

ACADEMIC PROCESSION

NEW CASTLE BRASS QUINTET

WELCOMING REMARKS

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INTRODUCTION

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VICE PRESIDENT FOR EDUCATIONAL AFFAIRS

CONFERRING OF THE DEGREE OF DOCTOR OF PHILOSOPHY

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**CONFERRING OF THE DEGREE OF DOCTOR OF SCIENCE,
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DR. LIFTON

RICHARD E. SALOMON
SUSAN SOLOMON, PH.D.
ROBERT TJIAN, PH.D.

ACADEMIC RECESSION

PLEASE JOIN US FOLLOWING THE CEREMONY FOR A RECEPTION
ON THE PEGGY ROCKEFELLER PLAZA.

KENNETH ATKINS

B.S., AUGUSTA STATE UNIVERSITY

Cell Cycle Control by Cyclin-CDKs in *Chlamydomonas reinhardtii*

FREDERICK R. CROSS

IN ABSENTIA

JULIEN BABAK AZIMZEDEH*

MEMBER OF THE GRADUATING CLASS OF 2017

B.S., UNIVERSITY OF MARYLAND, COLLEGE PARK

Light Stimulation of Sensory Hair Cells

A. JAMES HUDSPETH

MALIK CHAKER-MARGOT

B.SC., UNIVERSITÉ DE MONTRÉAL

Making Ribosomes: Biochemical and Structural Studies of Early Ribosome Biogenesis in Yeast

SEBASTIAN KLINGE

LILLIAN B. COHN

A.B., BROWN UNIVERSITY

Single Cell Analysis of the HIV-1 Latent Reservoir

MICHEL C. NUSSENZWEIG

RAPHAEL COHN

B.A., B.A.S., UNIVERSITY OF PENNSYLVANIA

M.SC., THE UNIVERSITY OF OXFORD

Dopaminergic Modulation of Sensorimotor Processing in *Drosophila*

VANESSA RUTA

DEVON COLLINS

B.A., BALL STATE UNIVERSITY

Impact of a Mu Opioid Receptor Variant and Sex Differences on Oxycodone Reward and Brain Stress Systems

MARY JEANNE KREEK

EMILY JANE DENNIS

B.A., B.S., UNIVERSITY OF ROCHESTER

Multi-modal Effects of the Repellent DEET Across Protostomia

LESLIE B. VOSSHALL

DOUGLAS R. DEUTSCH

A.B., CORNELL UNIVERSITY

Biological Consequences of Atypical Phage Conversion in Gram-positive Pathogens

VINCENT A. FISCHETTI

TASOS GOGAKOS *

B.S., M.S., YALE UNIVERSITY

Characterizing Human Transfer RNAs by Hydro-tRNAseq and PAR-CLIP

THOMAS TUSCHL

GREGORY W. GOLDBERG

B.A., NEW YORK UNIVERSITY

Investigating Genetic (in)compatibility Between CRISPR-Cas Systems and Temperate Phages in *Staphylococcus aureus*

LUCIANO MARRAFFINI

ANDREW GREGG *

B.S., BOSTON COLLEGE

Modeling Alzheimer's Disease in Induced Pluripotent Stem Cells

MARC TESSIER-LAVIGNE

PRESENTED BY SANFORD M. SIMON

THOMAS HSIAO

B.S., UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

The Characterization of a Novel Complex Implicated in the Initiation of Apoptosis

HERMANN STELLER

CHRISTOPHER JENNESS

B.S., LINFIELD COLLEGE

Identification and Characterization of HELLS-CDCA7, a Nucleosome Remodeling Complex Required for Mitotic Chromosome Structure

HIRONORI FUNABIKI

SANDRA JONES

B.S., SPELMAN COLLEGE

A Role for PI31-mediated Proteasome Regulation in Proteostasis and Neuronal Health

HERMANN STELLER

REMZI KARAYOL

B.SC., BOĞAZİÇİ UNIVERSITY

Cell Type Specific Roles of Serotonin Receptor 4 in the Hippocampus and Neocortex in Emotion and Cognition

NATHANIEL HEINTZ

PRESENTED BY ERIC F. SCHMIDT

LENA KUTSCHER

B.S., UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
M.SC., INTERNATIONAL MAX PLANCK RESEARCH SCHOOLComponents Required for the Death and Degradation of the Linker Cell in *Caenorhabditis elegans*

SHAI SHAHAM

SEAN KEANE MCKENZIE

B.S., SEWANEE: THE UNIVERSITY OF THE SOUTH

The Genetics and Evolution of Pheromone Perception in Ants

DANIEL KRONAUER

IN ABSENTIA

ANDREW R. MILEWSKI*

A.B., HARVARD COLLEGE

Homeostatic Enhancement of Sensory Transduction by Hair Bundles

A. JAMES HUDSPETH

MICHAEL ROBERT MITCHELL

B.S., UNIVERSITY OF ARIZONA

In Search of Generic Properties of Evolved Systems: From Elasticity of Proteins to Structure of Metabolic Networks

