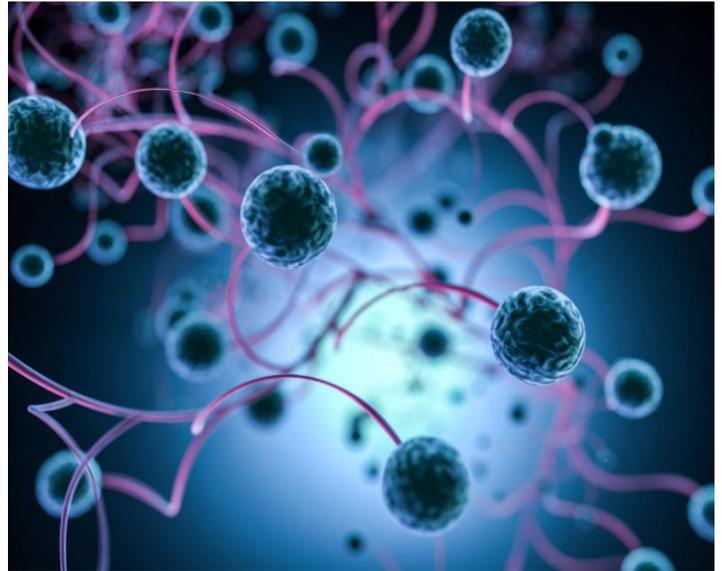


# 2019 Spring Senior Executives Meeting



## *The Revolution in Single Cell Biology and Why It Is Important*

**May 5-7, 2019**

The Mandarin Oriental Hotel  
Boston, Massachusetts

**ALDA**  
Analytical, Life Science & Diagnostics Association

# Program

Although the theory that cells are the basic unit of life and that all living things are composed of cells was proposed 180 years ago, much is still unknown about the nature of cells, what they do and how they change over time.

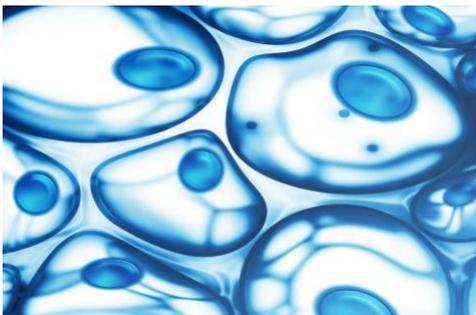
Historically, most biology has analyzed all of the cells in a sample in bulk, combining the individual cells and treating them as one sample. This approach averages the biological signals of single cells, while losing the valuable information about their diversity. Many biologists believe that in the future, individual cells will be isolated and analyzed separately from other cells in the sample in what is called “single cell biology”, revealing important insights that were previously unavailable.

This theme has important implications for therapeutics, discovery, genomics and translational research, including applications in oncology, immunology, and personalized medicine. Life science tools companies will be impacted. As the technologies to study single cells expand, new analytical tools will be required. There also is a question for diagnostics companies about how quickly the technologies will move into the clinic.

Our 2019 Spring Meeting program will offer valuable insights on where single cell biology is today, how it’s evolving and the challenges moving forward, and why single cell biology has important implications for health and medicine and for companies in our industry space.

Two keynote presentations will complete the Spring Meeting program. On Sunday evening, Dr. David Kelly, Chief Global Strategist and Head of the Global Market Insights Strategy Team for J.P. Morgan Asset Management, will assess the global geo-economic landscape, including the prospects for a US recession, China market slowdown and outlook, impact of Brexit, etc, and what he sees as the potential future headwinds of greatest interest to ALDA members.

James Comey, who served as Director of the FBI (2013-2017) will join us for a conversation on Tuesday morning, similar to the format we followed with Condoleezza Rice at the Fall Conference. Mr. Comey will share his insights on leadership and ethics and explain how ethical leadership drives sound decisions in business as well as government.



## Sunday, May 5, 2019

5:00 PM Registration

6:00 PM Reception and Dinner

### The Global Geo-Economic Landscape and Outlook

*David Kelly, Ph.D.*  
Chief Global Strategist and Head of the Global  
Market Insights Strategy Team  
J.P. Morgan Asset Management

As the Chief Global Strategist and Head of the Global Market Insights Strategy Team for J.P. Morgan Asset Management, Dr. Kelly's leads the development of valuable insight and perspective which bring clarity to the global economy and markets for the institutional investor and financial advisor global communities. Throughout his 20-year career, Dr. Kelly has demonstrated an ability to explain complex economic and market issues in a language that financial professionals understand and can use to communicate to their clients.

In this presentation, Dr. Kelly will assess the global geo-economic landscape and the prospects for recession in the US, the outlook for the China market, the potential impact of tariffs and trade disputes, Brexit, and other related topics that will develop between now and May.

## Monday, May 6, 2019

7:30 AM Continental Breakfast

9:00 AM Welcome and Program Introduction

### The Human Cell Atlas – A Starting Point for Single Cell Biology

*Aviv Regev, Ph.D.*  
Professor of Biology, MIT  
Core Member, Broad Institute, and  
Investigator, Howard Hughes Medical Institute

Dr. Aviv Regev, a computational and systems biologist, is a pioneer in the use of single-cell genomics and other techniques to dissect the molecular networks that regulates genes, defines cells and tissues, and influences health and disease.

Dr. Regev also is a leader and co-chair of the Organizing Committee of the Human Cell Atlas (HCA) project, a monumental and ambitious undertaking often compared to the Human Genome Project for single-cell biology which aims to create a reference map that categorizes each of the estimated 37 trillion cells in the human body. The results will change the way disease is diagnosed, monitored and treated. For example, the HCA will make it easier to identify how gene expression and signaling go awry in the case of disease, help drug developers

avoid toxic side effects, and provide new insights into the specific cells responsible for inflammation and food allergies.

