. Dr. Allis is one of six scientists to receive the life sciences prize this year; the awards were presented at a celebrity-studded gala awards ceremony November 9 at NASA’s Ames Research Center in Mountain View, California. Dr. Allis is Joy and Jack Fishman Professor and head of the Laboratory of Chromatin Biology and Epigenetics.

**C. David Allis**, the Charles-Leopold Mayer Prize from the French Academy of Sciences. The prize has been awarded annually since 1961 to researchers who have performed outstanding work in the biological sciences, especially in the areas of cell or molecular biology.

**Cori Bargmann**, the 2015 Benjamin Franklin Medal in Life Science. She is recognized for her contributions to neurobiology that have led to major discoveries elucidating the relationship between genes, neurons, neural circuits and behavior. She is among nine individuals who will receive awards from the Franklin Institute this year; the awards recognize preeminent accomplishments in science and technology on an international level and have been presented since the Institute was founded in 1824. Bargmann is Torsten N. Wiesel Professor, head of the Lulu and Anthony Wang Laboratory of Neural Circuits and Behavior and a Howard Hughes Medical Institute investigator.

**Jean-Laurent Casanova**, a 2014 Sanofi-Institut Pasteur Award, recognizing scientific progress in the life sciences. Dr. Casanova is being honored for his discovery of the role of single-gene mutations in infectious diseases, leading to novel treatments for certain pediatric diseases. As this year’s Mid-career Award winner, Dr. Casanova will receive approximately \$35,000 and his laboratory will receive about \$65,000. The awardees were honored at a ceremony on November 13 in Paris, France. Dr. Casanova is head of the St. Giles Laboratory of Human Genetics of Infectious Diseases and is a Howard Hughes Medical Institute investigator.

**Jean-Laurent Casanova**, the 2014 Robert Koch Award from the Berlin, Germany based Robert Koch Foundation. The Robert Koch Foundation is a nonprofit foundation dedicated to the promotion of basic scientific research in the field of infectious diseases, as well as exemplary projects that address medical and hygienic issues. Dr. Casanova is being recognized for groundbreaking work on understanding host genes and their products in infectious diseases.

**Agata Smogorzewska**, a Doris Duke Charitable Foundation (DDCF) Clinical Research Mentorship, which provides \$64,800 to support the development of a mentoring relationship between a DDCF-funded clinical scientist and a medical student who has an interest in becoming a future clinician investigator. The award will support Dr. Smogorzewska’s student Elizabeth Looke-Stewart, a member of the Tri-Institutional M.D.-Ph.D. Program who is working to identify genomic alterations in squamous cell carcinomas from Fanconia anemia patients. Dr. Smogorzewska is head of the Laboratory of Genome Maintenance.

### Named:

**Stephen Browhan**, a Blavatnik Award regional finalist in chemistry by the New York Academy of Sciences. Nine regional finalists were each awarded \$10,000 and an award medal at the Academy’s annual gala in November. Dr. Brohawn studies how proteins called mechanosensitive ion channels sense mechanical forces. He is a postdoc in Roderrick MacKinnon’s Laboratory of Molecular Neurobiology and Biophysics.

**Sebastian Klinge**, a 2014 Rita Allen Foundation Scholar. Scholars receive grants of up to \$110,000 annually for as many as five years to pursue innovative research with above-average risk and promise. Dr. Klinge is head of the Laboratory of Protein and Nucleic Acid Chemistry.

### Hired (academic appointments):

- Seung Tae Baek**, postdoctoral associate, Gleeson Lab.
- Jonas Barandun**, postdoctoral fellow, Klinge Lab.
- Roman Belousov**, postdoctoral associate, EGD Cohen Lab.
- Florian Berger**, postdoctoral associate, Hudspeth Lab.
- Karl Bertram**, foreign research intern, Tuschl Lab.
- Nagarajan Chandramouli**, member of the adjunct faculty, Collier Lab.
- Jue Chen**, professor and head of laboratory, Chen Lab.
- Chung-Han Chu**, postdoctoral associate, Brady Lab.
- Charlotte Cockram**, postdoctoral associate, Smogorzewska Lab.
- Bruce Conway**, member of the adjunct faculty, Collier Lab.
- Adeline Crinier**, foreign research intern, Casanova Lab.
- Mareike Czuppa**, foreign research intern, Tuschl Lab.
- Maria Elena De Obaldia**, postdoctoral fellow, VossHall Lab.
- Esra Dikoglu**, research associate, Gleeson Lab.
- Scott Drutman**, visiting fellow, Casanova Lab.
- Rana Eizadpanahian**, visiting student, Pfaff Lab.
- Stephanie Ellis**, postdoctoral fellow, Fuchs Lab.
- Amelia Escolano**, postdoctoral associate, Nussenzweig Lab.
- Benjamin Farber**, visiting fellow, Simon Lab.
- Alexandre Fuerstenberg**, visiting fellow, Sakmar Lab.
- Felipe Garcia Quiroz**, postdoctoral associate, Fuchs Lab.
- Juan Garrido Maraver**, visiting student, Steller Lab.
- Joseph Gleeson**, professor and head of laboratory, Gleeson Lab.
- Alicia Guemez Gamboa**, visiting fellow, Gleeson Lab.
- Rayshonda Hardy**, postdoctoral associate, Hang Lab.
- Ruina He**, postdoctoral associate, Hang Lab.
- Laura Heckman**, postdoctoral associate, Gleeson Lab.
- Evan Heller**, postdoctoral associate, Fuchs Lab.
- Ryan Heselpoth**, postdoctoral associate, Fischetti Lab.
- Zhong Hua**, postdoctoral associate, Fuchs Lab.
- Manizheh Izadi**, visiting student, Roeder Lab.
- Yelena Janjigian**, member of the adjunct faculty, Tavazoie Lab.
- Oyebisi Jegede**, instructor in clinical investigation, Rice Lab.
- Julie Jerber**, postdoctoral associate, Gleeson Lab.
- Anide Johansen**, visiting student, Gleeson Lab.
- Hea-Jin Jung**, postdoctoral associate, Gleeson Lab.
- Hoon-Chul Kang**, visiting professor, Gleeson Lab.
- Young Jin Kim**, postdoctoral associate, Chen Lab.
- Gadi Lalazar**, instructor in clinical investigation, Simon Lab.
- Hongda Li**, postdoctoral associate, Gleeson Lab.
- David Lin**, postdoctoral associate, Chen Lab
- Xu Liu**, postdoctoral fellow, Pfaff Lab.
- Siqi Liu**, postdoctoral associate, Fuchs Lab