STANISLAS LEIBLER

PRESENTED BY SIDNEY STRICKLAND

LINDA MOLLA

B.A., HUNTER COLLEGE OF THE CITY UNIVERSITY OF NEW YORK

A High-throughput Approach to Uncover Novel Roles of APOBEC2, a Functional Orphan of the AID/APOBEC Family

F. NINA PAPAVALIOU

AVITAL PERCHER

B.S., UNIVERSITY OF MASSACHUSETTS AMHERST

Characterization and Reconstitution of S-palmitoylated IFITM3 Antiviral Activity

HOWARD C. HANG

JASON PINGER

B.S., THE UNIVERSITY OF WISCONSIN - MADISON

Surface Coat Replacement Dynamics and Antigen Glycosylation in *Trypanosoma brucei* Influence Evasion of the Host Antibody Response

F. NINA PAPAVALIOU

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LAURA FAIRBANKS SEEHOLZER

B.S., CORNELL UNIVERSITY

Neural Circuit Mechanisms Underlying Behavioral Evolution in *Drosophila*

VANESSA RUTA

KIMBERLY SILETTI

B.A., FORDHAM UNIVERSITY

Daple Orients and Patterns Sensory Hair Bundles in the Inner Ear

A. JAMES HUDSPETH

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JONATHAN STEINMAN*

A.B., HARVARD COLLEGE

Chemical Approaches to *Dynein* Inhibition

TARUN KAPOOR

SHAUN TEO

B.A., THE UNIVERSITY OF CHICAGO

Netrin Guides Spinal Commissural Axons to the Midline at Long Range Through the Receptors Dcc and Neogenin

MARC TESSIER-LAVIGNE

IN ABSENTIA

LOTTA VON BOEHMER

M.D., UNIVERSITY OF ZURICH

Targeting the CD4 Binding Site of HIV

MICHEL C. NUSSENZWEIG

IN ABSENTIA

WENDY WANG*

B.S., CORNELL UNIVERSITY

IGDB-2, an Ig/FNIII Protein, Binds the Ion Channel LGC-34 and Controls
Sensory Compartment Morphogenesis in *Caenorhabditis elegans*

SHAI SHAHAM

YUEHYI GLORIA WU*

B.A., UNIVERSITY OF CALIFORNIA, BERKELEY

The Role of Neuronal Pentraxin 1 in Promoting Pancreatic Cancer Progression

SOHAIL TAVAZOIE

PRESENTED BY SIDNEY STRICKLAND

HANSEUL YANG

B.S., M.S., KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY

How Stem Cells Juggle Lineage Choice: Integrated Signaling Effectors
Drive Chromatin Dynamics

ELAINE FUCHS

ZHENRUN JERRY ZHANG

B.S., PEKING UNIVERSITY

Control of *Salmonella* Virulence by Microbiota-derived Short-chain Fatty Acids

HOWARD C. HANG

*PARTICIPANT IN THE TRI-INSTITUTIONAL M.D.-PH.D. PROGRAM

RICHARD E. SALOMON

Richard E. Salomon, vice chair of the Board of Trustees, first visited The Rockefeller University in December 1969 as a young intern accompanying David Rockefeller to a meeting. In his own words, “it has been a love affair ever since.” A University Trustee since 1984, Mr. Salomon has served longer than any Board member in the institution’s history with the exception of Mr. Rockefeller himself. During his exceptional tenure, Mr. Salomon has been a trusted friend and advisor to eight University presidents, playing a pivotal role in strengthening virtually every aspect of the University. He has chaired the Investment, Finance, and Nominating & Governance Committees. His institution-building contributions, to cite just one, include the creation of a professional investment office to manage the University’s endowment.

Mr. Salomon is a Managing Partner of East End Advisors, a New York-based investment advisory firm. He was previously President of Mecox Ventures, which he formed in 2000. From 1982 to 2000, he served as President and Managing Director of Spears, Benzak, Salomon & Farrell. He also served as Senior Advisor to David Rockefeller from 1974 to 2017. Mr. Salomon graduated *Phi Beta Kappa* and *magna cum laude* from Yale University and received an M.B.A. from Columbia University. He was a Director of Boston Properties from 1998 to 2010 and of Cousins Properties from 1994 to 2001.

Mr. Salomon is a Trustee of the Museum of Modern Art and the Peterson Institute of International Economics, serving, as he does at Rockefeller University, as a member of the Investment Committees of these institutions. Mr. Salomon also serves as Vice Chairman of the Board of Trustees of MoMA, where he previously chaired the Drawings and Photography Committees. He was a Trustee and Vice Chairman of the Council on Foreign Relations, and he continues to serve on its Investment Committee.

