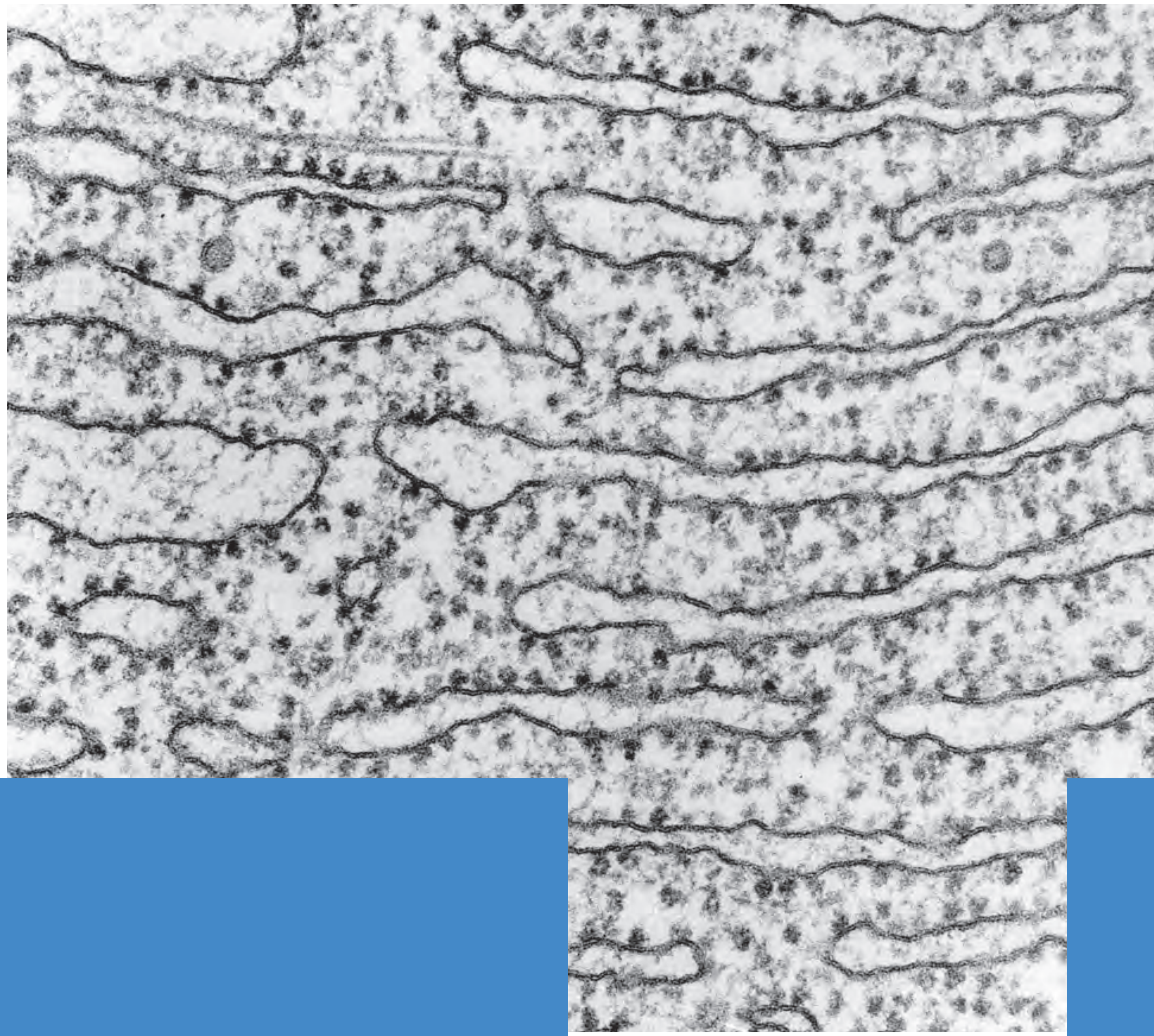
THE ROCKEFELLER UNIVERSITY

TECHNOLOGIES POWERING TODAY'S SCIENTIFIC REVOLUTION

HIGH IMPACT PHILANTHROPY AT WORK



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Ribosomes stud the walls of the maze-like membranes of a cell's endoplasmic reticulum in a historic electron micrograph from 1966. Ribosomes are the molecular machines that synthesize the proteins necessary for life. They were unknown until Rockefeller professor George Palade, who received a Nobel Prize in 1974, discovered them using electron microscopy. Years later, another Rockefeller professor, Günter Blobel, built upon George Palade's research. He showed that proteins destined for export from the cell have a sequence of amino acids that allows them to be threaded through the membrane of the endoplasmic reticulum, starting their voyage out of the cell. He received the Nobel Prize for this work in 1999. Today, Rockefeller head of lab Sebastian Klinge uses cryo-electron microscopy to determine the mechanisms by which ribosomes, which are built from more than 80 different proteins and RNA molecules, are themselves assembled. Advances in imaging have played critical roles in our understanding of fundamental life processes.

COVER: Inside one of the University's cryo-electron microscopes. Using extraordinarily cold temperatures, cryo-EMs make it possible to focus on objects just a few millionths of a millimeter in size. Thanks to generous philanthropic support, Rockefeller was one of the first universities to acquire a cryo-EM, which led to dozens of discoveries in just its first few years on campus.

MESSAGE FROM THE PRESIDENT

We have all seen how an invention can change the world. In recent years, the biomedical community has witnessed many profound advances fueled by technological innovation. With the advent of fast and inexpensive DNA sequencing, scientists can now uncover the causes of a wide range of diseases, and the discovery of gene editing with CRISPR technology provides a potential means to cure many of them. Advances in imaging are yielding key insights into the structures and functions of proteins, and allow us to watch fundamental life processes unfold at exquisite resolution in living cells. We even have tools to make fine measurements of the seemingly imperceptible physical forces that animate these processes.

This revolution is extraordinary in itself. But in the hands of the pioneering scientists at The Rockefeller University, these technologies are helping to create a deeper understanding of human biology, and with it, the possibility for more precise diagnostic tools, more effective medicines, and better strategies for disease prevention.

To power the investigations that will shape the future of medicine, Rockefeller has established a set of Scientific Resource Centers. These centers provide shared access to advanced instruments for ultra high–resolution optical imaging, imaging at the atomic level using cryo-electron microscopy, genome sequencing, high-throughput screening for drug candidates, rapid prototyping of new instrumentation, and a host of other technologies and services. The resource centers are vital to the groundbreaking research that is underway on our campus and represent some of our wisest investments.

In the pages that follow, we highlight the importance of the Scientific Resource Centers to breakthrough science, and the equally critical role that philanthropy plays in helping us to make leading-edge technologies available to our scientists. A gift to a single resource center can advance the work of many laboratories and will have an enduring impact on research that benefits human health on a global scale.

RICHARD P. LIFTON, M.D., PH.D.
PRESIDENT AND CARSON FAMILY PROFESSOR
THE ROCKEFELLER UNIVERSITY

TOMORROW'S DISCOVERIES ARE UNLIKELY TO BE MADE WITH YESTERDAY'S TECHNOLOGIES

World-class science requires ready access to emerging technological advances. But cutting-edge instrumentation can be expensive, and federal funding to pay for it is scarce.

To stay in the vanguard of scientific discovery, Rockefeller employs a cost-effective solution: Scientific Resource Centers for shared technology. These centralized facilities offer sophisticated equipment and expert services to all the laboratories on campus.

- Optical microscopes that can trace the motion of single fluorescent molecules within a cell
- Robotic instruments to rapidly screen tens of thousands of compounds as potential drug candidates
- Highly sensitive electron microscopes that allow scientists to determine how proteins are constructed, atom by atom
- Computational tools to collect, organize, and analyze the huge streams of data generated with today's technology
- Computer-assisted fabrication systems that enable scientists to create unique tools and specialized experimental setups

All of this—and much more—is going on at The Rockefeller University today.

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Many of the investigations underway at Rockefeller rely on multiple Scientific Resource Centers. Lab head Agata Smogorzewska studies DNA repair in the context of the rare genetic disorder Fanconi anemia. By studying the errors that occur in the cells of patients with this disorder, Dr. Smogorzewska and her colleagues are providing insights into how the human genome protects its integrity against constant assault—whether from external toxins or internal replication mistakes. Her research benefits from the technologies and expertise available in the Genomics Resource Center, the Vertebrate Genome Core, Bioinformatics, and the High Performance Computing Center.