### OBITUARIES

## Trustee Donald Pels dies at 86

by WYNNE PARRY

Don Pels, a member of the university’s Board of Trustees for more than two decades, passed away October 16 at home in Manhattan.

Mr. Pels, a media executive, joined the board in 1993 and provided crucial support for basic science over many years. A gift he made in 1988 established the Pels Family Center for Biochemistry and Structural Biology and helped fund recruitment of early career faculty in those fields. He later provided funding for an endowed professorship, the Pels Family Professorship. He also served on numerous Board committees and, with his wife Wendy Keys, supported the Tri-Institutional Noon Recitals as well as other initiatives at Rockefeller.

In his highly successful business career, Mr. Pels anticipated the ascendance of mobile phones. The company he led for 20 years, LIN Broadcasting, was mostly an owner of radio and television businesses, but one of its properties, a paging company, acquired licenses for mobile communications in several key markets including New York City. Those licenses became hugely valuable as cellular phone services took off in the early 1990s.

Mr. Pels took a hands-on approach to his philanthropic interests, including at Rockefeller. Although he did not have scientific training he was a quantitative and analytical thinker interested in how science works and in fostering a creative environment within it, says Thomas Sakmar, head of the Laboratory of Chemical Biology and Signal Transduction. Dr. Sakmar worked closely with Mr. Pels when Dr. Sakmar served as acting president in 2002, and



even as Mr. Pels made the transition to an emeritus board member he took a leadership role at Rockefeller.

“Don would come to campus and meet with people and have lunch, or invite faculty to his apartment. He was involved in [former president] Paul Nurse’s recruitment, and he not only sponsored faculty and student retreats, he and Wendy would attend them,” Dr. Sakmar says. “You don’t usually see a Rockefeller trustee waiting in the food line at a retreat.”

In addition to his support of Rockefeller, Mr. Pels served on the board of the Aaron Diamond AIDS Research Center and the New York Philharmonic, and he was an early supporter of the High Line.

Mr. Pels is survived by his wife, Wendy; two daughters, Valerie Pels and Juliette Meeus; his son Laurence; sister Betty Schwartz; and four grandchildren.

## Professor Emeritus Peter Marler, researcher of songbird learning, dies

by WYNNE PARRY

Professor Emeritus Peter Robert Marler, whose work in songbird learning established a foundation for understanding how animals communicate, died July 5 at the age of 86 in Winters, California. Dr. Marler joined Rockefeller’s faculty in 1966 and helped establish the Millbrook Field Research Center about 80 miles north of Manhattan, serving as its founding director from 1972 to 1981.

Born in England, Dr. Marler received his first doctorate in botany from University College, London. But since childhood, birds had always had his attention. In his spare time, while conducting vegetation surveys, he noted the song of common birds known as chaffinches varied geographically, like dialects of a language. Dr. Marler earned a second doctorate, this one in zoology, at Cambridge University under William Thorpe, whose own work established that young birds must learn their species’ songs by listening to adults during a critical period of their development.

In 1957, Dr. Marler joined the faculty at the University of California,

Berkeley, and in 1966 he moved to Rockefeller, which had launched a new program in behavioral research. He remained at Rockefeller until 1989 when he went back west to the University of California, Davis. He retired in 1994, and since has held the emeritus rank at both Rockefeller and UC-Davis.

Building upon Dr. Thorpe’s work, Dr. Marler found that young birds learn song dialects; and that when they are ready to learn, young birds prefer the song from their own species. This observation and others lead him to develop the concept of an innate program with its own built-in guidelines, which he referred to as an “instinct to learn,” an alternative to learning by trial-and-error that he proposed applied to human speech as well. Dr. Marler also examined the progression of song learning, beginning with babble-like subsong and then plastic song. In this phase, he found, birds often acquire a greater diversity of sounds than they later produce as adults.

Dr. Marler’s work also looked at