

# NYSCF CONFERENCE

October 22 & 23, 2019

Caspary Auditorium  
The Rockefeller University

**Tuesday, October 22, 2019**

**8:00 AM REGISTRATION AND COMPLIMENTARY BREAKFAST**

9:00 AM Introduction: **Susan L. Solomon, JD** – The NYSCF Research Institute

9:05 AM Welcome Remarks: **Barry Coller, MD** – The Rockefeller University

## **GENETICS AND GENOMICS**

Chair: **Adriana Heguy, PhD** – NYU Langone Health

9:10 AM **Tuuli Lappalainen, PhD** – Columbia University  
New York Genome Center  
*The GTEx Consortium atlas of genetic regulatory effects across human tissues*

9:35 AM **Jennifer Phillips-Cremins, PhD** – University of Pennsylvania  
NYSCF – Robertson Stem Cell Investigator  
*3D epigenome reconfiguration in brain development and neurodegenerative disease*

10:00 AM **Aviv Regev, PhD** – Broad Institute of MIT and Harvard  
*Cell atlases as roadmaps to understand development*

**10:25 – 11:00 AM BREAK**

## **STEM CELL APPLICATIONS IN THERAPEUTICS**

Chair: **Elizabeth Schwarzbach, PhD** – The NYSCF Research Institute

11:00 AM **Melanie Kardel, PhD** – STEMCELL Technologies, Inc.  
*Advancing hPSC research by building robust culture systems on the four cornerstones of cell quality*

11:20 AM **Philip Nelson** – Google  
*Accelerating life sciences discovery with machine learning*

11:40 AM **Lee Spraggon, PhD** – Synthego  
*HTP genome engineering of induced pluripotent stem cells*

**12:00 – 1:30 PM COMPLIMENTARY LUNCH**

**1:30 PM ANNOUNCEMENT OF 2019 NYSCF – ROBERTSON INVESTIGATORS**

## PLENARY LECTURE

1:35 PM **Leroy Hood, MD, PhD** – Institute for Systems Biology  
*Big data, wellness, and disease*

## ADVANCING PRECISION MEDICINE WITH THE POWER OF STEM CELLS

2:10 – 3:00 PM **Panel discussion**

Moderator: **Raeka Aiyar, PhD** – The NYSCF Research Institute

**Leroy Hood, MD, PhD** – Institute for Systems Biology

**Antony Rosen, MBChB, MS** – Johns Hopkins University

**Susan L. Solomon, JD** – The NYSCF Research Institute

**Craig Thompson, MD** – Memorial Sloan Kettering Cancer Center

**Feng Zhang, PhD** – Broad Institute of MIT and Harvard

3:00 – 3:30 PM **BREAK**

## NEURODEGENERATION AND THE BRAIN

Chair: **Margaret Elizabeth Ross, MD, PhD** – Weill Cornell Medicine

3:30 PM **Zameel Cader, MD, DPhil** – University of Oxford  
*Old drugs, new tricks – novel paths to drug targets in migraine*

3:55 PM **Ali Brivanlou, PhD** – The Rockefeller University  
*Self-organizing human neuruloids reveal a developmental signature of Huntington's disease*

4:20 PM **Sergiu Pasca, MD** – Stanford University  
NYSCF – Robertson Stem Cell Investigator  
*Assembling three-dimensional models of the human brain to study disease*

4:45 PM **Tracy Young-Pearse, PhD** – Brigham and Women's Hospital  
*Capturing genetic risk for Alzheimer's disease in stem cell derived neurons*

## POSTER SESSION

5:10 – 7:15 PM

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**8:00 AM      REGISTRATION AND COMPLIMENTARY BREAKFAST**

9:00 AM      Introduction

## **KEYNOTE ADDRESS**

Chair: **Susan L. Solomon, JD** – The NYSCF Research Institute

9:10 AM      **Shinya Yamanaka, MD, PhD** – Kyoto University  
Gladstone Institutes  
*Recent progress in iPS cell research and application*