Today's **technological innovations** are driving **breakthrough science** at an unprecedented pace. The **latest instruments** are radically changing the way research is conducted, **fueling progress** toward discoveries that could not have been imagined even five years ago.

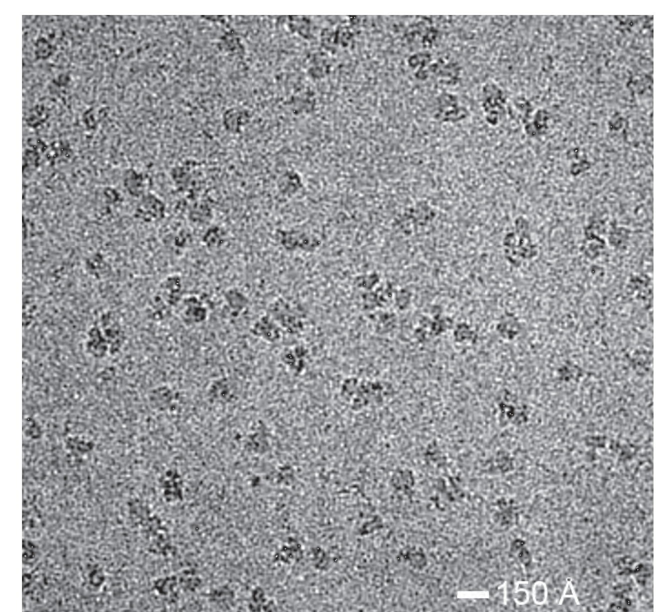
FUELING SCIENCE THROUGH SHARED RESOURCE CENTERS

By creating and subsidizing core facilities, Rockefeller greatly increases access to both mainstay and emerging technologies, while achieving economies of scale. Much of this technology is too costly or complex for individual research groups to acquire, operate, and maintain on their own. Sustaining a corps of excellent resource centers is fiscally responsible—minimizing duplication of standard equipment, centralizing technical expertise, and reducing operating costs.

The resource centers provide other important advances that enhance scientific productivity. They act as hubs for interdisciplinary collaboration and serve as training grounds for investigators. They also attract new faculty and students who seek institutions that are committed to strengthening and expanding technological resources.

"With these **detailed new reconstructions**, we can begin to understand **how this protein functions** normally, and how errors within it cause cystic fibrosis."

JUE CHEN, PH.D.
WILLIAM E. FORD PROFESSOR
LABORATORY OF MEMBRANE BIOLOGY AND BIOPHYSICS



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In 2016, lab head Jue Chen created the first three-dimensional map of the protein responsible for cystic fibrosis, a progressive genetic disease. In order to create the 3-D model (shown above), Dr. Chen and her colleagues collected thousands of 2-D micrographs (like the one shown at left) on the University's cryo-electron microscopes, then processed the data using high performance computing resources. Cystic fibrosis arises from mutations in a single gene, which encodes a protein that forms a channel through which chloride ions pass in and out of cells. Errors in this protein can lead to the accumulation of thickened fluids that affect breathing and digestion. Dr. Chen's work offers hope for an improved quality of life for the millions of children around the world coping with this disease.

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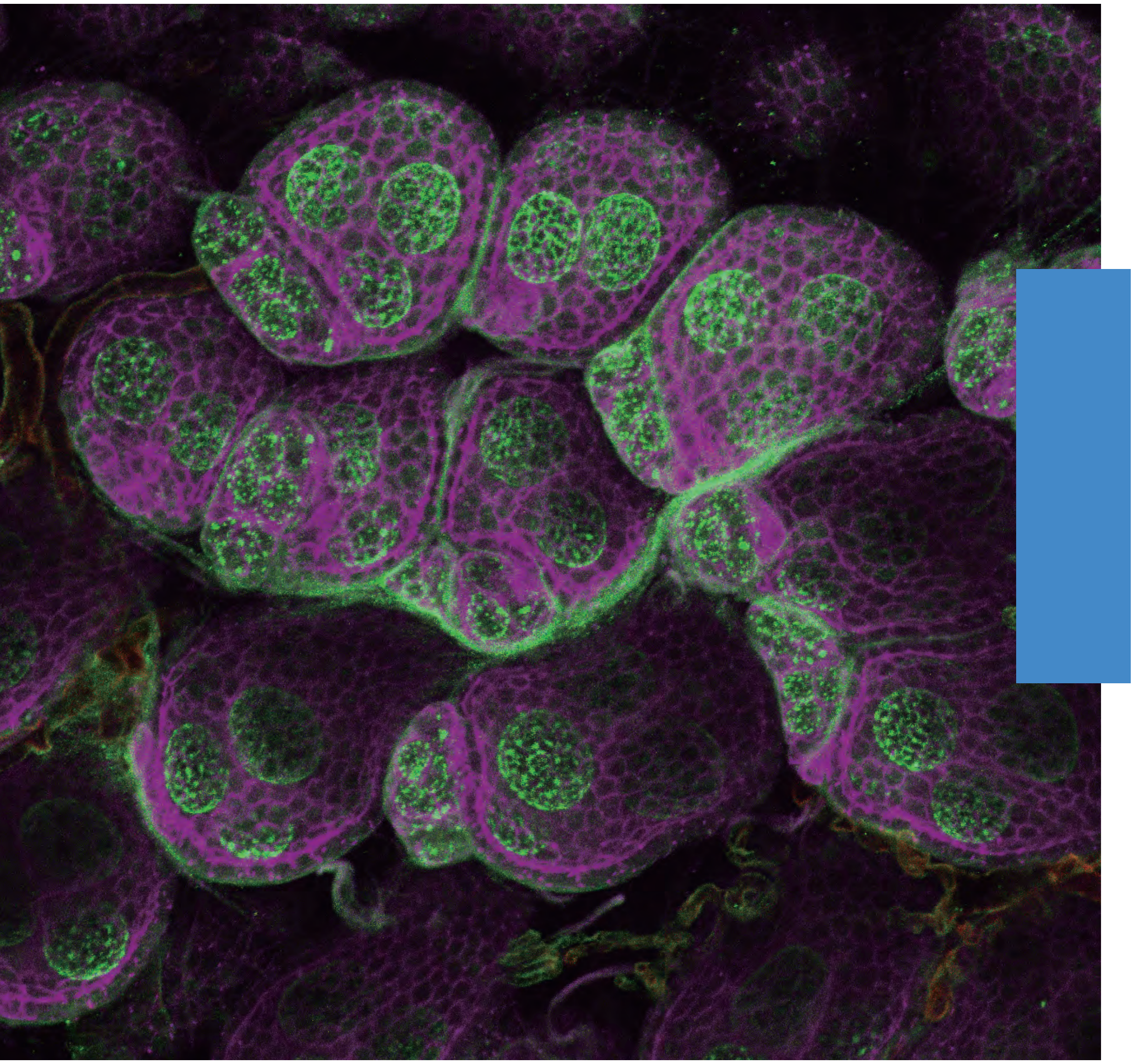
At right, Connie Zhao, Jason Banfelder, Mark Ebrahim, and Alison North are directors of four of the resource centers on campus. Over 80 percent of center directors have Ph.D.s or other advanced degrees, and are relied upon for their experience and expertise.

An image of a mosquito ovary acquired with a confocal microscope in the Markus Bio-Imaging Resource Center. The green reveals each individual cell in the developing embryos. The magenta is connective tissue. Every pixel of a micrograph has the potential to yield meaningful and quantitative information. Success depends on using the optimal instrument, adjusted to the proper settings, and following best practice—from sample preparation to image processing and analysis. (Image courtesy of biomedical fellow Margo Herre)



TECHNOLOGY EXPERTS OPTIMIZE STATE-OF-THE-ART RESOURCES

Rockefeller's resource centers are staffed by scientists who have a depth of experience and knowledge vital to maximizing the complex technology they oversee. Center personnel advise and train Rockefeller investigators, providing crucial guidance on projects and experimental protocols. They also stay informed about research trends and emerging technologies, ensuring that the instrumentation Rockefeller acquires is as useful, powerful, and cost-effective as possible.