Mr. Salomon previously served as a Trustee and Investment Committee member of the Alfred P. Sloan Foundation, a member of the Yale University Investment Committee, a Trustee of the New York Public Library and The New York Philharmonic, and a Director of the Choate School and Greenwich Country Day School. He is currently a Governor of the National Golf Links of America and a member of the McKinsey Investment Office Advisory Board.

SUSAN SOLOMON, PH.D.

An incisive and independent thinker, Susan Solomon pinpointed the cause of the ozone hole over the Antarctic after this serious environmental problem was discovered in the early 1980s. As the mystery flummoxed the scientific community, Dr. Solomon bucked conventional wisdom to conceive the correct explanation. This work accelerated adoption of the Montreal Protocol, which instituted an international ban on industrial chlorofluorocarbon production that has led to healing of the ozone layer. In addition to her research on ozone chemistry in the stratosphere, Dr. Solomon has contributed significantly to our understanding of human involvement in climate change.

Dr. Solomon was born in Chicago and grew up there. Inspired by Jacques Cousteau, she cast her initial scientific curiosity under the sea. In high school, she turned toward the quantitative rigor of chemistry and won third place in an international science fair for experiments in which she tested her hypothesis that flames burn brighter with more oxygen.

In 1977, she earned a B.S. in chemistry from the Illinois Institute of Technology and then headed to the University of California, Berkeley for graduate school, where she studied atmospheric chemistry. After receiving her Ph.D. in 1981, she joined the National Oceanic and Atmospheric Administration in Boulder, Colorado, and also became an adjunct professor at the University of Colorado.

Dr. Solomon's love of teaching led her in 2012 to the Massachusetts Institute of Technology, where she is currently the Lee and Geraldine Martin Professor of Environmental Studies. Dr. Solomon served as the co-chair for Working Group 1 of the Intergovernmental Panel in Climate Change between 2002 and 2008. Its influential 2007 report addresses human contributions to global warming.

Dr. Solomon has received dozens of honors and awards, including the 1999 U.S. National Medal of Science and the 2018 Crafoord Prize. In 1994, two landforms—Solomon Glacier and Solomon Saddle—were named in honor of her leadership in Antarctic research.

ROBERT TJIAN, PH.D.

The mechanism by which cells switch genes on and off during development has fascinated Robert Tjian since the beginning of his career. During the past four decades, he has made major contributions to our understanding of gene regulation through his studies on transcription, the process by which cells copy RNA from DNA.

Dr. Tjian discovered the first human sequence-specific transcription factor and unveiled many aspects of transcriptional activation. He found that even core components of the transcription machinery vary among cells of different tissues. By developing and deploying methods that detect molecular events within single living cells, he has shown that proteins rapidly associate with and dissociate from one another and their target DNA as they stimulate and dampen gene activity.

Born in Hong Kong, Dr. Tjian grew up in Argentina, Brazil, and New Jersey. He earned a bachelor's degree in biochemistry at the University of California, Berkeley in 1971. He then moved to Harvard for graduate work, where he earned a Ph.D. in 1976. Three years later, he joined the UC Berkeley faculty. In 1987, he became a Howard Hughes Medical Institute (HHMI) Investigator.

As the president of HHMI from 2009 to 2016, Dr. Tjian harnessed the opportunity to cultivate bold, ambitious research without the constraints that limit government-funded agencies. He advanced biomedical inquiry on many levels by launching and enriching numerous initiatives. He set up new support for early-career scientists, started an educational documentary venture, and strengthened HHMI's investigator program. On Capitol Hill and in the White House, he used his position to avidly and effectively promote the biomedical research enterprise.

A member of the U.S. National Academy of Sciences, Dr. Tjian received many honors and awards, including the 1999 Louisa Gross Horwitz Prize and the 2010 Glenn T. Seaborg Medal.

Founded in 1901, The Rockefeller University is a world-renowned center for research and graduate education in the biomedical and physical sciences. The university's 82 laboratories conduct research on a broad range of biological and biomedical questions with the mission of improving the understanding of life for the benefit of humanity. Over the years, Rockefeller has been the site of many historic breakthroughs, including the landmark discovery that genes are made of DNA. Twenty-five researchers associated with Rockefeller throughout its history have been awarded the Nobel Prize, including 2017 awardee Michael W. Young, Ph.D.

The graduate program, with a unique curriculum that emphasizes independent research, began in 1955 and was named in honor of David Rockefeller in 2005. Since the first convocation in 1959, The Rockefeller University has granted doctor of philosophy degrees to 1,262 individuals – including 30 students who will receive their Ph.D. degrees today.