

The Sixth Annual Research
Retreat
of the
**Department of Structural
and Chemical Biology**
Icahn School of Medicine
at Mount Sinai

October 10 & 11, 2013

Edith Macy Conference Center
550 Chappaqua Road
Briarcliff Manor, NY 10510



Icahn
School of
Medicine at
**Mount
Sinai**

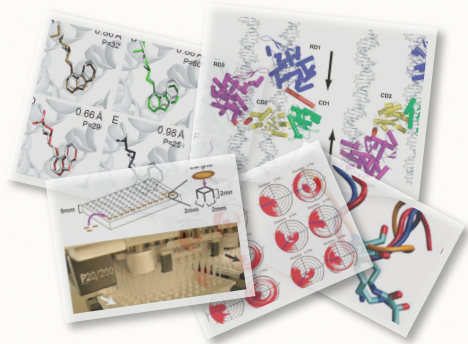
**DEPARTMENT OF STRUCTURAL AND
CHEMICAL BIOLOGY**

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2013 Research Retreat
Department of Structural
and Chemical Biology





The Department of Structural and Chemical Biology applies state-of-the-art tools of experimental and computational structural biology, biophysics, and chemical biology to study fundamental problems in biomedical research with emphasis on the molecular and structural basis of human biology and disease. Major approaches include biochemistry and biophysics of proteins/nucleic acids/membranes, chemical biology of small molecules, electrophysiology, molecular biology, electron cryomicroscopy, NMR spectroscopy, X-ray crystallography, computational modeling and simulation. Topics of investigation include structure and function of membrane enzymes and receptors in cell signaling and development; and molecular mechanisms of gene transcription and translation, epigenetic regulation and DNA damage repair in stem cell biology, immunology and virology with ultimate goal to understand the molecular basis of human diseases such as cancer, Parkinson's, Alzheimer's disease and genetic disorders.

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

For more information about the exciting biomedical research and education programs being conducted in the Department of Structural and Chemical Biology, we invite you to visit the following website:

mssm.edu/departments-and-institutes/structural-and-chemical-biology

GUEST SPEAKER

"Crystallization of Magnetic Fields"



Vivian Stojanoff, Adjunct Associate Professor

A spokesperson for the NIGMS East Coast Research Facility for structural biology at the NSLS. Her research interests are focused on the characterization of bio-molecular crystals and the development of new synchrotron methods and techniques for structural biology and biological materials.

PROGRAM

THURSDAY, OCT 10th, 2013

8:00 AM Departure from Mount Sinai

9:00 AM Breakfast

Morning Session (Chair: Iban Ubarretxena)

10:00 - 10:10 Welcome & Setup

10:10 - 11:00 Group 1 - Arvin Dar

11:00 - 11:30 Group 2 - Robert Fisher

11:30 - 11:50 Group 3 - Vivian Stojanoff

11:50 - 12:10 Coffee Break

12:10 - 1:00 Group 4 - Martin Walsh

1:00 - 1:50 Group 5 - Ming-Ming Zhou

2:00 - 3:00 Lunch

3:00 - 4:00 Nature Break

Afternoon Session (Chair: Roberto Sanchez)

4:00 - 5:00 Poster Session

5:00 - 5:50 Group 6 - Marta Filizola

5:50 - 6:20 Group 7 - Mihaly Mezei

6:20 - 6:50 Group 8 - Roman Osman

Evening

7:00 - 8:00 Wine Tasting

8:00 - 11:30 Dinner & Evening Program

FRIDAY, Oct 11th, 2013

8:00 AM Breakfast

Morning Session (Chair: Marta Filizola)

9:00 - 9:50 Group 9 - Aneel Aggarwal

9:50 - 10:40 Group 10 - Michael Ohlmeyer

10:40 - 11:10 Group 11 - Roberto Sanchez

11:10 - 11:30 Coffee Break

11:30 - 12:20 Group 11 - Premkumar Reddy

12:20 - 1:10 Group 12 - Iban Ubarretxena

1:10 - 1:20 Closing Remarks & Rewards

1:20 - 2:10 Lunch

2:15 Departure

2013 PRESENTING GROUPS



Ming-Ming Zhou, Professor & Chair

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



Aneel Aggarwal, Professor

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



Marta Filizola, Associate Professor

Structure-function correlation in molecular recognition and signal-transduction through the development and application of computational methods.



Robert Fisher, Associate Professor

Molecular mechanisms that control cell division and regulate gene expression in yeast and mammalian cells. Focusing on the role of protein phosphorylation in both processes.



Mihaly Mezei, Associate Professor

Developing computational techniques for structural analysis of macromolecular and for small molecule design.



Arvin Dar, Assistant Professor

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



Michael Ohlmeyer, Associate Professor

Small-molecule drug discovery. Hit to lead and lead optimization chemistry.



Roman Osman, Professor

Molecular mechanisms of enzymatic DNA repair, receptor/ligand interactions, gene transcription and translation, as well as structure-based small-molecule design using free energy simulations and quantum mechanical/molecular mechanical methods.



E. Premkumar Reddy, Professor

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



Roberto Sanchez, Associate Professor

Development of structural bioinformatics tools for protein structure-function relationship with emphasis on ligand recognition and disease related mutations.



Iban Ubarretxena, Associate Professor

Structural and molecular mechanism of regulated intramembrane proteolysis in human biology and disease. We combine biochemical methods and cryo-EM.



Martin Walsh, Associate Professor

Mechanisms that regulate chromatin structure through processes that recognize and establish epigenetic information necessary to modulate gene transcription.