As Bio-Imaging Center director Alison North phrased it, "We focus on the technology, so that the researchers can focus on the science."

Resource center directors and staff come from a broad range of backgrounds, including bioinformatics, cell biology, chemistry, computer science, engineering, genomics, immunology, physics, and proteomics. They are fiercely committed to advancing new discoveries, and are themselves highly published in peer-reviewed journals.

SCIENTIFIC RESOURCE CENTERS

AT THE ROCKEFELLER UNIVERSITY

FRITS AND RITA MARKUS BIO-IMAGING RESOURCE CENTER
provides training, advice, and access to optical microscopy instrumentation using widefield, confocal, multiphoton, light-sheet, and super-resolution systems.

BIOINFORMATICS
is the science of collecting, processing and analyzing biological data. The bioinformatics group tailors each solution to the individual project, allowing investigators to visualize, query, and interact with their biological data.

CRISPR AND GENOME EDITING RESOURCE CENTER
allows for the investigation of gene functions using gene targeting and mouse embryonic stem cell technology.

EVELYN GRUSS LIPPER CRYO-ELECTRON MICROSCOPY RESOURCE CENTER
features the world's most stable dedicated cryo-electron microscopes optimized for high resolution single particle analysis of proteins and protein complexes, as well as high resolution cellular tomography.

ELECTRON MICROSCOPY RESOURCE CENTER
generates high-quality, high-resolution images through transmission and scanned electron microscopy, allowing scientists to see biological structures in finer detail than traditional light microscopes.

FLOW CYTOMETRY RESOURCE CENTER
provides high-speed, high-purity cell sorting and analysis of cell characteristics, such as size, count, shape, structure, and protein content.

GENOMICS RESOURCE CENTER
offers state-of-the-art tools and instrumentation for DNA sequencing and other services, coupled with an expert staff to guide and train investigators.

HIGH PERFORMANCE COMPUTING CENTER
maintains clusters of tightly integrated computers that work in concert to address scientific workloads, which is crucial for today's data-rich scientific environment.

HIGH-THROUGHPUT AND SPECTROSCOPY RESOURCE CENTER
provides biochemical screening and analysis of compounds—an important step in the discovery of new medicines.

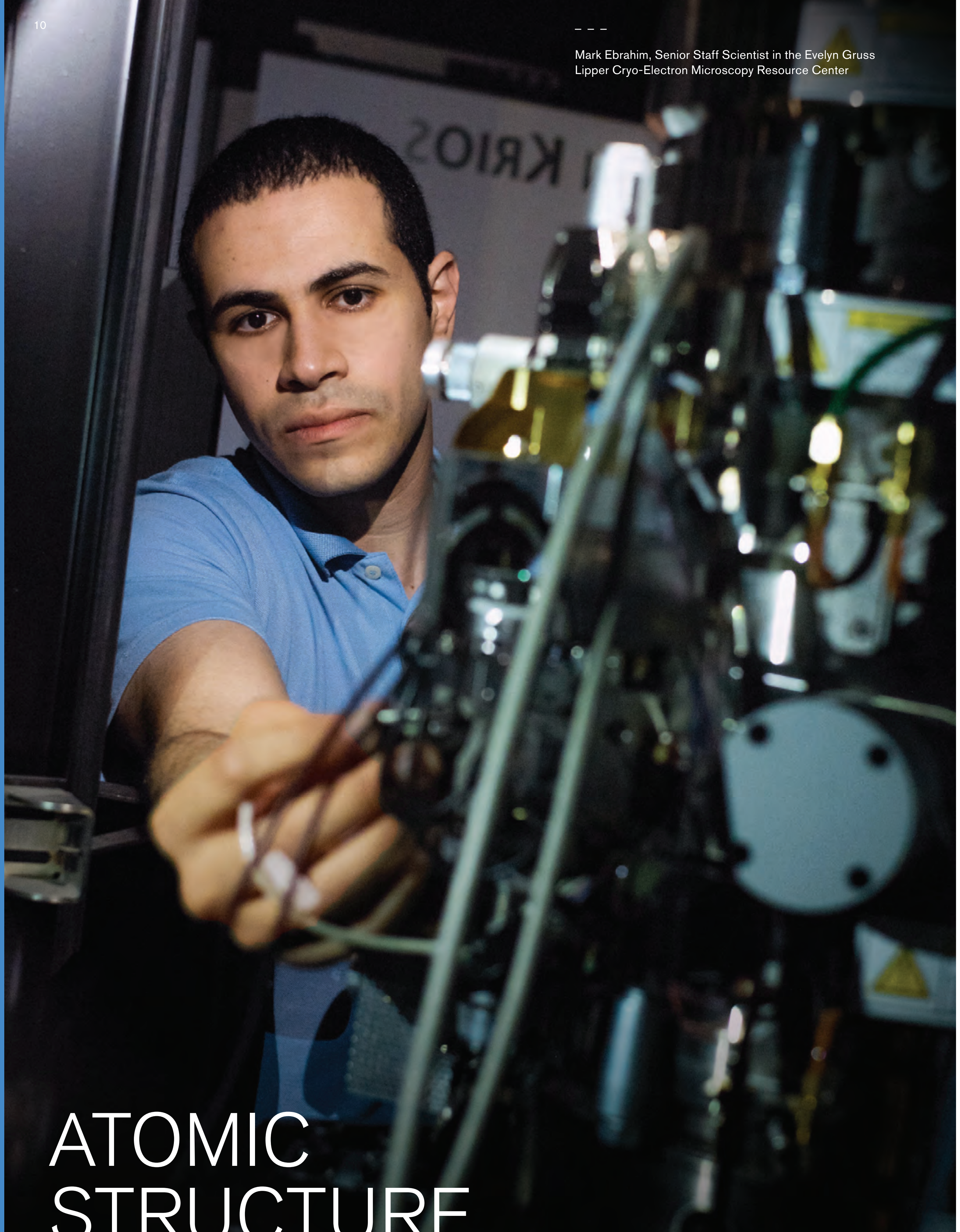
PRECISION INSTRUMENTATION TECHNOLOGIES
has a wide array of prototyping and fabrication equipment, allowing investigators to build and design custom tools and instruments.

PROTEOMICS RESOURCE CENTER
offers analysis and synthesis of biomolecules and identification of proteins and peptides.

STRUCTURAL BIOLOGY RESOURCE CENTER
offers advice, guidance and instrumentation for protein expression and purification as well as structural studies of proteins, nucleic acids, and small effector molecules.

VERTEBRATE GENOME LABORATORY
generates high-quality, annotated reference genome assemblies. The VGL is a lead participant in an international effort to sequence the genomes of all 66,000 vertebrate species, enabling scientists to address fundamental questions in biology, conservation, and disease.

The following pages explore the **capabilities and impact** of five of Rockefeller's resource centers and offer insights from Rockefeller scientists about the **transformative science** that these centers have made possible.



