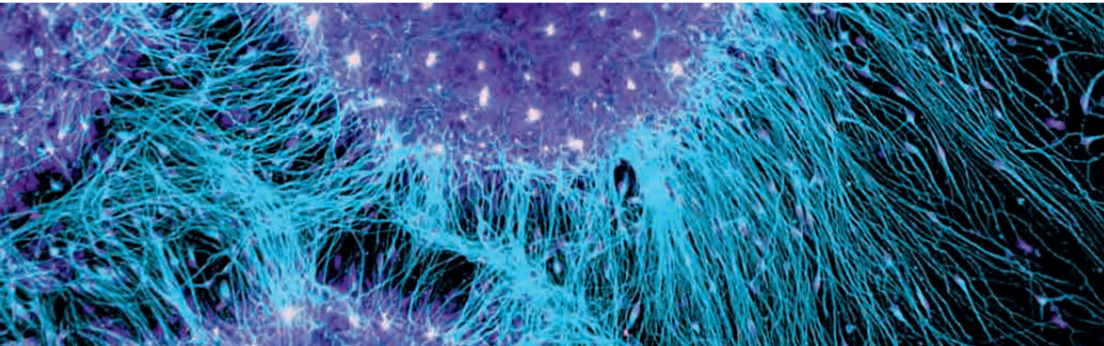
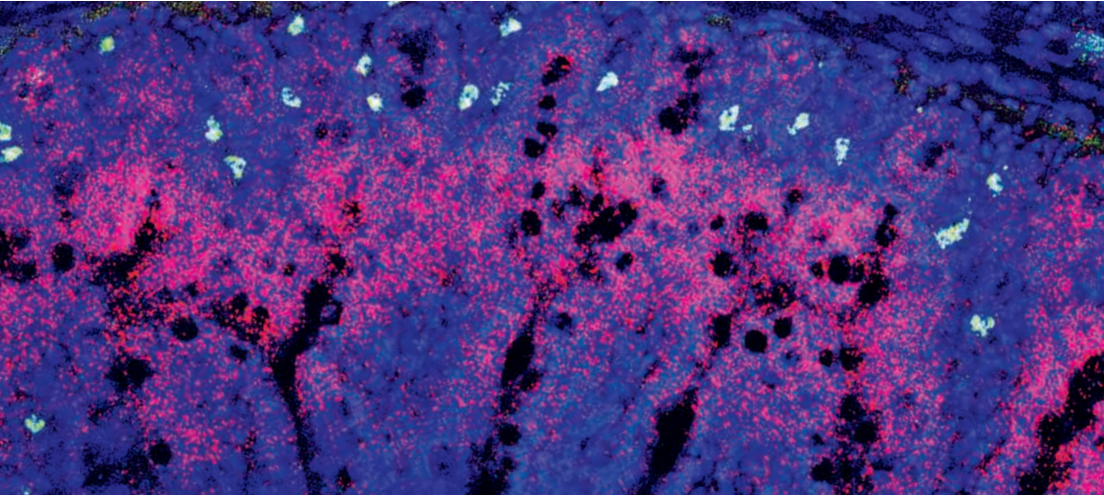
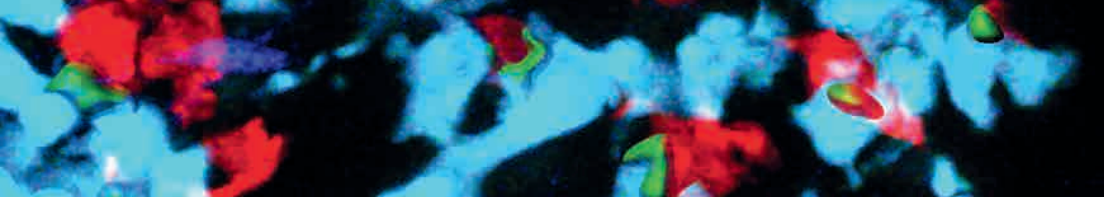
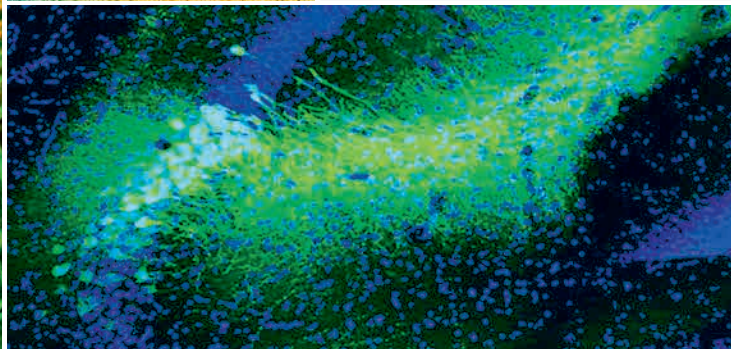
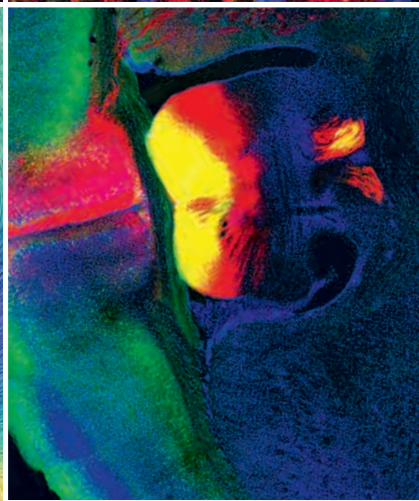
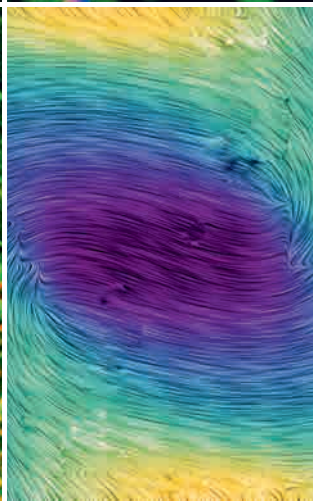
