Tri-Institutional PhD Program
Chemical Biology

17TH ANNUAL TRI-INSTITUTIONAL CHEMICAL BIOLOGY SYMPOSIUM

Tuesday, August 31st, 2021
9:00 am – 6:30 pm

Hybrid Event

In-person location:
Rockefeller Research Labs
Memorial Sloan Kettering
430 East 67th St, New York, NY 10065

Memorial Sloan Kettering Cancer Center
The Rockefeller University — Science for the Benefit of Humanity
Weill Cornell Medicine

Schedule of Events

All lectures will be held in-person or broadcasted in RRL Auditorium
Links for the poster session and reception will be provided to all registered attendees

9:00–9:15 am	**Welcome Remarks – RRL Auditorium** *Hsin-Che Huang, Jeya Vandana, Lauren Vostal* *TPCB Symposium Planning Committee*
9:15–10:00 am	**Rewriting the book on cysteine oxidation (virtual)** Prof. Kate Carroll, Ph.D. *Scripps Research Institute*
10:05–10:25 am	**A chemical genetics approach to examine the functions of AAA proteins (virtual)** Natalie Jones, TPCB Student *Kapoor Lab, The Rockefeller University*
10:30–10:40 am	**Break**
10:45–11:05 am	**Developing a chemical toolbox to investigate histone glycation** Igor Maksimovic, TPCB Student *David Lab, Memorial Sloan Kettering Cancer Center*
11:10–11:55 am	**Mechanism of bacterial killing by a phage encoded protein antibiotic revealed by cryoEM** Prof. Bil Clemons, Ph.D. *California Institute of Technology*
12:00–1:00 pm	**Lunch break** – box lunches provided at Belfer Terrace or, in the case of rain, Belfer 302BCD
1:15–3:15 pm	**Poster Session (virtual)** – presentations in multiple virtual meeting rooms
3:30–4:15 pm	**Human Pluripotent Stem Cell-Derived Cells/Organoids for Disease Modeling and Drug Screening** Prof. Shuibing Chen, Ph.D. *Weill Cornell Medicine*
4:20–4:45 pm	**Structural basis of early translocation events on the ribosome** Emily Rundlet, TPCB Student *Blanchard Lab, Weill Cornell Medicine*
4:50-5:35 pm	**30 years of Molecular Glues: Controlling cell circuitry in biology and medicine (virtual)** Prof. Stuart Schreiber, Ph.D. *Harvard University Broad Institute*
5:35–5:45 pm	**Poster Prize Awards & Closing Remarks** Derek Tan, Ph.D., TPCB Director and TPCB Symposium Planning Committee
5:45–6:30 pm	**Reception (virtual)**

Tri-Institutional PhD Program in Chemical Biology (TPCB)

TPCB is a leading PhD graduate program in chemical biology, offered jointly by three premier institutions in New York City, Memorial Sloan Kettering Cancer Center, The Rockefeller University, and Weill Cornell Medical College. We provide an unparalleled combination of world-class faculty, state-of-the-art facilities, and collaborative research opportunities to the next generation of scientific leaders working at the interface of chemistry, biology, and medicine.

TPCB is strongly committed to diversity and inclusion. We welcome scientists from underrepresented minority groups and disadvantaged backgrounds, and those with disabilities. We do not tolerate racism, discrimination, or harassment of any kind. All attendees are expected to maintain the highest standards of professional conduct throughout the symposium.

For more information, please visit: https://chembio.triiprograms.org/

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Keynote Speakers

Prof. Kate Carroll

Prof. Kate Caroll is a Professor of Chemistry at the Scripps Research Institute in Jupiter, Florida. She received a bachelor's degree in Biochemistry from Mills College in 1996. She then went on to complete her PhD in Biochemistry at Stanford University in 2003 where she worked on the investigation of the protein regulation of genes such as Rab9 under Dr. Suzanne Pfeffer. Dr. Caroll continued her research as a Damon Runyon-Walter Winchell Chancer Fellow at the University of California, Berkeley with Prof. Carolyn Bertozzi on reductive sulfate assimilation pathways in pathogenic bacteria. She then began her independent career as an Assistant Professor at the University of Michigan before joining the Scripps Research Institute in 2010 as an Associate Professor. Dr. Caroll's lab studies changes in protein oxidation associated with disease and sulfur pathways essential for the survival of human pathogens, with the aim of developing novel therapeutic and diagnostic approaches for human disease. Dr. Carroll has received several awards in recognition of her research including the ACS Pfizer Award in Enzyme Chemistry, the Scientist Development Award from the American Heart Association, and the Special Fellow Award from the Leukemia and Lymphoma Society. She also serves on the editorial board of various journals, including Cell Chemical Biology and Molecular Omics.