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Mark Ebrahim, Senior Staff Scientist in the Evelyn Gruss Lipper Cryo-Electron Microscopy Resource Center

ATOMIC STRUCTURE

THE EVELYN GRUSS LIPPER CRYO-ELECTRON MICROSCOPY RESOURCE CENTER

VISUALIZING MOLECULES AT THE LEVEL OF SINGLE ATOMS

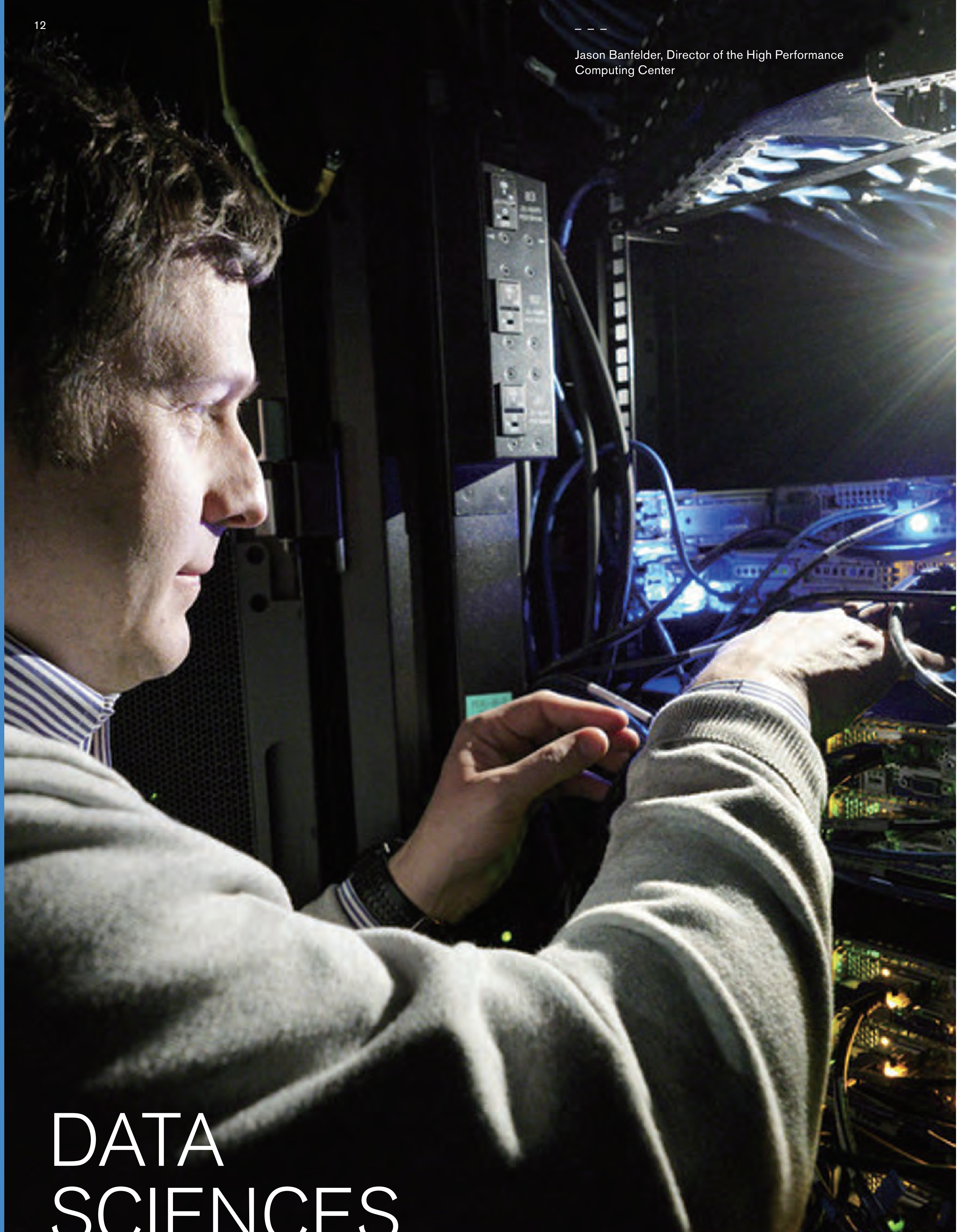
Cryo-electron microscopy enables scientists to capture images of molecular structures at atomic-scale resolution. Until a few years ago, investigators often had to coax the molecules they studied to form crystals—a stumbling block in many attempts to delineate biomolecular structures. Cryo-EM not only eliminates this arduous step, but also allows scientists to detect subtle shape changes that a molecule undergoes during biological activity—for example, when a medically important protein interacts with an experimental drug.

Since its inception, the Evelyn Gruss Lipper Cryo-Electron Microscopy Resource Center has made possible a broad range of studies conducted by Rockefeller's world-class structural biology laboratories and a growing number of other groups. Results emerging from the Center are shedding light on fundamental biological processes while opening the way toward new treatment strategies for cystic fibrosis, heart arrhythmias, epilepsy, tuberculosis, sensory disorders, viral infections, chemotherapy-resistant cancers, and many other clinical concerns.

To help meet the intense demand for cryo-EM, in 2018 Rockefeller purchased a third high-end instrument with capabilities for studying even smaller molecules—a major acquisition that was only made possible by generous philanthropic support.

"Structural biology has experienced a true revolution thanks to cryo-EM. This technology permits the determination of atomic-resolution molecular structures without the requirement of crystallization. Even greater possibilities are on the horizon, when we'll actually be able to see the protein structures in the cell with the neighbors they interact with. This area is a watershed right now. We're only just beginning to grasp what the technology is going to allow us to see."

RODERICK MACKINNON, M.D.
2003 NOBEL LAUREATE
JOHN D. ROCKEFELLER, JR. PROFESSOR
LABORATORY OF MOLECULAR NEUROBIOLOGY AND BIOPHYSICS



Jason Banfelder, Director of the High Performance Computing Center

DATA SCIENCES

HIGH PERFORMANCE COMPUTING CENTER AND BIOINFORMATICS RESOURCE CENTER

POWERING BIOSCIENCE IN THE INFORMATION AGE

In recent years, biomedicine has become overwhelmingly data intensive as new technologies, such as next-generation genome sequencing and cryo-electron microscopy, generate huge volumes of output that must be stored, organized, and analyzed. To meet this burgeoning need, the University made two key strategic investments—a centralized high performance computing cluster (Rockefeller's first supercomputer) in 2016, and a Bioinformatics Resource Center in 2017.

The cluster's 4,000 individual processors, or cores, perform calculations in parallel. Configured to operate at peak efficiency, the cluster is capable of handling three petabytes of data. This technology streamlines and propels work in genomics, proteomics, structural biology, neuroscience, cancer biology, drug design, and many other fields.

The Bioinformatics Resource Center serves as a centralized resource for the analysis of biological data. The Center supports the community by developing and maintaining a comprehensive and unique ecosystem of analytic software and methods, by providing training and consultation to the University's researchers, and by facilitating a community for Rockefeller's computational biologists.

The introduction of high performance computing capabilities and bioinformatics at Rockefeller has dramatically reduced the time to discovery in many laboratories, increased the scale of problems that they can tackle, expanded the University's analytical "toolbelt," and enabled a new generation of scientists to ask—and answer—data-driven questions.

"Before Rockefeller launched the High Performance Computing Center, it took weeks to run complex machine learning analysis that can now be completed in 16 hours. We are using the HPC system to crunch data from our genomic studies of mosquitoes and working with the incredible scientists leading the Center to continually up our game in computing."

LESLIE B. VOSSHALL, PH.D.
ROBIN CHEMERS NEUSTEIN PROFESSOR
LABORATORY OF NEUROGENETICS
DIRECTOR, KAVLI NEURAL SYSTEMS INSTITUTE

Jeanne Chiaravalli, Research Support Specialist in the High-Throughput and Spectroscopy Resource Center

DRUG DISCOVERY

HIGH-THROUGHPUT AND SPECTROSCOPY RESOURCE CENTER

ACCELERATING DRUG DEVELOPMENT

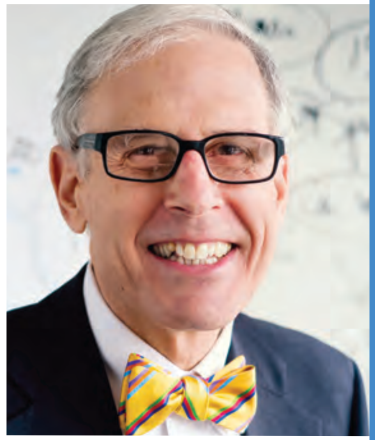
Every year, about 45 Rockefeller University labs turn to the expert staff of the High-Throughput and Spectroscopy Resource Center for advice on basic and translational research projects. The Center provides access to high-throughput compound screening, a key step in the creation of new medicines. This process enables scientists to zero in on drug candidates by conducting systematic testing of large and diverse libraries of active compounds.

Promising projects at the University include: identification of the first inhibitor of the enzyme that causes rampant autoimmune responses in diseases like lupus; refinement of a compound currently being developed as a pre-hospital therapy for heart attack; and isolation of another compound—which emerged from a pack of 93,716 candidates screened—that might halt the progress of Alzheimer's disease.

