

Upstate Medical University is pleased to offer its free visiting lectures series to bring undergraduates a lively and informative lecture with one of our leading faculty members. The professors in our series are well-funded investigators performing ground-breaking research in their fields. Lectures conclude with a brief presentation on the biomedical graduate degree programs and student research offerings available at SUNY Upstate.

To schedule a visit from one of our professors to your campus, or virtually: [www.upstate.edu/grad](http://www.upstate.edu/grad)

**UPSTATE**  
MEDICAL UNIVERSITY  
COLLEGE OF GRADUATE STUDIES  
State University of New York

## UPSTATE VISITING LECTURERS



### Jeffrey Amack, PhD

Cell & Developmental Biology

#### Mechanobiology in the Zebrafish Embryo

Mechanobiology describes how physical forces influence cell behaviors. We use the zebrafish embryo to investigate mechanical properties that drive formation of tissues and organs.

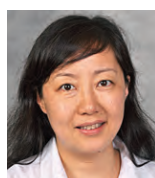


### Alaji Bah, PhD

Biochemistry & Molecular Biology

#### Regulation of Binding, Folding and Phase Separation of Intrinsically Disordered Proteins by Post Translational Modifications

Intrinsically disordered proteins are a class of proteins that do not fold into a stable conformation under physiological conditions, yet they play critical biological roles. In this introduction, I will discuss how the functions of these proteins are regulated by post-translational modifications.



### Wenyi Feng, PhD

Biochemistry & Molecular Biology

#### Chromosome Fragility: When Replication Goes Awry

We are interested in the mechanisms of how replication defects lead to DNA strand breakage, chromosomal rearrangements and genome instability, which are the underlying cause of many human diseases, including cancer. We also develop novel methods using NextGen sequencing to identify chromosome fragile sites in the human genome.



### Stephen J. Glatt, PhD

Psychiatry & Behavioral Sciences

#### Biomarkers for Neuropsychiatric Disorders

Unlike many other medical conditions, neuropsychiatric disorders are currently diagnosed based only on behavioral reports and clinical observation rather than biomarkers. The presentation will summarize the latest efforts to identify valid biomarkers for these disorders, which should facilitate earlier identification and intervention and better outcomes.



### Patricia Kane, PhD

Biochemistry & Molecular Biology

#### Control of Cellular pH in Life, Death and Aging

The Kane lab investigates the regulation of cellular pH and specifically, the regulation and function of the highly conserved V-ATPase proton pump, in yeast and tissue culture cells using biochemistry, genetics, and molecular and cell biology. Loss of function or regulation of V-ATPases is associated with diseases ranging from neurodegeneration to cancer, and our recent data indicates that V-ATPase function is reduced at early stages of aging. We are interested in understanding V-ATPase regulation in order to tune V-ATPase activity under different conditions.



### Chunyu Liu, PhD

Psychiatry & Behavioral Sciences

#### Genome, Epigenome, Proteome and Phenome of Psychiatric Disorders

Using big data of genetics, genomics, epigenomics, and phenotypes to reveal biological mechanism of mental illness as well as normal behavioral traits.



### Stewart Loh, PhD

Biochemistry & Molecular Biology

#### Design of Biomolecular Switches

Our lab uses the tools of protein folding, engineering, and design to develop mechanisms by which ordinary proteins can be converted into molecular switches. We use these switches as biosensors and to control cellular pathways in response to external stimuli.



### David W. Pruyne, PhD

Cell & Developmental Biology

#### Building the Cell's Internal Skeleton - How Does it Happen, and Why Does it Matter?

The actin cytoskeleton is a network of protein filaments inside the cell that control the cell's shape and movements. We are studying how cytoskeleton assembly is controlled using a combination of biochemical studies of pure proteins, microscopic analysis of cells, and study of muscle development in vertebrate and invertebrate animals with mutations in key actin regulatory proteins.



### Mark E. Schmitt, PhD

Biochemistry & Molecular Biology

#### All Ribosomes are Not Created Equal

Ribosomes are extremely ancient RNA-based enzymes that catalyze protein synthesis in all organisms. Ribosomes differ in their RNA and protein composition and these subtle differences confer different functions that control and regulate the translation process.



### Vladimir Sirotkin, PhD

Cell & Developmental Biology

#### Endocytosis by the Numbers: Investigation of the Mechanisms of Endocytosis by Quantitative Live Cell Imaging

The actin cytoskeleton dynamics are responsible for changes in cell shape. By counting the numbers of molecules in live cells, we investigate how cells control the actin filament assembly driving membrane deformation during endocytosis.



### Daniel Tso, PhD

Neurosurgery

#### Plasticity and the Dynamic Brain: Wiring, Injury and Re-wiring

Recent evidence has forced a greater appreciation of the extent to which the adult brain is capable of remarkable rewiring and plasticity, particularly in order to adapt to changes in the environment or in response to brain injury. We will explore the fixed versus plastic nature of the adult brain and some of the underlying neural mechanisms.



### Mariano Viapiano, PhD

Neuroscience and Physiology

#### Brain Cancer: Finding New Targets Outside the Tumor Cells

Gliomas are malignant cancers that originate in the brain and have very poor prognosis. Our laboratory studies how glioma cells interact with normal cells in the brain and change the neural environment to their advantage. In my lecture I will describe mechanisms of glioma growth and invasion identified in our laboratory and will discuss novel therapeutic strategies against malignant brain tumors.

To request a speaker from our lecture series, visit [upstate.edu/grad](http://upstate.edu/grad), and select the "Visiting Lecture Series" link.



**UPSTATE**  
MEDICAL UNIVERSITY  
COLLEGE OF GRADUATE STUDIES

[biosci@upstate.edu](mailto:biosci@upstate.edu) | 750 East Adams Street, Syracuse, NY 13210

TRANSFORMING STUDENTS FROM CONSUMERS OF  
KNOWLEDGE INTO PRODUCERS OF KNOWLEDGE.