

## Conference Agenda - 9th International mRNA Health Conference 2020 (virtual)

(All times shown as Eastern Standard Time, EST)

### Day 1: Monday, November 9

#### 08:00-08:15 Welcome and Logistics

**Stephane Bancel and Melissa Moore**

#### 08:15-09:45 Session I: mRNA Biology and Translation

**Chair: Melissa Moore**

08:15-08:40 Single-cell transcriptome imaging and cell atlas of complex tissues  
08:40-09:05 Colliding ribosomes function as a gauge for activation of cellular stress responses  
09:05-09:30 Development of RNA structures for cancer immunotherapy  
09:30-09:45 Decoding mRNA translatability and stability from the 5'UTR

Xiaowei Zhuang (HHMI/Harvard Chemistry)  
Rachel Green (HHMI/Johns Hopkins Medical School)  
Kyuri Lee (Ewha Womans University)  
Shu-Bing Qian (Cornell University)

09:45-09:55 *Break*

#### 09:55-10:00 Keynote Introduction

**Stephane Bancel**

#### 10:00-10:45 Keynote Speaker

**Anthony Fauci (NIAID/NIH)**

10:45-11:00 *Break*

#### 11:00-12:55 Session II: Delivery

**Chair: Dan Siegwart**

11:00-11:20 mRNA Delivery  
11:20-11:40 Biomaterials strategies to enhance and prolong the effects of therapeutic mRNA  
11:40-12:00 Supramolecular assemblies for enhanced mRNA delivery  
12:00-12:20 Boosting intracellular delivery of messenger RNA  
12:20-12:40 Advancing pulmonary delivery of mRNA therapeutics for the treatment of genetic diseases  
12:40-12:55 COATSOME SS-Lipids as novel, biodegradable, ionizable Lipids for mRNA Therapeutics and Vaccines

Dan Anderson (MIT)  
William L. Murphy (U.Wisconsin-Madison)  
Horacio Cabral (U. Tokyo)  
Gaurav Sahay (OHSU)  
John Androsavich (Translate Bio)  
Syed Reza (NOF America)

12:55-13:10 *Break*

#### 13:10-14:40 Session III: Prophylactic and Therapeutic Vaccines

**Chair: Norbert Pardi**

13:10-13:30 Development of broadly protective influenza virus vaccines using nucleoside-modified mRNA  
13:30-13:50 A mRNA-LNP vaccine against Dengue Virus elicits robust, serotype-1 specific immunity  
13:50-14:10 Intranasal mRNA Vaccines: COVID and far beyond  
14:10-14:25 Therapeutic vaccination of cancer patients with WT1 mRNA-electroporated dendritic cells: Using mRNA as an active substance in the clinic since 2005  
14:25-14:40 Immunodominant Malaria Antigen, pfcsp Induces Functional, Protective Immune Responses in Mice using mRNA Platform  
14:40-14:55 Developing an mRNA Vaccine Platform Across Multiple Infectious Disease Targets

Norbert Pardi (UPenn)  
Justin M Richner (University of Illinois)  
Wim Tiest (Ethernal)  
Zwi Berneman (Antwerp Univ Hospital)  
Katherine Mallory (Walter Reed Army Institute of Research)  
Danilo Casimiro (Sanofi)  
Frank DeRosa (TranslateBio)

14:55-15:10 *Break*

#### 15:10-16:30 Session IV: Manufacturing, Analytics and Commercialization

**Chair: Patrick Baumhof**

15:10-15:30 Meeting the quality and scale requirements for IVT enzymes in the production of therapeutic mRNAs  
15:30-15:50 Strategic CDMO partnering for accelerated mRNA vaccine development: A COVID-19 case study  
15:50-16:10 Characterizing the therapeutic application of mRNA-lipid nanoparticles  
16:10-16:30 Enabling mRNA Platform Commercialization and Setting Up for Future Success

John Pelletier (New England Biolabs)  
Anton McCaffrey (TriLink BioTechnologies)  
Thomas Madden (Acuitas)  
Tadas Trunca (Thermo Fisher)