The High-Throughput and Spectroscopy Resource Center also offers an array of additional technologies for the study of biological molecules and their interactions, including light-based spectroscopic analysis and NMR spectroscopy, which uses magnetic fields to analyze molecular structure.

"The accessibility of high-throughput screening allowed my lab to identify compounds that inhibit blood clotting and that could be used to treat patients at the first signs of a heart attack. An investigational drug (RUC-4), which derived from a compound identified in the high-throughput screen we conducted at Rockefeller, is now in clinical development with corporate support. I am extremely grateful to the outstanding staff of the High-Throughput and Spectroscopy Center for their support of our project and many other Rockefeller projects."

BARRY S. COLLER, M.D.
DAVID ROCKEFELLER PROFESSOR,
ALLEN AND FRANCES ADLER LABORATORY OF BLOOD AND VASCULAR BIOLOGY
PHYSICIAN-IN-CHIEF, ROCKEFELLER UNIVERSITY HOSPITAL
VICE PRESIDENT FOR MEDICAL AFFAIRS



Peer Strogies, Scientific Machinist in Precision Instrumentation Technologies

DESIGN & FABRICATION

PRECISION INSTRUMENTATION TECHNOLOGIES

DESIGNING AND BUILDING EXPERIMENTAL TOOLS

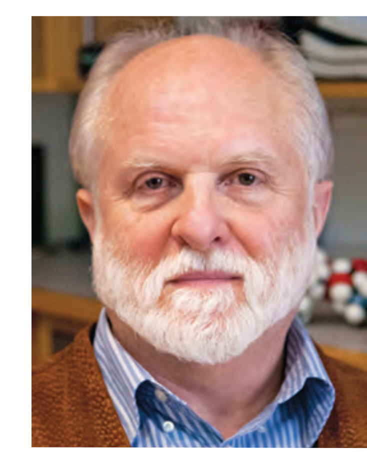
Many Rockefeller scientists design and build instruments that enable them to translate ideas into experiments and, eventually, discoveries. Creating custom lab apparatus has been a central activity on campus since the University's founding. Today, the Precision Instrumentation Technologies (PIT) facility serves as the University's imagination factory, where sophisticated manufacturing technologies, such as computer-controlled machining and advanced three-dimensional printing, are put to work generating prototypes, parts, and entire research setups conceived in Rockefeller laboratories.

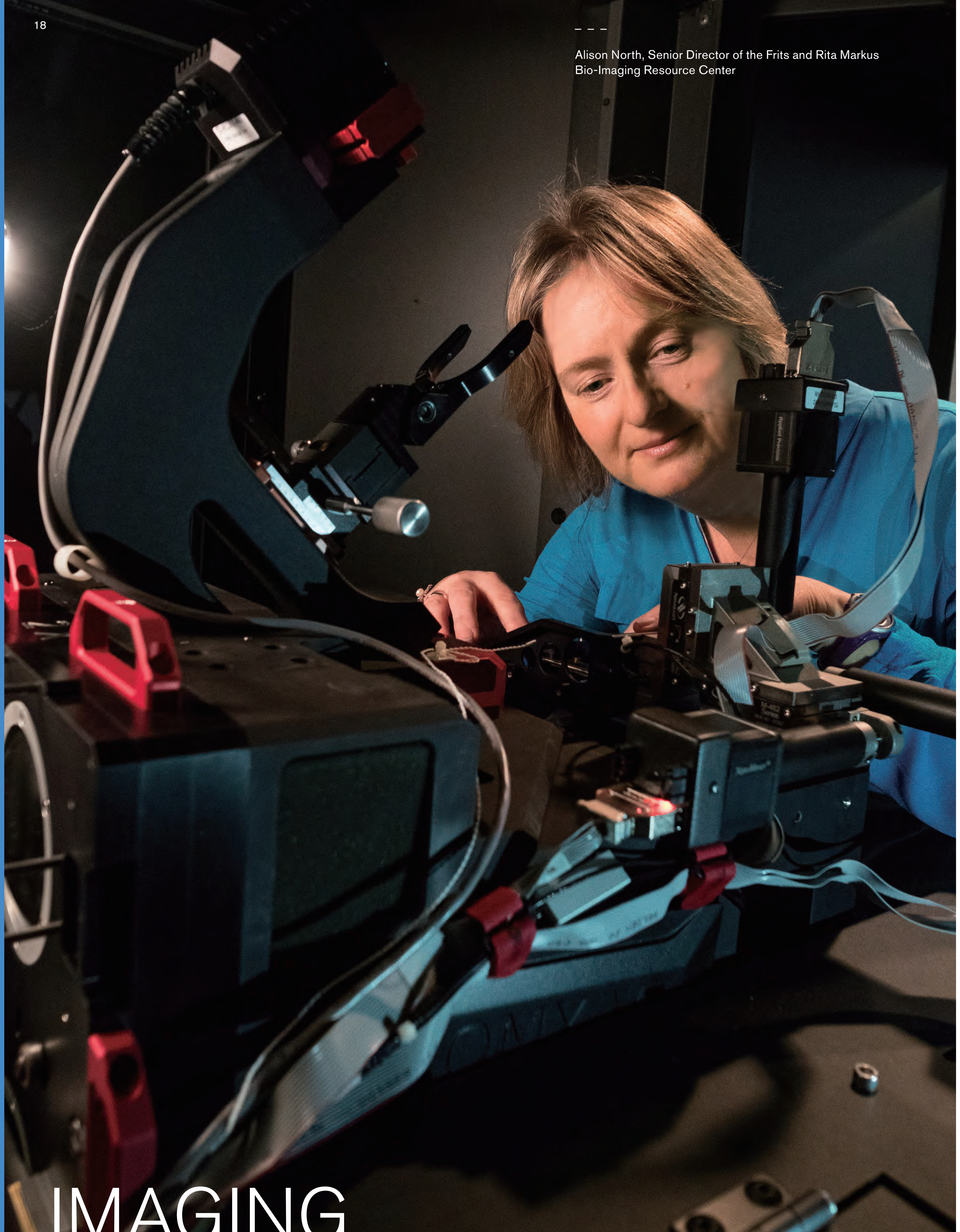
The main maker space has an open plan that encourages collaborative problem solving. It is outfitted with a range of tools from standard band saws to industrial lathes. The heart of the facility is a 5-axis CNC mill—a room-sized, 19,000 pound machine—that can fabricate intricate parts with delicate precision, while optimizing machining time and material usage.

The PIT's experienced engineers have collaborated with scientists in the design and fabrication of optical imaging systems to track thousands of interacting neurons. They helped to construct an odorant delivery system allowing investigators to measure a disease-carrying mosquito's sensory and neural responses to scents, including carbon dioxide—a product of respiration that attracts these insects to humans.

"Research in biophysics and neuroscience relies on experimental preparations that exemplify scientific principles of interest. These specialized preparations in turn require novel, often unique, apparatus—which can be designed, fabricated, and tested by Precision Instrumentation Technologies."

A. JAMES HUDSPETH, M.D., PH.D.
F. M. KIRBY PROFESSOR
LABORATORY OF SENSORY NEUROSCIENCE





Alison North, Senior Director of the Frits and Rita Markus Bio-Imaging Resource Center