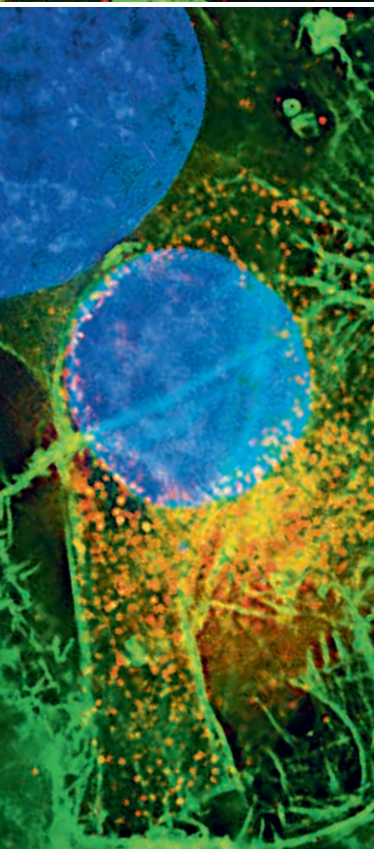
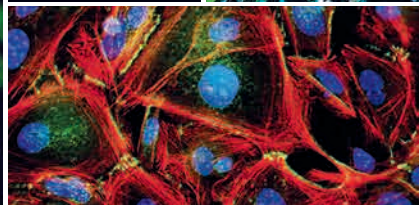
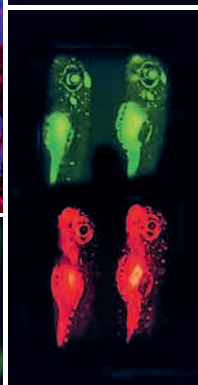
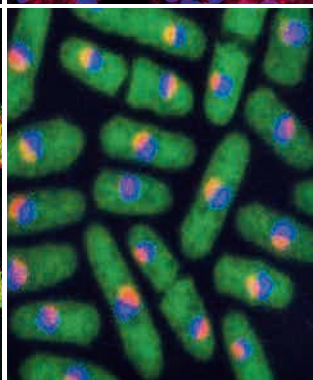
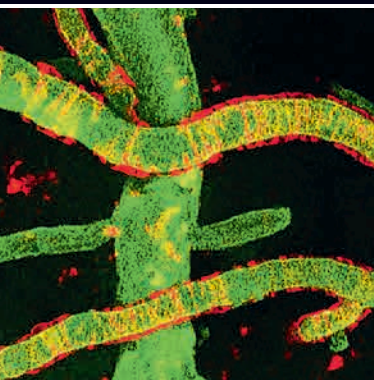