Dr. Regev will lead off Monday's topical program with a strategic overview of single cell biology and the Human Cell Atlas, and examine why we need the HCA, what problems it addresses, how it is organized, where it is today, and where the science is going.

### Single Cell Technologies Being Adopted for Non-Spatial Analysis

*David T. Ting, M.D.*  
Associate Clinical Director for  
Innovation, MGH Cancer Center  
Assistant Professor of Medicine,  
Harvard Medical School

Dr. Ting is a medical oncologist. His laboratory at the Mass General Cancer Center and Harvard Medical School utilizes RNA-sequencing and RNA in situ hybridization technologies to understand the transcriptional landscape of pancreatic cancer. The laboratory has used these technologies to identify non-coding sequences in RNA (ncRNA) that are differentially expressed in cancer versus normal tissues. This has provided insight into the development of pancreatic cancer and offers a method to identify novel biomarkers and therapeutic targets. Dr. Ting's laboratory also has utilized innovative microfluidic chip technology to capture pancreatic circulating tumor cells as a non-invasive cancer biomarker as well as a means to understand their role in the metastatic cascade.

In this presentation, Dr. Ting will explore the technologies being adopted for non-spatial analysis and share his views on the current state of the science and technology, the challenges, and how this field is likely to evolve over the next decade.

12:00 PM Luncheon

1:30 PM Afternoon Program

### Spatial Analysis in Single Cell Biology

*David Rimm, M.D., Ph.D.*  
Professor of Pathology and Medicine  
(Medical Oncology)  
Yale School of Medicine

Dr. David Rimm is a pathologist who specializes in biomarker assessment in lung and breast cancer and has dedicated much of his career to improving how cancers can be diagnosed through better diagnostic tests or through discovering new molecular biomarkers. His natural inclination towards research has pushed Dr. Rimm to sub-specializing in cytopathology, a branch of pathology where diagnoses are based on examining very small samples of patients' tissues at a cellular level.

In this presentation, Dr. Rimm will examine the spatial aspects of single cell biology. Among other things, Dr. Rimm is expected to discuss why we need to take a morphological/spatial view of biology; how this has been approached historically, and the limitations of the tools of the past; the current state of the science and technology; a vision/roadmap of the future and how this field is likely to evolve over the next decade; and what life science “tools” companies should be doing to help advance spatial single cell biology.

### Panel Discussion – Single Cell Biology Applications

*Serge Saxonov, Ph.D. - Moderator  
Chief Executive Officer and Co-founder  
10x Genomics*

Concluding our topical program, three or four executives and researchers, including biopharma R&D leaders, will assess different single cell biology applications, and discuss what they are doing in single cell biology, where they are today, where they are going and how our industry can help them to achieve their objectives.

The panel discussion will be moderated by Dr. Serge Saxonov, Ph.D., CEO and Co-founder of 10x Genomics. The panelists include:

- Dr. Kelly Paulson, Ph.D., is a senior hematology/oncology fellow in the Chapuis Lab of Fred Hutchinson Cancer Research Center’s Clinical Research Division. Kelly offers both a clinical dimension and specific focus on immuno-oncology.
- Dr. Joakim Lundberg, Ph.D., heads the division of Gene Technology, part of the School of Biotechnology, at the KTH Royal Institute of Technology, in Stockholm, Sweden. He is a leader in single cell genomics and focuses on the spatial perspective, as well as a European view.
- Dr. Alexandra-Chloe Villani, Ph.D., is an Assistant Professor of Medicine at Harvard Medical School and Director of the Single Cell Genomics Program, Center for Immunology and Inflammatory Diseases at Massachusetts General Hospital. Dr. Villani adds a clinical dimension to single cell genomics.

**4:00 PM**      **End of Monday’s Program**

**6:00 PM**      **Reception and Dinner**

## Tuesday, May 7, 2019

**8:00 AM**      **A Conversation with James Comey**

*James Comey  
Director, Federal Bureau of Investigation  
(2013-2017)*

James Comey, who served as Director of the Federal Bureau of Investigation (FBI) from 2013-2017, will participate in a conversation with ALDA Chair Briar

Alpert, similar to the format we used with Condoleezza Rice at the Fall Conference.

Mr. Comey was appointed as the 7<sup>th</sup> FBI Director by President Barack Obama in September 2013. Director Comey’s tenure was tested by new forces within and outside America’s borders. He oversaw the Federal response to mass shootings in San Bernardino, CA in December 2015 and at the Pulse nightclub in Orlando, FL the following June, at the time the deadliest in the country’s history. And in the heat of one of the most closely contested presidential elections in history, Comey made a call that he would defend as one that prioritized the interests of the country above all else.

Prior to being named FBI Director, Mr. Comey was a Federal prosecutor in New York and Virginia. In December 2003, he was appointed U.S. Deputy Attorney General in the Administration of President George W. Bush. Following his service in the Bush Administration, Mr. Comey served as General Counsel of Lockheed Martin, a major defense contractor, and at Bridgewater Associates, the world’s largest hedge fund.

Throughout his career, Mr. Comey has been committed to doing the right things, regardless of politics, popular opinion and even personal friendships. Mr. Comey is a strong advocate of leadership and ethics, and how good, ethical leadership drives sound decisions. According to Mr. Comey, leaders and the people who work for them need to be laser-focused on a core set of principles, chief among them, truth, transparency and decency even in the most challenging and uncertain of circumstances.

**9:30 AM**      **Wrap-Up and Adjournment**