IMAGING

THE FRITS AND RITA MARKUS BIO-IMAGING RESOURCE CENTER

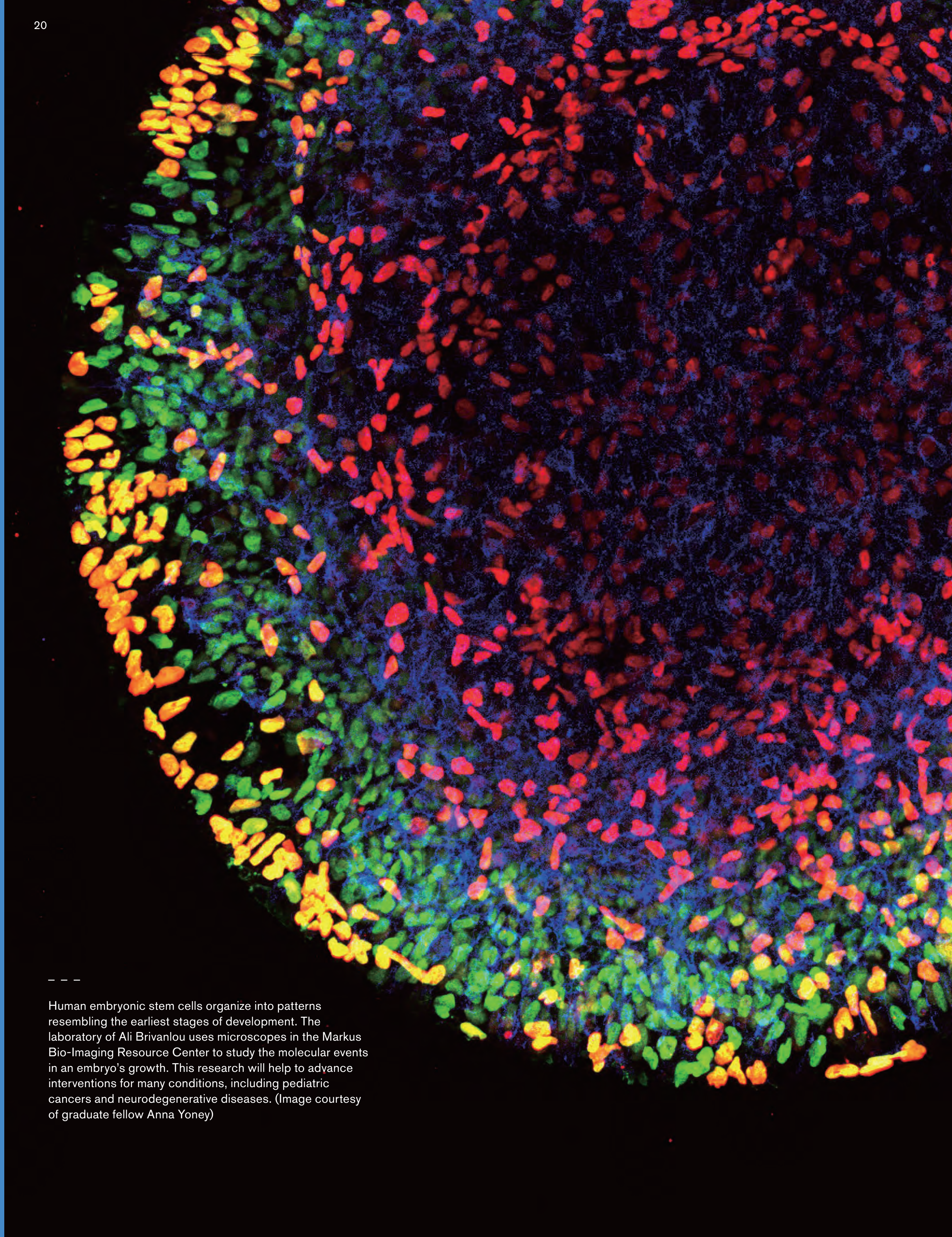
PEERING INTO AN INVISIBLE WORLD

A first-time visitor to the University's Frits and Rita Markus Bio-Imaging Resource Center would quickly learn that modern light microscopes are capable of much more than magnification. Today's optical imaging systems employ lasers tuned to excite multicolored fluorescent tags tethered to specific molecules, producing dynamic images of living cells and tissues. New tools enable scientists to zero in on a cell's fine inner structures at the moment it divides, or get up close to immune system cells as they are summoned into action. One type of instrument in the Center can follow the development of a frog embryo over a long time period, while another aims multiple sheets of light through a sample to build a three-dimensional image.

Established in 2000, the Bio-Imaging Resource Center houses some 18 optical microscopes, costing more than $7 million, selected to meet the evolving needs of the University's laboratories. The Center staff provides training for users, advice on choice of instruments, and guidance in sample preparation—a critical and rate-limiting step for virtually all experiments. Over the last four years, the staff has worked with more than 600 individual users from 78 Rockefeller laboratories. Indeed, for many scientists, the Center is an extension of the lab, a place where stunning, information-rich visuals spark unforeseen findings and insights.

"Imaging of events inside cells has been revolutionized in the last decade, now allowing us to directly observe how cells work. Without the Bio-Imaging Resource Center and its state-of-the-art equipment, my lab could not have made any progress on the cell biology of telomeres or their role in cancer and aging. This Center is a gem, and I hope it will continue to push the envelope in imaging in the future."

TITIA DE LANGE, PH.D.
LEON HESS PROFESSOR
LABORATORY OF CELL BIOLOGY AND GENETICS



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Human embryonic stem cells organize into patterns resembling the earliest stages of development. The laboratory of Ali Brivanlou uses microscopes in the Markus Bio-Imaging Resource Center to study the molecular events in an embryo's growth. This research will help to advance interventions for many conditions, including pediatric cancers and neurodegenerative diseases. (Image courtesy of graduate fellow Anna Yoney)

"Immersion among brilliant scientists and access to **state-of-the-art tools** are critical to the **process of discovery**. Rockefeller provides both."

PRIYA RAJASETHUPATHY, M.D., PH.D.
JONATHAN M. NELSON FAMILY ASSISTANT PROFESSOR
LABORATORY OF NEURAL DYNAMICS AND COGNITION

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Instrument design has always been integral to scientific advances at Rockefeller. Priya Rajasethupathy (above right) studies the biological mechanisms of memory. There are no off-the-shelf instruments for studying the activity of thousands of neurons in a mouse navigating in a virtual-reality environment. Dr. Rajasethupathy and the members of her lab must design the systems themselves. Having access to the tools for building components of these behavioral set-ups is critical to her success.

