

## INTRODUCTION TO PRECISION MEDICINE

WEILL CORNELL MEDICINE, The Caryl and Israel Englander Institute For Precision Medicine

Monday, October 29, 2018, 4:00 PM–7:00 PM

### INTRODUCTION

- ▶ **Welcome and Precision Medicine Overview**  
Olivier Elemento, Ph.D., Director, Englander Institute for Precision Medicine
- ▶ **Mentorship and Professional Development**  
Ruth Gotian, EdD, MS, Assistant Dean for Mentoring

### BREAKOUT SESSIONS

- 1. Research Lab Tour and Organoid Platform Overview**  
David Wilkes, EIPM Lab Coordinator  
**Organoid Team:** Cynthia Cheung, Anna Tsomides, Adriana Irizarry, and Laura Martin  
Tour EIPM's lab and conduct microscopic examinations of organoids, three-dimensional cellular structures to see how scientists identify the best treatment for the patient in the lab.
- 2. DNA Extraction Workshop**  
Kevin Newhall, Research Technician  
Alison Ferguson, Postdoctoral Associate  
Daria Ivenitsky, Research Technician  
Extract DNA from strawberries using common household materials to see first-hand how DNA can be isolated without a machine. This is how researchers find mutations that allow them to target disease.
- 3. Basic Coding Overview and HoloLens Demo**  
Alex Sigaras, Researcher, Computational Biomedicine  
Pantelis Zisimopoulos, Software Engineer  
Step into a virtual world with Microsoft's HoloLens to learn how scientists and doctors use this new technology to create more immersive experiences that allow them to visualize and collaborate on complex datasets like never before.
- 4. Patient Care and Clinical Genome Pipeline Discussion**  
Jeff Catalano, Operations Manager, Clinical Genomics Laboratory  
Participate in a discussion to learn about the experience of a patient who takes part in a precision medicine research study. Follow a patient's journey from consent to testing, diagnosis, and treatment.

### CLOSING – NETWORKING

WORLD SCIENCE ACADEMY PARTNER

## PARTICIPANTS



### **OLIVIER ELEMENTO, PhD | COMPUTATIONAL BIOLOGIST**

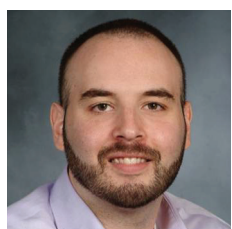
Olivier Elemento is the Director of the Englander Institute for Precision Medicine (EIPM), an institute that focuses on using genomics and informatics to make medicine more individualized. His research group combines Big Data with experimentation and genomic profiling to accelerate the discovery of cancer cures. He also holds a number of additional positions at Weill Cornell: Associate Professor, Walter B. Wriston Research Scholar; Head, Laboratory of Cancer Systems Biology; and Associate Director, Institute for Computational Biomedicine.



### **RUTH GOTIAN, EdD, MS | ASSISTANT DEAN FOR MENTORING**

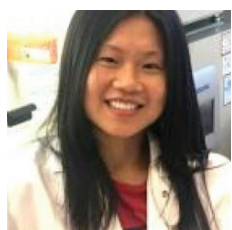
Dr. Ruth Gotian is the inaugural Assistant Dean of Mentoring and Executive Director of the newly launched Mentoring Academy at Weill Cornell Medicine, and the Chief Learning Officer in Anesthesiology and Assistant Professor of Education in Anesthesiology. She has taken on these new roles after nearly 22 years (and two perfect scores on NIH training grants) of running the Tri-Institutional MD-PhD Program, a partnership between Weill Cornell, Rockefeller University, and Memorial Sloan Kettering Cancer Center.

Dr. Gotian is an alumna of Teachers College Columbia University where she studied Adult Learning and Leadership. She pursued her doctorate while working full time and raising three sons. She received her B.S. and M.S. in Business Management from the University at Stony Brook in New York, as well as certificates in Executive Leadership and Managing for Execution from Cornell University. She publishes in both medical education and adult learning journals on topics ranging from diversity and inclusion in academic medicine, to virtual mentoring.



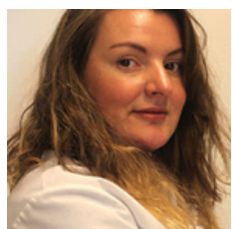
### **JEFF CATALANO | OPERATIONS MANAGER**

Jeff Catalano is the Operations Manager for the Clinical Genomics Laboratory at EIPM. His passion is for patient care and building products and teams that improve healthcare.



### **CYNTHIA CHEUNG | RESEARCH TECHNICIAN**

Cynthia Cheung is a Research Technician II, and her focus is working with patient-derived tumor models in the organoid lab. She is responsible for the care and characterization of mini tumors grown from patient biopsies, which are used to find the best treatment for that particular cancer.



