Professor Cynthia Wolberger

Prof. Wolberger is Professor of Biophysics & Biophysical Chemistry at the Johns Hopkins University School of Medicine. She received her A.B. in Physics from Cornell University and her Ph.D. in Biophysics from Harvard University, where she studied the structural basis of protein–DNA interactions with Stephen Harrison and Mark Ptashne. After a postdoctoral fellowship at UCSF with Bob Stroud, she did further research on the structure of homeodomain-DNA complexes in the lab of Carl Pabo at Johns Hopkins and joined the faculty there in 1991. Prof. Wolberger was a recipient of the David and Lucile Packard Fellowship for Science and Engineering, a March of Dimes – Basil O’Conor Starter Scholar Award, and an American Cancer Society Junior Faculty Award, and was a Howard Hughes Medical Institute Investigator from 1994–2014. She has done pioneering work on the structural basis for combinatorial regulation of gene expression, the molecular mechanisms of the sirtuin family of protein deacetylases, and on ubiquitin signaling.

Professor Benjamin Cravatt

Prof. Cravatt is a Professor in the Skaggs Institute for Chemical Biology and Gilula Chair Chemical Biology at The Scripps Research Institute. The Cravatt group has obtained fundamental insights into the chemical, biochemical, and physiological workings of several important mammalian serine hydrolases, including enzymes involved in the neurobiology of pain and cancer metabolism and malignancy. Prof. Cravatt obtained his undergraduate education at Stanford University, receiving a B.S. in the Biological Sciences and a B.A. in History. He then trained with Dale Boger and Richard Lerner and received a Ph.D. in Macromolecular & Cellular Structure & Chemistry from Scripps in 1996. Prof. Cravatt joined the faculty at Scripps in 1997 as a member of the Skaggs Institute for Chemical Biology and the departments of Cell Biology and Chemistry. He is a co-founder and scientific advisor of Activx Biosciences and Abide Therapeutics. Prof. Cravatt has won numerous awards and is an elected member of the National Academy of Sciences and the American Academy of Arts and Sciences.

Promotional Partners
**Schedule of Events**

8:30 am  Breakfast  
Lower Level Greenberg Building (CRC)

9:15 am  Welcome Remarks  
Carson Family Auditorium  
*Jordan Mattheisen, Natalie Jones, Nicholas Prescott  (TPCB Symposium Planning Committee)

9:30 am  PROTAC-Mediated Protein Degradation: A New Therapeutic Modality  
Craig Crews, Ph.D. – Yale University

10:20 am  Structural Basis for the Auto-Inhibition of the DEAH-Box Helicase Dhr1  
Linamarie Miller, TPCB Student – Klinge Lab, The Rockefeller University

10:40 am  Coffee Break  
Lower Level Greenberg Building (CRC)

11:10 am  Making Sense of Scents: Molecular and Neural Mechanisms of Olfaction  
Vanessa Ruta, Ph.D. – The Rockefeller University

12:00 pm  The Mechanism and Therapeutic Potential of DPP8/9 Inhibitor-Induced Pyroptosis  
Darren Johnson, TPCB Student – Bachovchin Lab, Memorial Sloan Kettering Cancer Center

12:30 pm  Lunch  
Lower Level Greenberg Building (CRC)

1:00 pm  Poster Sessions  
Lower Level Greenberg Building (CRC)

3:00 pm  Mechanisms of Cross-Talk Between Histone Ubiquitination and Methylation  
Cynthia Wolberger, Ph.D. – Johns Hopkins University

3:50 pm  Molecular Mechanism for Differential Force-Regulated Actin Binding by Vinculin and α-Catenin  
Lin Mei, TPCB Student – Alushin Lab, The Rockefeller University

4:15 pm  Activity-Based Proteomics – Protein and Ligand Discovery on a Global Scale  
Benjamin Cravatt, Ph.D. – Scripps Research Institute

5:05 pm  Poster Prize Awards & Closing Remarks  
Derek Tan, Ph.D. (TPCB Director)  
and TPCB Symposium Planning Committee

5:20 pm  Reception  
Lower Level Greenberg Building (CRC)

**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. 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. For more information, please visit: [http://chembio.triiprograms.org/](http://chembio.triiprograms.org/)

**Keynote Speakers**

**Professor Craig Crews**

Prof. Crews is the American Cancer Society Professor of Molecular, Cellular & Developmental Biology and holds joint appointments in the Departments of Chemistry and Pharmacology at Yale University. He graduated from the U. Virginia with a B.A. in Chemistry and received his Ph.D. from Harvard University in Biochemistry. Prof. Crews has a foothold in both the academic and biotech arenas. As a member of the faculty at Yale since 1995, his lab pioneered the use of small molecules to control intracellular protein levels. His first company, Proteolix, developed the proteasome inhibitor, Kyprolis™ for the treatment of multiple myeloma. His second venture, Arvinas, applies his lab’s PROTAC ‘induced protein degradation’ technology to drug development. He has received numerous awards and honors, including the AACR Award for Outstanding Achievement in Chemistry in Cancer Research (2017), the Khorana Prize from the Royal Society of Chemistry (2018), and the Pharmacia-ASPET Award for Experimental Therapeutics (2019).

**Professor Vanessa Ruta**

Prof. Ruta is an Associate Professor and Head of the Laboratory of Neurophysiology & Behavior at The Rockefeller University. She also received her PhD from Rockefeller where she worked with Roderick MacKinnon on the structural basis for voltage-sensing in voltage-dependent ion channels. During her postdoctoral training, she transitioned from studying structure–function relationships at the molecular level to examining the functional architecture of olfactory circuits in *Drosophila* in Richard Axel’s lab at Columbia University. Prof. Ruta returned to Rockefeller at the end of 2011, where her lab explores olfaction at the molecular and neural level. A central focus of the lab is how neural circuits can be flexibly modified through individual experience or over evolution to generate adaptive variations in behavior. By applying a broad multidisciplinary toolkit to study the concise olfactory circuits of the fly, her goal is to reveal how these pathways mediate fixed and flexible behaviors at the level of synaptic, cellular and circuit motifs. Prof. Ruta is the recipient of a number of awards including the McKnight Scholar Award, Pew Biomedical Scholar Award, NIH New Innovator Award, Sloan Foundation Research Fellowship, NYSCF Robertson Neuroscience Investigator Award, and NIH NINDS Research Program Award.