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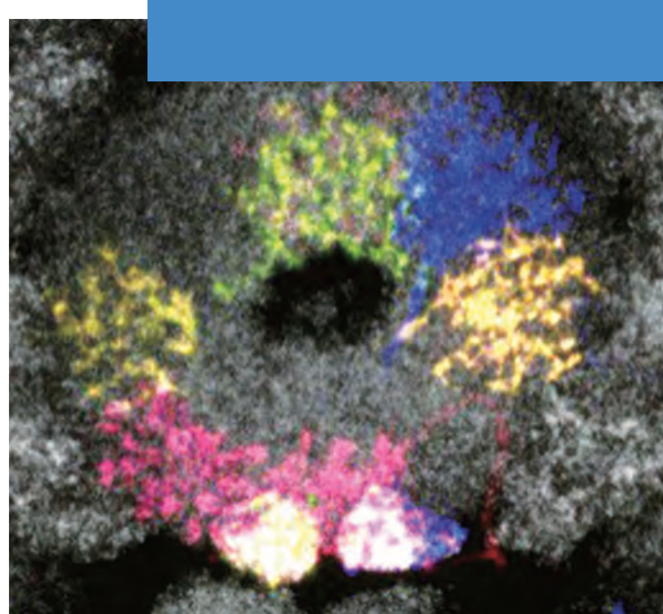
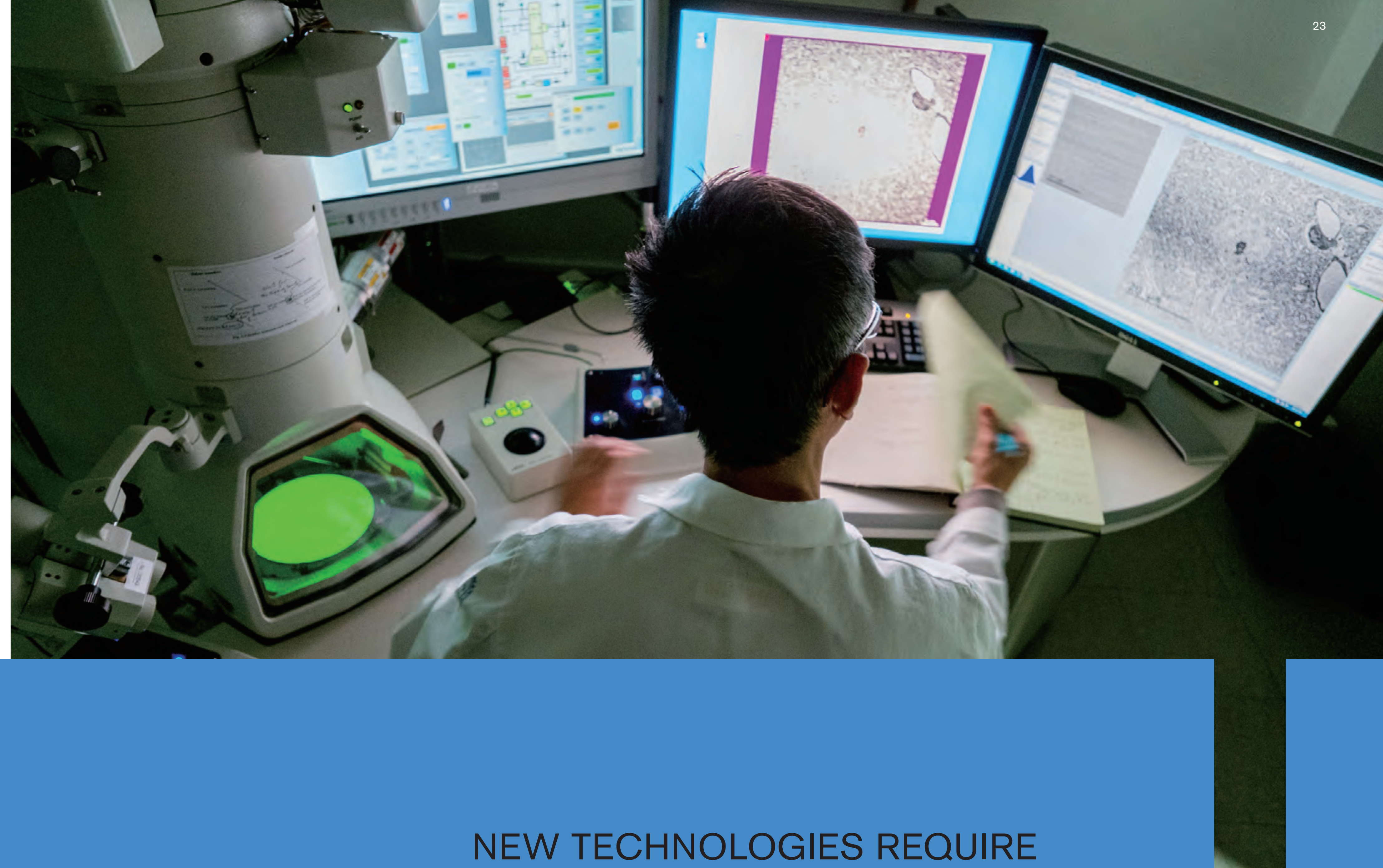
A fly treadmill designed by lab head Gaby Maimon. Investigators in the Maimon Laboratory record neuronal activity in the fly's brain (the donut-shaped structure shown at right) while it makes decisions about where to walk. There are 100,000 neurons in the fly brain—compared to the 86 billion in a human brain—yet these small organisms have the potential to further our understanding of the basic mechanisms that underlie decision-making in all animals. “By working in a smaller brain with fewer neurons, you can more readily understand how cells guide behavior,” says Dr. Maimon.

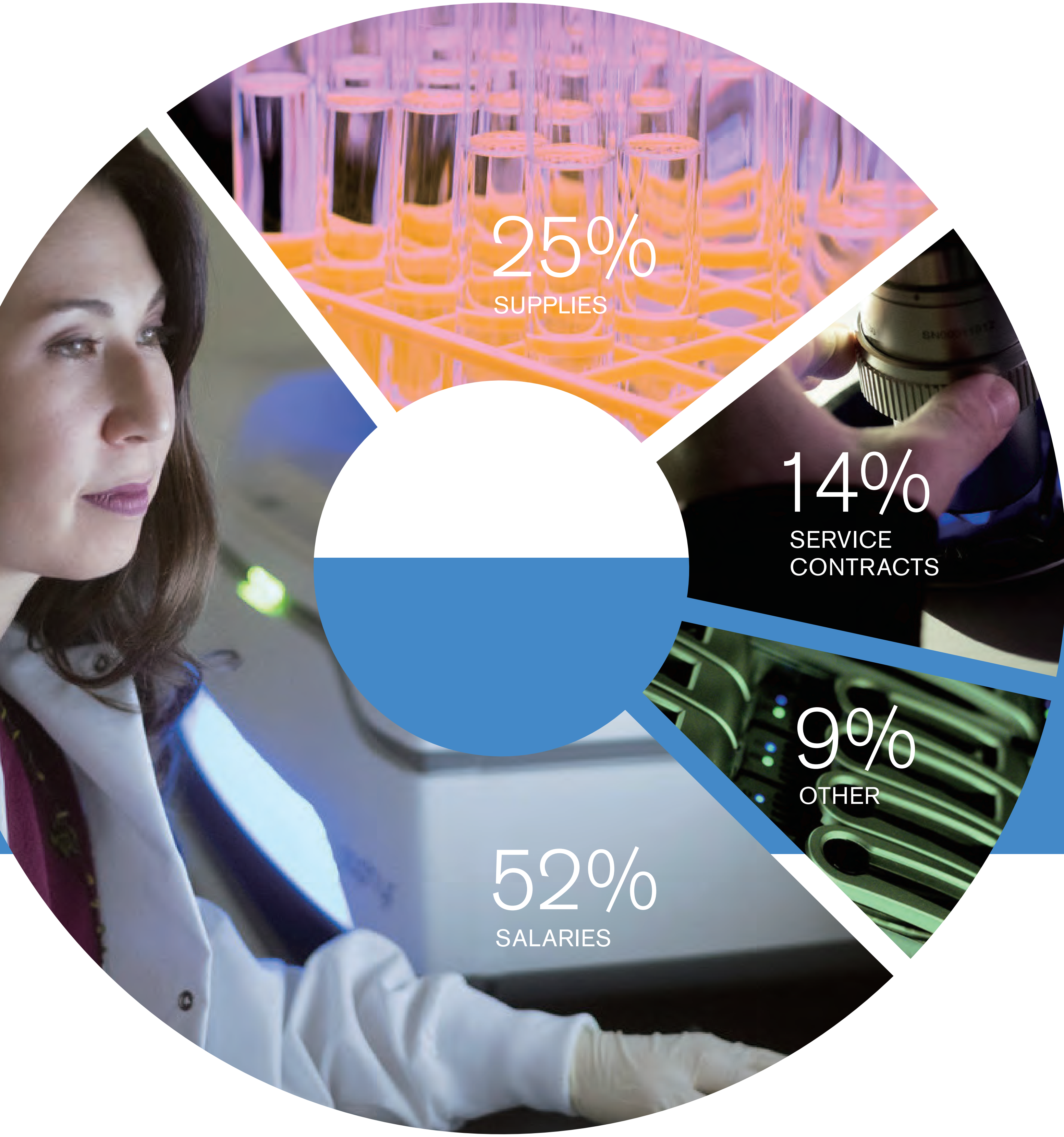




NEW TECHNOLOGIES REQUIRE SIGNIFICANT INVESTMENT

Technology evolves rapidly, opening new investigative avenues or helping scientists solve previously intractable problems. As current technologies mature and new ones emerge, Rockefeller must refresh and expand the shared instrumentation available to its researchers. To this end, center directors and faculty advisory committees annually assemble lists of the latest instruments and upgrades that would most benefit the research on campus. Acquiring the most advanced technology can be expensive, even when its use is shared across dozens of laboratories. The University can fund only a few recommendations each year.

A microscope specialized for live-cell imaging was recently purchased for the Bio-Imaging Resource Center at a cost of $550,000, while a mass spectrometer for the Proteomics Resource Center cost more than $1 million. A workhorse DNA sequencer can be purchased for $200,000, while a state-of-the-art model costs $1 million or more.



THE PRICE OF INNOVATION COSTS OF THE SCIENTIFIC RESOURCE CENTERS

The purchase price of equipment is just the initial investment. Each instrument requires a continuing monetary commitment for technical support, research supplies, and maintenance contracts, as well as periodic upgrades for increased efficiency and functionality.

Operating expenses for the Scientific Resource Centers—exclusive of equipment purchases—approach $23 million a year. While approximately two-thirds of these costs are offset by fees paid by the laboratories that use the centers, the University subsidizes the balance.

