"A whole lot of Science"

Now in its third year, the symposium is designed to showcase junior and senior scholarship in cancer systems research from across Yale and beyond

Yale WEST CAMPUS

Yale Systems Biology Institute
and Cancer Systems Biology at Yale
present

Symposium 2019

Advances in Systems Analysis of Aggressive Cancers

Monday, June 17, 2019

West Campus Conference Center
800 West Campus Drive
West Haven, CT 06516

SCHEDULE

Breakfast and Check In
8:00 to 9:00 AM — **Event Room A and B**

Welcome and Introduction
9:00 to 9:30 AM — **Andre Levchenko, PhD**
John C. Malone Professor of Biomedical Engineering, Director of Yale Systems Biology Institute, Director of Cancer Systems Biology @Yale (CaSB@Yale), Editor-in-Chief of "Current Opinion in Systems Biology"

The Pyruvate Kinase Type M2 Site-Specific Phosphorylation Tweak That Benefits Cancer Progression
9:30 to 9:45 AM — **Maria Apostolidi, PhD**
Postdoctoral Associate, Rinehart Lab, Yale Systems Biology Institute

Entropy Production in Particles, Fields, and Biology
9:45 to 10:00 AM — **Daniel Seara, MS**
Graduate Student in Physics, Murrell Lab, Yale Systems Biology Institute

Gene Editing Applications in Cancer Systems Biology
10:00 to 10:15 AM — **Sidi Chen, PhD**
Assistant Professor of Genetics, Yale Systems Biology Institute

Cancer Cells on the Racing Track
10:15 to 10:30 AM — **JinSeok Park, PhD**
Postdoctoral Associate, Levchenko Lab, Yale Systems Biology Institute

Break
10:30 to 10:45 AM — **Event Room A and B**

Investigating How Altered EGFR Signaling Dynamics Affect Cellular Outcome
10:45 to 11:00 AM — **Chun Hu, MS**
Graduate Student in Pharmacology, Lemmon Lab, Yale Cancer Biology Institute

Modular Engineering for CAR-T Cells

11:00 to 11:10 AM — **Jonathan Park, BS**

Graduate Student in MD/PhD Program, Chen Lab, Yale Systems Biology Institute

Highlights from Cancer Systems Biology at Yale Education and Outreach

11:10 to 11:25 AM — **Corey S. O'Hern, PhD**

Professor of Mechanical Engineering & Materials Sciences, Yale University

Poster Presentations

11:25 am to 12:00 PM

Research highlights by junior investigators.

Lunch

12:00 to 1:00 PM — **Event Room A and B**

Poster Session

1:00 to 2:00 PM — **Event Room A and B**

Keynote Presentation: Molecular Engines of Migration in Brain Cancer: Tools, Tracks, Tailor-Made Therapies

2:00 to 2:45 PM — **Alfredo Quinones-Hinojosa, MD**

William J. and Charles H. Mayo Professor and Chair of Neurologic Surgery, Mayo Clinic, Jacksonville, Florida

Cooperation Is in Our Nature – Using Image Guided Genomics to Probe Collective Invasion

2:45 to 3:00 PM — **Adam Marcus, PhD**

Professor of Hematology and Medical Oncology, Emory University School of Medicine; Associate Director for Basic Research and Shared Resources, Winship Cancer Institute of Emory University

Microfabricated Tools for Cancer Systems Biology Research

3:00 to 3:15PM — **Rong Fan, PhD**

Associate Professor of Biomedical Engineering, Yale University

Notes

Notes

Emergence of Phenotypic Heterogeneity in Hypoxic Cancer

3:15 to 3:30 PM — **Kshitiz, PhD**

Assistant Professor, Dept. of Biomedical Engineering, UConn Health; Kshitiz/Wagner Labs, Yale Systems Biology Institute

Gene Expression and Noise Dynamics During Single-Cell Aging

3:30 to 3:45 PM — **Murat Acar, PhD**

Assistant Professor of Molecular, Cellular and Developmental Biology and of Physics, Yale Systems Biology Institute

Break

3:45 to 4:00 PM — **Event Room A and B**

Characterization of Cell-Cell Communication Networks in the Melanoma Tumor Microenvironment

4:00 to 4:10 PM — **Gabriela Pizzurro, PhD**

Postdoctoral Associate, Miller-Jensen Lab, Biomedical Engineering Dept., Yale University

Proteomic Quest for Invasive Phenotype in Cancer Cells

4:10 to 4:20 PM — **Yansheng Liu, PhD**

Assistant Professor of Pharmacology, Yale Cancer Biology Institute

An Engineered Cas9 Nuclease Triggered by Altered Gene Expression in Human Cells

4:20 to 4:35 PM — **Benjamin Akhuetie-Oni, MS**

Graduate Student; Molecular, Cellular and Developmental Biology; Isaacs Lab, Yale Systems Biology Institute

Note of Thanks and Awards

4:35 to 4:45 PM

Reception and Networking

4:45 to 5:45 PM — **Event Room A and B**

KEYNOTE SPEAKER

ALFREDO QUIÑONES-HINOJOSA, M.D.

"Molecular Engines of Migration in Brain Cancer: Tools, Tracks, Tailor-Made Therapies"

Dr. Alfredo Quiñones-Hinojosa earned his B.A. in psychology at the University of California–Berkeley and his M.D. at Harvard Medical School, where he graduated cum laude. He completed an internship in general surgery, postdoctoral fellowship in developmental and stem cell biology, and residency in neurosurgery at the University of California, San Francisco. Dr. Quiñones-Hinojosa currently serves as consultant and chair of the Department of Neurologic Surgery at Mayo Clinic in Florida. He joined the staff of Mayo Clinic in August 2016 and is recognized with the distinction of a named professorship, the William J. and Charles H. Mayo Professorship.

Dr. Quiñones-Hinojosa's clinical interests are surgical treatment of primary and metastatic brain tumors with emphasis in motor and speech mapping during surgery, as well as treatment of patients with pituitary tumors and skull base tumors using minimally invasive approaches. He leads NIH-funded research to cure brain cancer. His research focuses on brain tumors and stem cell migration, healthcare disparities for minorities and clinical outcomes for neurosurgical patients. He has authored numerous journal articles, book chapters, abstracts and other written publications and is Editor-in-Chief of one of the most well-respected and widely read operative neurosurgical textbooks in the world, Schmidek and Sweet's Operative Neurosurgical Techniques (6th edition). He is also one of the authors of Controversies in Neuro-Oncology, which was awarded first prize by the British Medical Association.

In recognition of his work, Dr. Quiñones-Hinojosa has received many awards and honors, and he has received honorary degrees from numerous colleges and universities. In addition to his clinical and research activities, Dr. Quiñones-Hinojosa is active in education and provides mentorship to many postdoctoral fellows. He is co-founder and serves as president of Mission: BRAIN, Bridging Resources and Advancing International Neurosurgery, a 501 (c)(3) non-profit foundation. He also serves on the Board of Directors of Voices Against Brain Cancer, and he is co-chair of the American Association of Neurological Surgeons/Congress of Neurological Surgeons Tumor Section International Committee. He also serves on many study sections of the National Institutes of Health, including chair of meeting sessions.