## **Day 2: Tuesday, November 10**

### **08:00 – 09:15 Session V: Gene and Base Editing of/with mRNA**

- 08:00 – 08:25 Base Editing and Prime Editing: Chemistry on the Genome Editing Without Double-Strand Breaks
- 08:25 – 08:50 Spatial and environmental tuning of genetic information within the cephalopod nervous system by RNA editing
- 08:50 – 09:15 Selective ORgan Targeting (SORT): A strategy for effective tissue specific mRNA delivery and gene editing

### **Chair: Katalin Kariko**

- David Liu (Harvard Chemistry)
- Joshua Rosenthal (MBL Woods Hole)
- Dan Siegwart (UTSW)

09:15 – 09:30 *Break*

### **09:30 – 11:05 Session VI: Therapeutics**

- 09:30 – 09:55 mRNA-Based Approach For Treating Ischemic Heart Disease
- 09:55 – 10:20 Intratumoral interleukin-12 mRNA therapy promotes TH1 transformation of the tumor microenvironment
- 10:20 – 10:35 Onco-selective Messenger RNAs For Cancer Cell-Specific Protein Expression
- 10:35 – 10:50 In Vivo Bone Tissue Induction by Collagen-nanohydroxyapatite Matrix Loaded with BMP2/NS1 mRNAs Lipopolyplexes
- 10:50 – 11:05 Intraventricular BDNF mRNA administration prevents ischemic neuronal death with the uptake predominantly by astrocytes

### **Chair: Joshua Frederick**

- Lior Zangi (Mt Sinai)
- Nadia Luheshi (AstraZeneca)
- Yusuf Erkul (Kernal Biologics)
- Chantal Pichon (CNRS Orléans)
- Yuta Fukushima (Tokyo Medical and Dental Univ)

11:05 – 11:30 *Break*

### **11:30 – 14:45 Session VII: Pandemic Responses/COVID-19**

- 11:30 – 11:50 mRNA platform advances and COVID-19 candidate vaccines
- 11:50 – 12:15 The Moderna mRNA Vaccine Platform to Address SARS-CoV-2
- 12:15 – 12:40 BioNTech's SARS-CoV-2 mRNA vaccines
- 12:40 – 13:05 Development of SARS-CoV-2 vaccine based on CureVac's mRNA technology

### **Chair: Norbert Pardi**

- Nicholas Jackson (CEPI)
- Jackie Miller (Moderna)
- Ugur Sahin (BioNTech)
- Lidia Oostvogels (Curevac)

13:05 – 13:15 *Break*

- 13:15 – 13:40 Development of a self-amplifying RNA SARS-CoV-2 vaccine candidate
- 13:40 – 14:05 LUNAR®-COV19: The Arcturus Therapeutics SARS-CoV-2 mRNA Vaccine Candidate
- 14:05 – 14:25 The Innovative Medicines Initiative: Responding to COVID-19 through a public-private partnership

- Robin Shattock (Imperial College, London)
- Sean Sullivan (Arcturus)
- Pierre Meulien (Innovative Medicines Initiative)

14:25 – 14:45 *Break*

### **14:45-16:15 Session VIII: Regulatory Considerations**

- 14:45-15:00 General Regulatory Considerations for SARS-CoV-2 Vaccines
- 15:00-15:15 Regulatory Considerations Specific to mRNA-based SARS-CoV-2 Vaccines
- 15:15-16:15 Round Table Discussion with Drs. Baylor and Pfliegerer, and Regulatory Heads Charbel Harber from Moderna, John Talian from CureVac and Andreas Kuhn from BioNTech

### **Chair: Charbel Haber**

- Norman W. Baylor (Biologics Consulting)
- Michael Pfliegerer (Biopharma Excellence)
- Norman W. Baylor (Biologics Consulting), Michael Pfliegerer (Biopharma Excellence), John Talian (CureVac), Charbel Haber (Moderna), Andreas Kuhn (BionTech)

### **16:15-16:30 Closing and passing of the baton**

### **Organizing Committee**