OPERATING COSTS OF THE SCIENTIFIC RESOURCE CENTERS

SALARIES FOR CENTER DIRECTORS AND PERSONNEL: 52%
Integral to the success of the centers are the directors, staff scientists, and research specialists who understand the intricacies of the technology and maintain the equipment at peak performance.

RESEARCH SUPPLIES AND CONSUMABLES: 25%
These needs include chemicals, antibodies, and other reagents; tools for sample preparation and analysis; and lab ware.

SERVICE CONTRACTS: 14%
Service contracts are essential to maintaining equipment at optimal effectiveness, and annually cost approximately 10 percent of the initial purchase price of each instrument.

OTHER: 9%
Additional operating costs include professional development for staff, computing, and administrative support.

These figures do not reflect the cost of acquiring new equipment for the Centers.

THE POWER OF PHILANTHROPY
HOW YOU CAN HELP

Funding for the Scientific Resource Centers at The Rockefeller University has emerged as a growing area of philanthropic need. The federal government and private foundations provide little, if any, support for technology and equipment. While Rockefeller has been fortunate that several generous and engaged philanthropists have taken an interest in the resource centers, the University is still faced with ever-growing costs. Rockefeller needs enlightened benefactors to help fund the technologies that will open new paths to biomedical breakthroughs.

By supporting the University's resource centers, donors have the opportunity to amplify their philanthropy. With some individual centers serving more than three-quarters of Rockefeller's research laboratories, gifts in support of technology benefit myriad investigations. A single gift can help to advance fields as diverse as neuroscience, immunology, cancer research, genetics and genomics, metabolic regulation, and infectious diseases.

"We were inspired to start the Cryo-Electron Microscopy Resource Center by Rockefeller scientist Rod MacKinnon. He laid out a compelling vision of how cryo-electron microscopy, then in its infancy, would transform structural biology. Of course, equipment is only as good as the people using it. We were confident that the University had the best and brightest scientists who, when provided with cutting-edge technology, could become world leaders and revolutionize their fields. Our confidence has been rewarded by the pace and number of groundbreaking discoveries, many of which have already been published in leading journals. We look forward to seeing how the tools we provided will continue to benefit humanity for years to come."

EVELYN GRUSS LIPPER, M.D.
ROCKEFELLER TRUSTEE
THE EGL CHARITABLE FOUNDATION

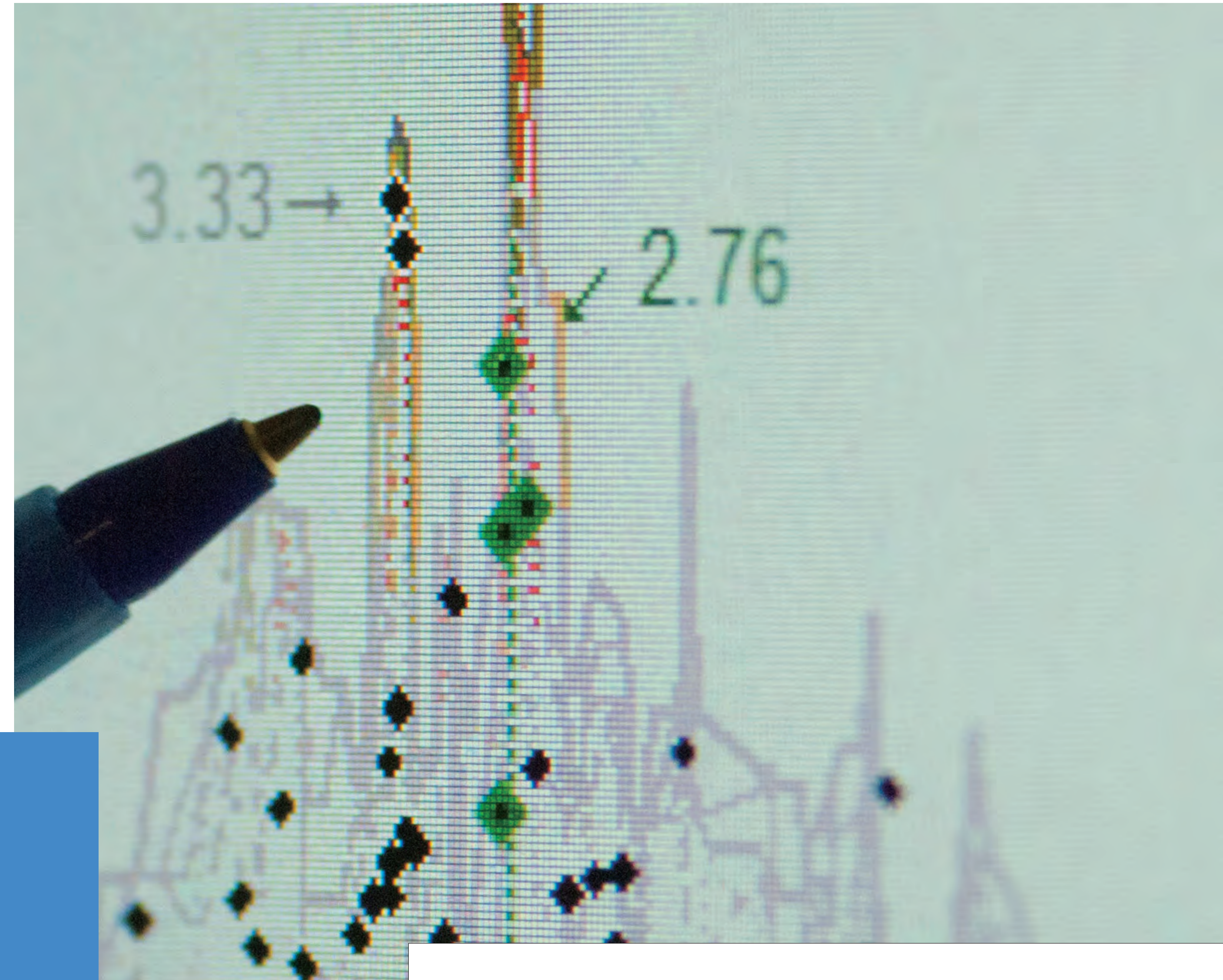
"When The Achelis and Bodman Foundation provided funding for the Bio-Imaging Resource Center and Precision Instrumentation Technologies at Rockefeller, we could not have imagined the impact our support would have across the University. What started as a small group of scientists using these technologies soon caught fire, with nearly every laboratory on campus clamoring to have access to the centers. The Foundation was so impressed by the shared resource center model that we chose to support another—the High Performance Computing Center. We have witnessed firsthand the effect of these centers on the work underway at Rockefeller, and we are thrilled to fund projects that are such a powerful use of our philanthropic dollars."

RUSSELL P. PENNOYER
PRESIDENT, THE ACHELIS AND BODMAN FOUNDATION

"The Sohn Conference Foundation is proud to have provided support to several of the resource centers at Rockefeller, advancing pediatric cancer research by offering scientists across the University access to cutting-edge equipment and instrumentation. We chose to name a confocal microscope in the Bio-Imaging Resource Center for my brother, Ira, whom we lost to cancer at the age of 29. Ira was the inspiration for The Sohn Conference Foundation, and we are very proud to honor him by supporting Rockefeller's work."

EVAN SOHN
CO-FOUNDER, VICE PRESIDENT, AND TREASURER
THE SOHN CONFERENCE FOUNDATION

Gifts of all sizes promote **cost-effective, high-impact science** for the **benefit of humanity.**



GIVING OPPORTUNITIES ARE AVAILABLE AT EVERY LEVEL

To maintain state-of-the-art facilities at peak performance, the University must turn to philanthropists for crucial funding. There are opportunities to support the Scientific Resource Centers at many levels. For example, a gift of $5,000 can purchase an objective lens for a microscope; $50,000 can purchase a bioanalyzer to perform critical quality checks on test samples; $100,000 can fund the acquisition of data transfer and storage hardware that is essential across the centers; $500,000 can fund a single plane illumination microscope; and $1 million can make possible the critical purchase of a high-efficiency sequencer for the Genomics Resource Center.

FOR ADDITIONAL INFORMATION:

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