Prof. Bil Clemons

Prof. Bil Clemons is a Professor of Biochemistry at the Division of Chemistry and Chemical Engineering at the California Institute of Technology. Dr. Clemons received his B.S. in Biochemistry from Virginia Tech in 1995. He then moved to the University of Utah to complete his PhD where he worked with Dr. Venki Ramakrishnan on crystallographic studies to solve the first atomic resolution structure of a small ribosomal subunit. He then continued his research in Structural Biology as a research fellow with Prof. Tom Rapoport where he solved the structure of a prokaryotic protein translocation channel before joining as a faculty at the California Institute of Technology. Currently, his lab investigates the mechanisms involved in tail-anchored protein targeting, expression of integral membrane proteins, and bacterial glycobiology. Dr. Clemons is a recipient of various awards in the field including the NIH Pioneer Award and the Burroughs Wellcome Career Award in the Biomedical Sciences. Moreover, he has also been recognized by Caltech for his advocacy of programs that increase student diversity and pluralism by being awarded the Dr. Fred Shair Award for Programming Diversity.

Prof. Shuibing Chen

Prof. Shuibing Chen is the Kilts Family Associate Professor of Surgery and the Director of the Diabetes Program in the Department of Surgery at Weill Cornell Medical College. She received her B.S. and M.S. in Chemistry from Tsinghua University in China and earned her Ph.D. with Dr. Peter Schultz at the Scripps Research Institute. She later joined Dr. Douglas Melton's laboratory at Harvard University to study the directed differentiation of human embryonic stem cells toward a pancreatic lineage. Dr. Chen's lab's major research interest is to manipulate stem cell fate using chemical and biological approaches to derive functional cells, tissues, and organs from human pluripotent stem cells (PSCs). Their long-term goal is to apply patient specific PSC-derived tissues or organs for replacement therapy and build up "disease in a dish" platforms for drug discovery. Dr. Chen is the recipient of numerous awards and honors, including the New York Stem Cell Foundation Roberson Investigator, the NIH Director's New Innovator Award, the American Association for Cancer Research Career Development Award, and the International Society for Stem Cell Research Dr. Susan Lim Award for Outstanding Young Investigator.

Prof. Stuart Schreiber

Prof. Stuart Schreiber is the Morris Loeb Professor of Chemistry and Chemical Biology at Harvard University and the Broad Institute. He received a B.S. in chemistry from the University of Virginia in 1977 and earned his Ph.D. in organic chemistry from Harvard University under the guidance of Robert B. Woodward and Yoshito Kishi. Dr. Schreiber was a professor at Yale University from 1981 to 1988 before he transitioned to Harvard's Department of Chemistry and Chemical Biology. Dr. Schreiber's research integrates chemical biology, human biology, and the discovery of novel therapeutics. Notably, his lab co-discovered mTOR in 1994 as well as histone deacetylases (HDAC) and the role of chromatin marks in gene expression in 1996. His research also resulted in the discovery of 'molecular glues' which then conceptually led to the targeted degradation of proteins by small-molecule 'PROTACs'. His lab also focuses on diversity-oriented synthesis for the development of safe and effective therapeutics which has dramatically advanced the field of chemical biology research. Dr. Schreiber is an appointed Howard Hughes Medical Institute Investigator and an elected member of the National Academy of Sciences, National Academy of Medicine, and the American Academy of Arts and Sciences. He is the recipient of numerous awards, including the Arthur C. Cope Award, the Nagoya Gold Medal, and the Wolf Prize in Chemistry.