

GVIRF



Seminar Agenda

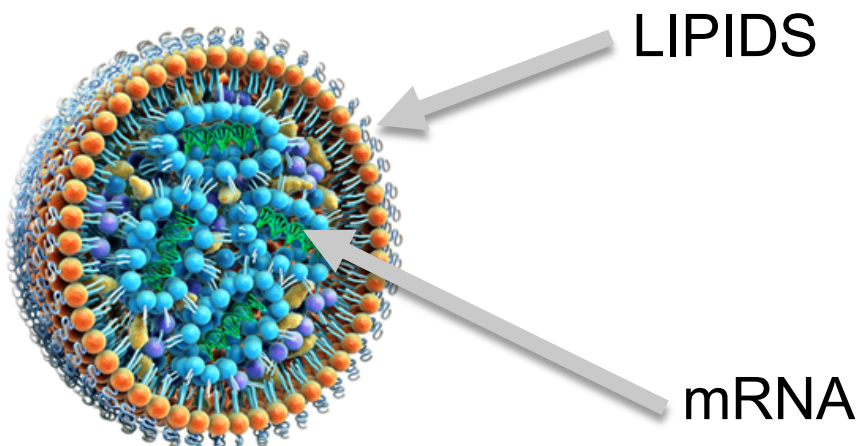
mRNA Vaccine Technologies for Global Health

DATE	TIME	LOCATION
Thursday, 14 October 2021	15:00 – 18:00 CET	Zoom Webinar

This GVIRF webinar is the first in a series of events hosted by the National Institute of Allergy & Infectious Diseases (NIH), the Bill & Melinda Gates Foundation (BMGF), and the World Health Organization (WHO). GVIRF is the central forum for research related to the Global Vaccine Action Plan (GVAP) and its successor, the Immunization Agenda 2030. GVIRF brings together the global vaccine and immunization research community, from basic immunology to implementation research, and from low to high income countries. The goals of GVIRF are the following:

- Track progress in vaccine research and development
- Identify gaps, opportunities, and actions to maximize the benefit of immunization
- Foster networking and collaboration to accelerate progress
- Support implementation of Immunization Agenda 2030

This webinar is the first of proposed recurring webinars to be held in the interim period between global meetings with hosting responsibilities rotating between NIH, BMGF, and WHO. The first webinar hosted by the BMGF will explore mRNA technologies for global vaccines beyond COVID-19. See just below for the agenda followed by short biographies for the presenters and panel participants. The meeting video and slide sets will be posted to <https://www.technet-21.org/en/topics/gvirf> after the meeting.



Webinar Agenda

15:00 CET	Welcome and General Introduction	Peter Dull, Bill & Melinda Gates Foundation
	Part I: mRNA Vaccine Development, Manufacturing, and Distribution	
15:05	Introduction and the vaccine manufacturing ecosystem	Vivian Hsu, Bill & Melinda Gates Foundation
15:10	Current status: mRNA vaccines development, regulatory, distribution, challenges and opportunities	Martin Friede, World Health Organization
15:20	mRNA vaccine manufacturing	Ulrich Blaschke, BioNTech
15:35	Extension of mRNA vaccines from COVID-19 to other global health challenges	Allison August, Moderna
15:50	mRNA manufacturing challenges for low- and middle-income countries	Philippe-Alexandre Gilbert, Bill & Melinda Gates Foundation
16:00	Q&A	
	Part II: Emerging mRNA Technologies	
16:10	Introduction: Emerging mRNA portfolios and technologies	Holger Kanzler, Bill & Melinda Gates Foundation
16:15	Scientific and preclinical development of mRNA 1273	Robert Seder, NIAID Vaccine Research Center
16:25	Self-amplifying mRNA vaccines for global health	Robin Shattock, Imperial College
16:40	Lipid nanoparticles for mRNA vaccines: Past, present and future	Pieter Cullis, University of British Columbia
16:55	mRNA vaccines in Africa	Nicaise Ndembi, Africa CDC
17:05	Q&A	
	Part III: Panel Discussion	
17:15	Melanie Saville , Coalition for Epidemic Preparedness Innovation Sanjay Singh , Gennova Biopharmaceuticals Renu Swarup , Government of India	Lynda Stuart, Bill & Melinda Gates Foundation
17:55	Closing Remarks	Lee Hall, NIAID Parasitology and International Programs Branch
18:00	Meeting Ends	

