SUNY Upstate Medical University in Syracuse is one of only 140 academic medical centers in the U.S. Through its four colleges SUNY Upstate trains the next generation of research scientists, physicians, nurses and health care professionals. Its thriving biomedical research enterprise is dedicated to understanding and improving the human condition. Recent technological advances have accelerated the pace of research and are improving our understanding of diseases at a molecular and cellular level to develop targeted treatments. Research at Upstate stretches from structural, molecular, and systems biology at a basic level, through translational and clinical research.

**For more information on our lecture series, or to request a speaker, look for the link at www.upstate.edu/grad or contact:**

Krystal Ripa
College of Graduate Studies
SUNY Upstate Medical University
Phone: 315 464-7719
E-mail: biosci@upstate.edu

17.191 0617 7C RJU

UPSTATE
MEDICAL UNIVERSITY

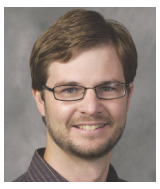
**College of Graduate Studies**
750 East Adams Street,
Syracuse, New York 13210

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

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

To schedule a visit from one of our professors to your campus, visit: **www.upstate.edu/grad**

# 2017-2018 UPSTATE VISITING LECTURERS, THEIR DEPARTMENTS AND TOPICS



## Jeffrey Amack, PhD
Cell & Developmental Biology

**Heart Development in the Zebrafish Embryo**

Congenital heart disease is the most common birth defect. My lab uses the zebrafish embryo as a model system to find genes that control heart development and disease.

## Peter Calvert, PhD
Ophthalmology

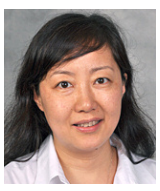
**Watching Cell Signaling Live: What We Are Learning About Biochemistry by Imaging Active Cells**

Work in my lab is aimed at understanding signaling and behavior at the molecular level in living cells. Protein dynamics, measured with multiphoton and confocal microscopy, is changing our understanding how cell sensitivity to environmental stimuli is controlled.

## Thomas Duncan, PhD
Biochemistry & Molecular Biology

**Jamming the Gears of ATP Synthase Nanomotors for Antibacterial Drug Discovery**

ATP synthases are rotary motor enzymes critical for cellular energy metabolism. Understanding bacteria-specific regulatory mechanisms may lead to new antibiotics.



## 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.

## Steven Hanes, PhD
Biochemistry & Molecular Biology

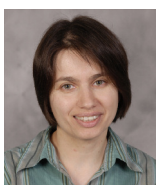
**Using Model Organisms to Study Development & Disease**

This introduction to how and why model organisms are used in biomedical research will focus on Gene Regulation and will include discussion about careers in the biological sciences.

## Heidi Hehnly, PhD
Cell & Developmental Biology

**The Beauty of Cell Division**

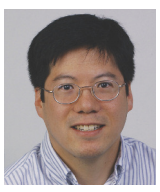
This introduction to cell division will cover how the cell cycle has been visualized and depicted through microscopy and art. Then will focus on how the onset of live-cell imaging and three dimensional visualization of the mitotic spindle has driven discovery in the mechanisms governing mitotic spindle positioning and how it relates to tissue development.



## Mira Krendel, PhD
Cell & Developmental Biology

**Lessons from Four-Legged Patients: Mouse Studies and Human Genetic Diseases**

Mouse models can be used to find genes responsible for inherited diseases in humans. Our studies in mice helped identify a link between myosin mutations and kidney disease.



## Stewart Loh, PhD
Biochemistry & Molecular Biology

**Design of Biomolecular Switches; p53 Folding, Misfolding, and Cancer**

Our lab uses the tools of protein folding, engineering, and design to develop mechanisms by which ordinary proteins can be converted into switches, and for understanding how p53 mutations contribute to cancer and how mutant p53 can be reactivated by small molecules.

## Eric C. Olson, PhD
Neuroscience & Physiology

**Putting Dendrites In Their Place: The Role of the Reelin-Signaling Pathway In Organizing Brain Structure**

Covers the basic cellular processes underlying mammalian brain development. Then focuses on our efforts to understand Reelin-signaling and the early differentiation and positioning of cortical neurons through the use of multiphoton microscopy and time-lapse imaging.

## David W. Pruyne, PhD
Cell & Developmental Biology

**Linking Biochemistry, Cell Biology and Development to Understand the Cytoskeleton**

The cytoskeleton is a network of protein filaments inside the cell that control cell shape and movements. Formins are proteins that play a critical role in organizing the assembly of cytoskeletal filaments. We are learning how formins work using a combination of biochemical studies of pure proteins, microscopic analysis of cytoskeletal organization in cells, and observation of the effects of formin gene mutations on the simple model animal Caenorhabditis elegans.

## 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.

## Dan Tso, PhD
Neurosurgery

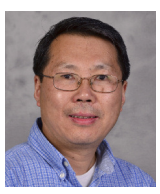
**Plasticity and the Dynamic Brain: Wiring, Injury and Re-wiring**

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
Neurosurgery

**Finding New Targets in Microenvironment of Malignant Brain Tumors**

Gliomas are malignant cancers that originate in the brain and have very poor prognosis. The focus of our research is to understand and target the mechanisms by which glioma cells interact with normal brain cells and modify the neural environment to their advantage. This lecture will describe mechanisms of glioma growth and invasion identified in our laboratory and will outline novel therapeutic strategies against malignant brain tumors.



## Wei-Dong Yao, PhD
Psychiatry & Behavioral Sciences

**Linking Synaptic Mechanisms to Brain Diseases**

Neural circuits in the prefrontal cortex (PFC) process top-down information that encodes executive, memory, and reward behaviors. Using multi disciplinary electrophysiological, cellular, and molecular approaches and mouse models, we study mechanisms regulating the formation, modulation, and plasticity of synaptic connections in the PFC and related regions and their contributions to brain disorders.

To schedule a visit from one of our professors to your campus, visit: www.upstate.edu/grad

Transforming students from consumers of knowledge into producers of knowledge

UPSTATE
MEDICAL UNIVERSITY

College of Graduate Studies
750 East Adams Street, Syracuse, New York 13210