## **GENDER EQUALITY IN SCIENCE**

9:45 AM      **Kristin Smith-Doody** – The NYSCF Research Institute  
*Institutional report cards for gender equality: lessons learned from benchmarking efforts for women in science*

## **SHORT TALKS SELECTED FROM ABSTRACTS**

Chair: **Raeka Aiyar, PhD** – The NYSCF Research Institute

9:55 AM      **Anne Plant, PhD** – National Institute of Standards and Technology  
*Characterizing stem cells with dynamic image data and a statistical thermodynamics landscape model*

10:05 AM      **Xuyu Qian, PhD** – University of Pennsylvania  
*Sliced human cortical organoids for modeling distinct cortical neuronal layer formation*

10:15 AM      **Maria Maryanovich, PhD** – Albert Einstein College of Medicine  
NYSCF – Druckenmiller Fellow  
*Adrenergic nerve degeneration in the bone marrow drives aging of the hematopoietic stem cell niche*

**10:25 – 10:55 AM BREAK**

## TISSUE RENEWAL AND REGENERATION

*Sponsored by: Nikon Instruments, Inc.*

Chair: **Sarah Millar, PhD** – Icahn School of Medicine at Mount Sinai

- 10:55 AM **Matthias Hebrok, PhD** – University of California, San Francisco  
*Regulation of human islet cell specification*
- 11:20 AM **Jennifer Elisseeff, PhD** – Johns Hopkins University  
*The immunology connection to tissue repair*
- 11:45 AM **Valentina Greco, PhD** – Yale University  
NYSCF – Robertson Stem Cell Investigator  
*Principles of skin tolerance to oncogenic mutations captured by live imaging*
- 12:10 PM **Kristin Baldwin, PhD** – Scripps Research  
*Driving and defining neuronal diversity using reprogramming and interspecies chimeras*

12:35 PM – 1:45 PM COMPLIMENTARY LUNCH

## KEYNOTE ADDRESS

Chair: **Susan L. Solomon, JD** – The NYSCF Research Institute

- 1:45 PM **Hans Clevers, MD, PhD** – Hubrecht Institute, Utrecht University  
*Organoids as models of human disease*

## THERAPEUTIC INNOVATIONS IN CANCER

Chair: **Olivier Elemento, PhD** – Weill Cornell Medicine

- 2:20 PM **Ursula Matulonis, MD** – Dana-Farber Cancer Institute  
*New treatment paradigms for epithelial ovarian carcinoma*
- 2:35 PM **Siddhartha Mukherjee, MD, DPhil** – Columbia University  
*Emerging cellular and personalized therapies for cancer*

## A NEW PARADIGM FOR WOMEN'S REPRODUCTIVE CANCERS

2:50 PM      **Panel discussion**

Moderator: **Siddhartha Mukherjee, MD, DPhil** – Columbia University

**Laura Andres-Martin, PhD** – The NYSCF Research Institute

**Michael Birrer, MD, PhD** – University of Alabama at Birmingham

**Hans Clevers, MD, PhD** – Hubrecht Institute, Utrecht University

**Ursula Matulonis, MD** – Dana-Farber Cancer Institute

3:35 – 4:05 PM BREAK

## ROAD TO THE CLINIC

Chair: **Robert Michler, MD** – Albert Einstein College of Medicine

4:05 PM      **Graziella Pellegrini, PhD** – The University of Modena and Reggio Emilia  
*Translational medicine: overcoming the challenges to restore function*

4:30 PM      **Jun Takahashi, MD, PhD** – Kyoto University  
*iPS cell-based therapy for Parkinson's disease*

4:55 PM      **Brian Wainger, MD, PhD** – Massachusetts General Hospital  
NYSCF – Robertson Stem Cell Investigator  
*From iPSCs to the clinic: a phase 2 trial of ezogabine on neuronal excitability in amyotrophic lateral sclerosis*

## CLOSING REMARKS

5:20 PM