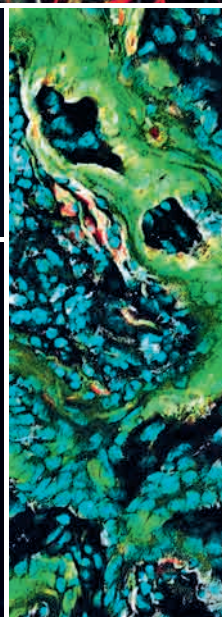
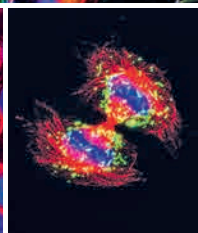
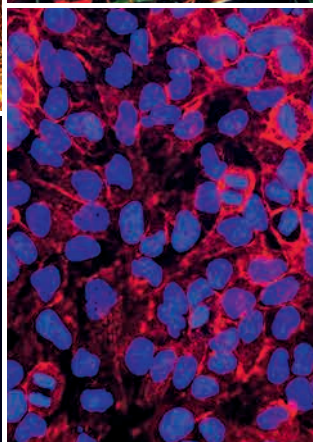
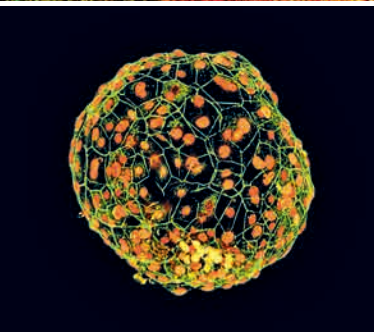
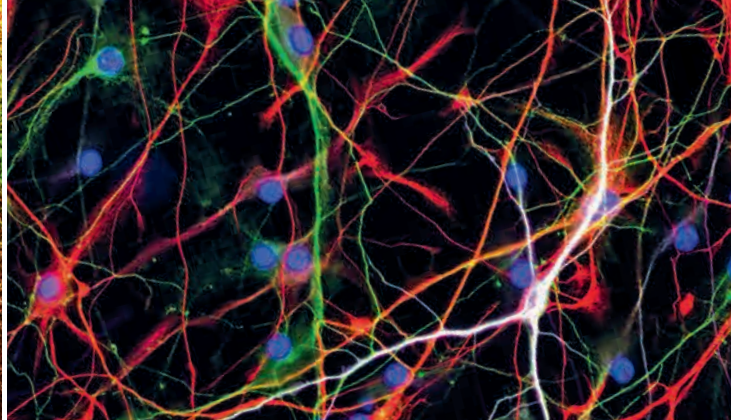
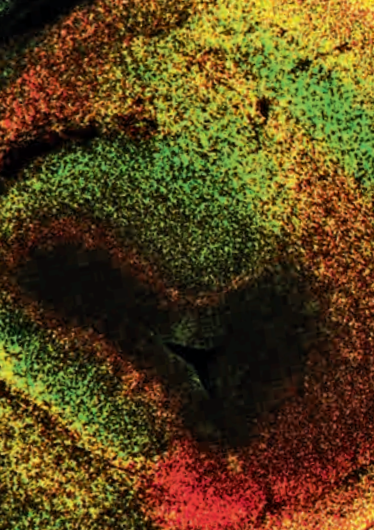


