



The Department of Pharmacological Sciences at Icahn School of Medicine at Mount Sinai focuses on research discovery of the biological mechanisms underlying complex physiology and pathophysiology and translating biological knowledge into new therapeutics. We study biological processes at the molecular, cellular, tissue, and organismal level in order to understand how these processes function and how we can modulate them for therapeutic purposes. Studies involve analysis of interactions of exogenous and endogenous substances with biological systems and the development of new therapeutics based on our understanding of cellular and molecular interactions. Structural biology, molecular and systems pharmacology, and therapeutics with integrated experimental and computational approaches represent a continuum of thought and research in understanding the origins and mechanisms underlying complex diseases and how we can treat them.

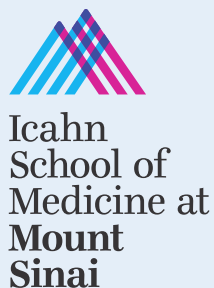
The mission of the Department is to provide a nurturing environment for discovery and innovation in basic and translational biomedical research of human health and disease, and for advanced academic training for the next generation of physicians and scientists; and to function as a scientific hub for interdisciplinary collaborations with researchers of different disciplines to solve the most challenging problems in biomedical sciences.

For more information please visit the following website:  
<http://icahn.mssm.edu/about/departments/pharmacological-sciences>

On the Cover, Winner of "The 2016 Best Poster"

Rinku Jain, PhD, Assistant Professor / Aggarwal Lab and  
 Javier Coloma, PhD, Postdoc Fellow / Aggarwal Lab

Structure of the Zika virus RNA cap methyltransferase (NS5-MTase) bound to SAM (methyl group donor), and to a methylated mRNA cap analog. The structure serves as a framework for identifying ZIKV inhibitors targeting the ZIKV NS5-MTase.

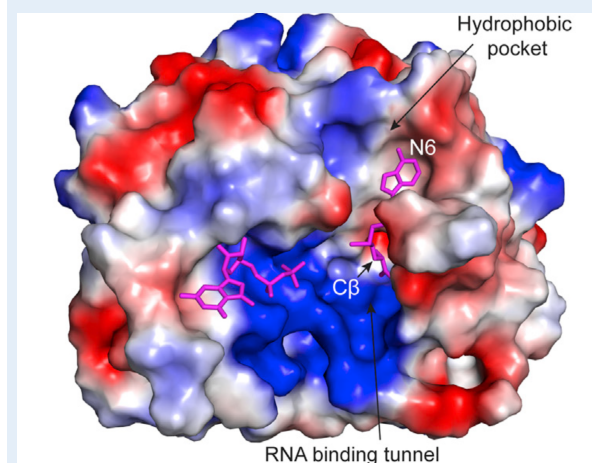


Department of Pharmacological Sciences  
 1425 Madison Avenue  
 New York, NY 10029  
 212.659.8647

Retreat Organizers:  
 Ming-Hu Han, Martin Walsh & Yoori Kim

Contacts during retreat:  
 Yoori Kim 347.840.2700  
 Emmanuel Antigua 646.831.6821  
 Oscar Chea 917.232.8341

## 2017 Research Retreat Department of Pharmacological Sciences Icahn School of Medicine at Mount Sinai



October 23<sup>rd</sup> & 24<sup>th</sup>, 2017

The Metropolitan Museum of Art  
 1000 Fifth Avenue  
 New York, NY 10028  
[www.metmuseum.org](http://www.metmuseum.org)

## PROGRAM

### Monday, October 23<sup>rd</sup>

10:00 am	Seminar Preparation
	Coffee Break
10:15 am	Welcoming Remarks
10:20 am	Keynote Speaker: Lakshmi Devi
10:45 am	Session Chair: Ming-Hu Han Carol Morel [Han] Ian Maze Almudena Bosch [Walsh] Maria Sosa
12:00 pm	Lunch/ DPS SPA Election
1:00 pm	Session Chair: Arvin Dar David Wah / MSIP Avner Schlessinger Mustafa Siddiq [Iyengar] Jaehee Shim & Jingqi Gong [Sobie]
2:15 pm	Coffee Break
2:45 pm	Poster Presentation
4:00 pm	End of Day 1

### Tuesday, October 24<sup>th</sup>

10:00 am	Seminar Preparation
	Coffee Break
10:15 am	Session Chair: Maria Sosa Andres Maldonado [Dar] Robert DeVita Michael Lazarus Terry Krulwich Helya Ghaffari [Reddy]
11:45 pm	Lunch/ Career Development
12:45 pm	Session Chair: Michael Lazarus Olga Rechkoblit [Aggarwal] Nicolas Babault [Jin] Nilesh Zaware [Zhou]
1:45 pm	Coffee Break
2:00 pm	Poster Presentation & Awards
3:30 pm	PM Break / Museum Tour
5:00 pm - 7:00pm	Reception at <i>Two Door Tavern</i>

*Two Door Tavern* - 1576 3rd Ave, New York, NY 10128

## 2017 Presenting Groups



### Ming-Ming Zhou, PhD

*Professor & Chair*

Structural and molecular mechanisms of chromatin based gene transcription or silencing in human biology and diseases.



### Aneel Aggarwal, PhD

*Professor*

Protein-nucleic acid interactions in gene transcription and translation, and DNA repair with X-ray crystallography and other biophysical methods.



### Arvin Dar, PhD

*Assistant Professor*

Exploring links between the regulation of drug targets and the system level properties of biological networks within cells and animals.



### Lakshmi Devi, PhD

*Professor*

Molecular mechanism and pharmacology of opiate and cannabinoid receptor activation and morphine-induced changes in synapse.



### Robert DeVita, PhD

*Professor*

Small molecule drug discovery, chemical biology, target validation, organic synthesis and heterocyclic chemistry.



### Ming-Hu Han, PhD

*Associate Professor*

Neurophysiological mechanisms of depression and alcohol addiction in rodent models.



### Ravi Iyengar, PhD

*Professor & Director*

Systems biology and systems pharmacology, cell signaling networks with emphasis on G protein-coupled receptor pathways.



### Jian Jin, PhD

*Professor*

Creating chemical probes of histone methyltransferases and functionally selective ligands of G protein-coupled receptors.



### Terry Krulwich, PhD

*Professor*

Bioenergetics in alkaliphilic bacteria and structure-function of cation/proton antiporters.



### Michael Lazarus, PhD

*Assistant Professor*

Cellular mechanisms of nutrient signaling in intracellular glycosylation and autophagy with chemistry, crystallography and mass spectrometry methods.



### Ian Maze, PhD

*Assistant Professor*

Epigenetic mechanisms of neuronal plasticity and disease.



### E. Premkumar Reddy, PhD

*Professor*

The role of cell cycle and apoptotic genes in cancer progression and as target for the development of novel anticancer drugs.



### Avner Schlessinger, PhD

*Assistant Professor*

Structural bioinformatics and structure-based drug design for membrane transporters.



### Maria Sosa, PhD

*Assistant Professor*

Mechanisms of the origins and epigenetic programs of disseminated tumor cell biology.



### David Wah, PhD

*Senior Analyst / MSIP*

Evaluate and guide technology development, build relationships with industry, mentor and teach interns in the MSIP internship program.