Biographies

Philippe-Alexandre Gilbert, PhD, CMC, Vaccines Development and Surveillance, The Bill & Melinda Gates Foundation

Philippe is a biochemistry graduate of the University of Ottawa. He subsequently received his Master's degree in Molecular Biology and his Ph.D. in Chemical Engineering at Laval University. For more than 20 years, Philippe has built a solid expertise in bioprocess development for the production of vaccines, gene therapy vectors and oncolytic viruses for cancer therapy. He had the privilege of working for both Academia (Robarts-Schulich in Canada and the Emerging Pathogen Institute at the University of Florida) and the private sector with Sanofi-Pasteur, MedImmune Vaccines, Novartis Vaccines and GSK Vaccines. In both North America and Europe, Philippe led task forces on the development of vaccines for HIV, RSV, CMV, SARS, Influenza and COVID. Philippe, just recently, was responsible for the Flu Technology Group at Sanofi Pasteur for the development of the Next Generation Flu vaccine. He joined the Vaccine Development and Surveillance (VDS) group at the Bill and Melinda Gates Foundation as Senior Program Officer CMC.

Fenton ("Lee") Hall, MD, PhD, FIDSA, Chief, Parasitology and International Programs Branch, NIAID, NIH

Lee Hall is Chief of the Parasitology and International Programs Branch (PIPB) in the Division of Microbiology and Infectious Diseases (DMID) at the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH). Dr. Hall's responsibilities include leadership and oversight of extramural research programs to better understand, diagnose, treat and prevent parasitic diseases. These programs span the full range from basic research to translational and clinical research and development, and field studies, and operate both domestically and internationally. Trained originally as an immunologist and infectious diseases physician-scientist, Dr. Hall has had a longstanding commitment to development of vaccines not only for parasitic diseases but also for global health more generally. He has served on numerous committees, review panels and advisory boards, for NIH, federal and international organizations involving biomedical R&D, tropical medicine, and global health, and has chaired and participated in numerous symposia on these issues at national and international meetings and conferences. Over the past decade he has had extensive involvement with the Decade of Vaccines Collaboration, the Global Vaccine Action Plan, the Global Vaccine and Immunization Research Forum, and most recently, the Immunization Agenda 2030 (IA2030). Dr. Hall received his AB magna cum laude in economics from Harvard College, and his MD and PhD in Immunology from the New York University School of Medicine. He completed his residency in Internal Medicine at the Johns Hopkins Hospital, and infectious diseases subspecialty training at the NIAID and Yale University School of Medicine. He is a Fellow of the Infectious Diseases Society of America.

Vivian Hsu, Deputy Director Strategy Planning and Management, Vaccine Development & Surveillance and Enteric & Diarrheal Diseases

Vivian Hsu has been at the Bill & Melinda Gates Foundation since 2016 and is currently the Deputy Director of Strategy, Planning and Management for the Vaccine Development and Surveillance and Enteric and Diarrheal Diseases teams. In this capacity, she manages the strategy and business operations for the teams whose core focus is investments in Enteric Disease vaccines and surveillance, new vaccine manufacturing technologies, infectious disease surveillance, epidemic preparedness and control, HPV and Polio product development, and other vaccine development innovations. Her portfolio of work spans the spectrum of driving day-to-day business management to leading major cross-foundation initiatives. Currently, she is also coordinating the Gates Foundation COVID-19 vaccine development efforts and supporting the foundation-wide COVID-19 response. Vivian's career has centered around the healthcare industry, beginning as a consultant in the US pharmaceutical industry prior to moving to Hong Kong to join McKinsey and Company. There, she spent the majority of her three years developing China market strategies for various multinational pharmaceutical and hospital corporations. In 2013, Vivian joined Evolent Health, a population health services company. With her team, she built Evolent's payer partnership practice which partnered with hospitals to design value-based care infrastructure and negotiate population-based contracts with private insurance companies, Medicare and state Medicaid agencies. Vivian graduated from Yale University in 2006 with a degree in political science and East Asian