THE ROCKEFELLER UNIVERSITY

Research Areas 2024–2025





Biochemistry, Biophysics, Chemical Biology, and Structural Biology

Gregory M. Alushin
Sean F. Brady
Steve L. Bonilla
Elizabeth Campbell
Brian T. Chait
Jue Chen
Paul Cohen
Robert B. Darnell
Seth A. Darst
Titia de Lange
Hironori Funabiki
A. James Hudspeth
Tarun Kapoor
Sebastian Klinge
Shixin Liu

Jiankun Lyu
Roderick MacKinnon
Michael O'Donnell
Charles M. Rice
Viviana I. Risca
Jeremy M. Rock
Robert G. Roeder
Michael P. Rout
Vanessa Ruta
Thomas P. Sakmar
Sanford M. Simon
Sohail Tavazoie
Thomas Tuschl
Ekaterina V. Vinogradova
Thomas Walz

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3

Cancer Biology

Kivanç Birsoy
Junyue Cao
Paul Cohen
Robert B. Darnell
Titia de Lange
Elaine Fuchs
Hironori Funabiki
Tarun Kapoor
Richard P. Lifton
Michel C. Nussenzweig
Michael O'Donnell
Charles M. Rice
Viviana I. Risca
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Agata Smogorzewska
Hermann Steller
Sohail Tavazoie

Cell Biology

Paul Bieniasz
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Steve L. Bonilla
Brian T. Chait
Paul Cohen
Frederick R. Cross
Titia de Lange
Elaine Fuchs
Hironori Funabiki
Nathaniel Heintz
Tarun Kapoor
Gabry Maimon
Luciano Marraffini
Paul Nurse
Michel C. Nussenzweig

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Amy E. Shyer
Sanford M. Simon
Agata Smogorzewska
Hermann Steller
Thomas Tuschl
Ekaterina V. Vinogradova
Michael W. Young

1

Biochemistry, Biophysics, Chemical Biology, and Structural Biology

Scientists are studying how molecules interact to drive biological processes such as gene regulation, signal transduction, and enzymology. Their work involves delineating the properties of molecules, molecular complexes, and cells; using chemistry tools to manipulate disease mechanisms; and determining the structures of molecular assemblies at near-atomic resolution.

2

Cancer Biology

Work in this area focuses on the processes by which cancers arise, progress, and respond to therapy. Researchers are seeking to understand how cancer cells transform, metastasize, and interact with their microenvironment, and are developing innovative strategies to control cancer processes.

3

Cell Biology

A host of diseases are spurred by disruptions in the processes by which cells propagate, die, or perform their basic functions. Scientists working in this area are dissecting the genes and molecular pathways that control the cell cycle, apoptosis, protein trafficking, and many other cellular events.

Genetics and Genomics

Cori Bargmann
 Kivanç Birsoy
 Ali H. Brivanlou
 Junyue Cao
 Jean-Laurent Casanova
 Joel E. Cohen
 Paul Cohen
 Barry S. Collier
 Frederick R. Cross
 Robert B. Darnell
 Titia de Lange
 Vincent A. Fischetti
 Avi Flamholz
 Jeffrey M. Friedman
 Elaine Fuchs
 Nathaniel Heintz
 Erich D. Jarvis

Daniel Kronauer
 Richard P. Lifton
 Shixin Liu
 Luciano Marraffini
 Paul Nurse
 Charles M. Rice
 Viviana I. Risca
 Jeremy M. Rock
 Robert G. Roeder
 Shai Shaham
 Agata Smogorzewska
 Sidney Strickland
 Gabriel D. Victora
 Leslie B. Vosshall
 Lamia Wahba
 Michael W. Young
 Li Zhao

Mechanisms of Human Disease

Paul Bieniasz
 Kivanç Birsoy
 Ali H. Brivanlou
 Jean-Laurent Casanova
 Paul Cohen
 Barry S. Collier
 Robert B. Darnell
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 Sohail Tavazoie
 Thomas Tuschl
 Ekaterina V. Vinogradova

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Immunology, Virology, and Microbiology

Paul Bieniasz
 Sean F. Brady
 Jean-Laurent Casanova
 Brian T. Chait
 Vincent A. Fischetti
 Avi Flamholz
 James G. Krueger
 Luciano Marraffini
 Daniel Mucida
 Michel C. Nussenzweig
 Jeffrey V. Ravetch
 Charles M. Rice
 Jeremy M. Rock
 Robert G. Roeder

Michael P. Rout
 Sanford M. Simon
 Alexander Tarakhovsky
 Gabriel D. Victora
 Ekaterina V. Vinogradova

Genetics and Genomics

Fundamental to all bioscience is the study of how genes and gene-regulatory processes contribute to development, behavior, and disease. Researchers working in this area are employing genetic sequencing technology, bioinformatics, and animal models to pursue genome-wide comparisons, population genetics, functional studies, and more.