### **ALISON FERGUSON, PhD | POSTDOCTORAL ASSOCIATE**

Dr. Alison Ferguson is a Postdoctoral Associate working at Beltran Lab, which is focused on understanding mechanisms of treatment resistance in advanced prostate cancer through integration of clinical and molecular features of patients combined with preclinical modeling. In addition, as part of EIPM, and in collaboration with a multidisciplinary team of scientists and clinicians, Beltran Lab is developing genomic and other platforms for biomarker development and clinical application across tumor types. Dr. Ferguson graduated from The University of Sydney, Honours University of New South Wales, B.S. University of South Australia.

## PARTICIPANTS



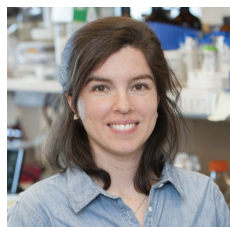
### **ADRIANA IRIZARRY | RESEARCH TECHNICIAN**

Adriana Irizarry is a Research Technician for the organoid platform, responsible for processing patient tissue samples collected during biopsies and growing them into mini tumors, which are used for molecular characterization and the identification of the best treatment for the patient. Prior to joining EIPM, Adriana worked as a medical assistant and a phlebotomist in various specialties. She received her BS in Biology with a double minor in Psychology and Chemistry from Manhattan College.



### **DARIA IVENITSKY | RESEARCH TECHNICIAN**

Daria Ivenitsky is a Research Technician in Dr. Christopher Barbieri's laboratory focused on molecular underpinnings of prostate cancer. The Barbieri lab frequently collaborates with EIPM and works with patient derived prostate samples. Daria is looking forward to applying to medical schools in the near future. She joined the team shortly after graduating from Vassar College with a BA degree in Biology and Russian Studies.



### **DR. LAURA MARTIN | POSTDOCTORAL ASSOCIATE**

Dr. Laura Martin focuses on the utilization of patient derived models of cancer, and oversees the tumor organoid platform. As a postdoctoral associate at EIPM, she studies the functional impact of genetic and epigenetic alterations in preclinical models has successfully collaborated with a number of researchers. Formerly a Postdoctoral Fellow at Memorial Sloan Kettering Cancer Center, Dr. Martin has experience training visiting students about fast-paced advances in developing organoid technology.



### **KEVIN NEWHALL | RESEARCH TECHNICIAN**

Kevin Newhall's research focuses on examining the biological mechanisms underlying chemotherapy resistance in urothelial carcinoma, and is looking forward to applying to MD-PhD programs. He received his BA in Neuroscience and Behavior from Vassar College, and soon after, joined Dr. Bishop Faltas's lab team as a research technician.



### **ALEX SIGARAS | RESEARCHER IN COMPUTATIONAL BIOMEDICINE (PROGRAMMER)**

Alexandros is a Senior Research Associate in Computational Biomedicine at Weill Cornell Medicine. He develops software solutions for EIPM and Institute for Computational Biomedicine, with projects spanning over healthcare system design, LIMS, and pipeline design for computational genomic analysis. His research interest focuses on data visualization and interaction of healthcare and genomic data using new emerging technologies, including augmented and virtual reality such as HoloLens, Oculus Rift, and Google Glass.



### **ANNA TSOMIDES | RESEARCH TECHNICIAN**

Anastasia Tsomides is a Research Technician working on the organoid platform. Her primary focus is on the development and optimization of patient-derived tumor models, which are used for drug testing and molecular characterization. Anastasia joined the team shortly after she received her BA in Cellular and Molecular Biology from Connecticut College.

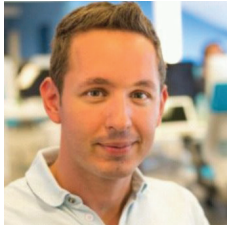
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## PARTICIPANTS



### **DAVID WILKES, PhD | RESEARCH ASSOCIATE AND LAB COORDINATOR**

David Wilkes, PhD, is a Research Associate and Lab Coordinator at EIPM. His research focuses on investigating DNA damage response gene mutations in prostate cancer, and the role of epigenetic changes in advanced neuroendocrine type prostate cancer. He received his BSc with honors in Genetics from the University of Glasgow, Scotland, and his PhD in Molecular Genetics from Imperial College, St. Mary's Hospital Medical School, London.



### **PANTELIS ZISIMOPOULOS | SOFTWARE ENGINEER**

Pantelis Zisimopoulos is a Full Stack Software Engineer at EIPM. He is working on developing innovative software systems that support the Institute in their mission to efficiently match new, biologically-targeted therapies to patients who need it. He has a MSc. in Software Engineering from the University of Amsterdam. He has experience in building a big variety of software systems and integrations with them so to create a more complete solution; SaaS applications, web-based enterprise solutions, phone and desktop applications. He is driven by developing software on time, within budget, built with the end user in mind, and makes an impact.