studies and from Wharton School of Business at the University of Pennsylvania with a Masters in Business Administration in Healthcare Management.

Melanie Saville, MB, BS, Director, Vaccine Research and Development, CEPI

Melanie Saville joined the Coalition for Epidemic Preparedness Innovations (CEPI) in November 2017. She is the Director of Vaccine Research and Development, and leads the technical teams supporting the vaccine development and enabling science projects funded by CEPI and is the R&D and Manufacturing workstream leader for COVAX. Melanie is a physician specialized in virology with 20 yrs of experience in the development and licensure of vaccines for the developed and developing world. Over the years, she has contributed to the development and licensure of several vaccines for seasonal and pandemic influenza, pediatric combinations, Rabies, Japanese Encephalitis, Ebola and Dengue vaccine in Europe, US and the international area.

Robert A. Seder, MD, Chief, Cellular Immunology Section, Vaccine Research Center, NIAID, NIH

Dr. Seder received his BA degree from Johns Hopkins University, his MD degree from Tufts University, and his residency in Internal Medicine at Cornell Medical Center. Dr. Seder is currently the Chief of the Cellular Immunology Section in the Vaccine Research Center in the NIAID. Dr. Seder's work focuses on the cellular and molecular mechanisms by which vaccines mediate protective immunity in animal models of HIV, malaria, tuberculosis and cancer. Dr. Seder has translated his scientific discoveries with "first in human" clinical trials using intravenous vaccination to generate protective immunity with an attenuated malaria vaccine and more recently showing that a monoclonal antibody can prevent malaria infection. Over 18 months, Dr. Seder led a series of studies in a non-human primate model of SARS-CoV2 using the mRNA 1273 vaccine from Moderna. This work has defined the immune correlates and mechanisms of protection, and determined the durability of protection against the Beta and Delta variants.

Lynda Stuart, MD, PhD, Deputy Director, Vaccine and Biologics Discovery, Global Health, the Bill & Melinda Gates Foundation

Lynda Stuart leads Vaccine and Biologics Discovery and Translation at the Bill & Melinda Gates Foundation, with oversight of a broad portfolio of vaccines, biologics and correlates of protection across the Foundation's priority areas of focus. She also heads an initiative called the Global Health discovery Collaboratory that seeks to use cutting edge technologies to help solve global health problems. Since 2020 she has co-lead the Foundation's COVID19 vaccine response team. She is an academic and physician-scientist who received her medical degrees from the University of Cambridge and the University of London and PhD from the University of Edinburgh. She is trained in internal medicine in the UK. Her research career has focused on the role of the innate immune system in control of autoimmune and infectious diseases, the interplay between innate and adaptive immunity and on host-pathogen biology. She was a recipient of numerous academic awards including a Wellcome Trust Clinical Research Fellowship, Wellcome Trust Clinician Scientist Award, Howard M Goodman Award and the Massachusetts General Hospital Research Scholars Award. She is a member of the Royal College of Physician in the UK and a Fellow of the American Society of Clinical Investigation. Prior to coming to the Foundation she was a member of the faculty at Massachusetts General Hospital/Harvard Medical School where she was co-director of the Laboratory of Developmental Immunology, was an affiliate of the Broad Institute of Harvard and MIT and sat on the Massachusetts General Hospital Executive Committee for Research. She remains actively involved in basic research with an affiliated appointment at the Benaroya Research Institute in Seattle.