5

Immunology, Virology, and Microbiology

Investigations into the workings of the immune system are yielding progress against diseases such as cancer, autoimmune disorders, HIV, hepatitis C, and COVID. Work in this area covers the basic mechanisms of immunity, the biology of disease-causing agents, and new treatment approaches, from vaccines and antibiotics to personalized immunotherapies.

6

Mechanisms of Human Disease

Many labs are conducting research to understand the root causes of both rare and common diseases, and are developing new therapies based on their insights. Having access to The Rockefeller University Hospital enables these scientists to translate basic-science discoveries into the clinic faster than might otherwise be possible.

7

Neurosciences and Behavior

To understand how the nervous system develops and how it produces behaviors and cognition, neuroscientists are studying the brain from many perspectives, focusing on neuronal cells and circuits as well as high-level functions. In addition, labs are working on treatments for Alzheimer's, drug addiction, obesity, and other diseases.

Neurosciences and Behavior

Cori Bargmann
Jean-Laurent Casanova
Robert B. Darnell
Winrich Freiwald
Jeffrey M. Friedman
Charles D. Gilbert
Mary E. Hatten
Nathaniel Heintz
A. James Hudspeth
Erich D. Jarvis
Daniel Kronauer
Roderick MacKinnon
Marcelo O. Magnasco
Gaby Maimon
Priya Rajasethupathy
Vanessa Ruta
Thomas P. Sakmar
Shai Shaham
Hermann Steller
Sidney Strickland
Alipasha Vaziri
Leslie B. Vosshall
Michael W. Young

Stem Cells, Development, Regeneration, and Aging

Ali H. Brivanlou
Junyue Cao
Jean-Laurent Casanova
Paul Cohen
Titia de Lange
Elaine Fuchs
A. James Hudspeth
Charles M. Rice
Viviana I. Risca
Shai Shaham
Amy E. Shyer
Eric D. Siggia
Agata Smorzewska
Hermann Steller
Sidney Strickland

7

8

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10

Organismal Biology and Evolution

Ali H. Brivanlou
Jean-Laurent Casanova
Joel E. Cohen
Erich D. Jarvis
Daniel Kronauer
Stanislas Leibler
Marcelo O. Magnasco
Gaby Maimon
Michael O'Donnell
Vanessa Ruta
Lamia Wahba
Li Zhao

Physical, Mathematical, and Computational Biology

Joel E. Cohen
Avi Flamholz
A. James Hudspeth
Erich D. Jarvis
Stanislas Leibler
Shixin Liu
Jiankun Lyu
Marcelo O. Magnasco
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Sanford M. Simon
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Li Zhao

Organismal Biology and Evolution

In studying biological processes from the perspective of entire organisms, populations, and ecosystems, scientists are seeking to reveal how complex traits and behaviors develop, and how diseases manifest. Their work covers the biology of vertebrate and invertebrate organisms and plants, the evolution of species, and other topics.

9

Physical, Mathematical, and Computational Biology

Research in this area is focused on the complex properties of living or non-living systems, and on applying sophisticated analytical techniques to model phenomena from biological networks to weather patterns. These scientists are interested in systems theory, biological statistics and probability, population dynamics, and sensory processing.

10

Stem Cells, Development, Regeneration, and Aging

In researching how pluripotent stem cells differentiate, how embryos develop, how tissues replenish themselves, and how organisms age, scientists are laying the groundwork for discovering tomorrow's medicines. Their work holds promise for the development of new disease models as well as innovative therapeutic interventions.



SCIENCE FOR THE BENEFIT OF HUMANITY

Rockefeller's 72 laboratories are leading breakthroughs across the biosciences, addressing the world's most pressing scientific quandaries and health problems. Their research interests can be categorized in 10 broad areas of discovery.

