

## **CURRICULUM VITAE**

### **Kathleen Maletic Neuzil, MD, MPH, FIDSA, FACP**

Myron M. Levine Professor in Vaccinology  
Professor, Departments of Medicine and Pediatrics  
Director, Center for Vaccine Development and Global Health  
University of Maryland School of Medicine

#### **Contact Information**

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#### **Education**

1983 B.S., Zoology, University of Maryland, College Park, MD, (Summa cum laude)  
1987 M.D., Johns Hopkins University School of Medicine, Baltimore, MD (AOA)  
1998 M.P.H., Vanderbilt University School of Medicine, Nashville, TN

#### **Post Graduate Education and Training**

1987-1990 Intern and Resident, Internal Medicine, Vanderbilt University School of Medicine  
1990-1991 Hugh J. Morgan Chief Resident, Internal Medicine, Vanderbilt University School of Medicine  
1991-1994 Fellow, Division of Infectious Diseases, Vanderbilt University School of Medicine

#### **Certifications**

1991 American Board of Internal Medicine, Internal Medicine, Recertification 2005 - 2016  
1994 American Board of Internal Medicine, Infectious Diseases, Recertification 2005 -2016

#### **Medical Licensures**

1998 Active, Washington State  
2015 Active, Maryland

#### **Employment History**

##### **Academic Appointments**

1994-1998 Assistant Professor, Division of Infectious Diseases, Department of Medicine, Vanderbilt University School of Medicine, Nashville, TN  
1998-2003 Assistant Professor of Medicine, Division of Allergy and Infectious Diseases, University of Washington, Seattle, WA  
2003-2005 Associate Professor of Medicine, Division of Allergy and Infectious Diseases, University of Washington, Seattle, WA  
2005-2011 Clinical Associate Professor of Medicine, Division of Allergy and Infectious Diseases, University of Washington School of Medicine, Seattle, WA  
2009-2011 Clinical Associate Professor, Department of Global Health, University of Washington, Seattle, WA

- 2011-2015 Clinical Professor, Departments of Medicine and Global Health, University of Washington, Seattle, WA  
2015-Present Professor, Departments of Medicine and Pediatrics, UMSOM

**Other Employment**

- 2005-2008 Senior Technical Advisor and clinical director, Rotavirus Vaccine Program, PATH, Seattle, WA  
2008-2012 Director, Influenza Vaccine Project, Vaccine Development Global Program, PATH, Seattle, WA.  
2012-2015 Director, Vaccine Access and Delivery Global Program, PATH, Seattle, WA

**Professional Society Membership**

- 1992-present Fellow, American College of Physicians  
1992-present Fellow, Infectious Diseases Society of America  
2012-present Member, International Society for Infectious Diseases  
2015-present Member, American Society of Tropical Medicine and Hygiene

**Honors and Awards**

- 1983 Phi Beta Kappa  
1987 Alpha Omega Alpha Honor Medical Society  
1990 Clinical Teaching Award, Vanderbilt University School of Medicine  
1991 Clinical Teaching Award, Vanderbilt University School of Medicine  
1991 National Clinical Vignette Competition Winner, American College of Physicians  
1993 & 1994 Trainee Investigator Award for Excellence in Scientific Research, Association of American Physicians, American Society for Clinical Investigation, American Federation for Clinical Research Foundation  
1998 Chiron Award for Epidemiology of Infectious Diseases, International Society of Infectious Diseases  
2004 VA Certificate of Merit for Leading VISN 20 Smallpox Vaccination Program  
2005 Honor Award Certificate, Public Health Epidemiology and Laboratory Research (for work on influenza), CDC, National Center for Infectious Diseases  
2007 PATH Vision Award in the Advancing Global Health Category for the Japanese Encephalitis Project  
2009 PATH Vision Award in the Healthy Partnering Category for the Rotavirus Vaccine Program Clinical Trials  
2009 PATH Vision Award in the Advancing Global Health Category for the Cervical Cancer Prevention Project  
2010 Joseph E. Smadel lectureship, IDSA Annual Meeting, Vancouver, CA  
2013 PATH Vision Award in the Healthy Partnering Category for the Vaccine Implementation Technical Assistance Consortium (VITAC) Team  
2014 PATH Vision Award in the Advancing Global Health Category for the Japanese Encephalitis (JE) Vaccine Prequalification Team  
2014 Named "One of 50 Most influential persons in Vaccines", Vaccine Nation, <http://www.vaccination.org/2014/09/03/influential-people-vaccines-2014>  
2016 Vanderbilt University School of Medicine Distinguished Alumna Award  
2017 The Chairman's Special Achievement Faculty Award, Department of Medicine, University of Maryland School of Medicine  
2018 Teaching Commendation in Host Defenses and Diseases, UMSOM Class of 2020  
2018 Daily Record Maryland's Top 100 Women Award

- 2019 The Chairman's Special Achievement Faculty Award, Department of Medicine, University of Maryland School of Medicine
- 2019 The Myron M. Levine, MD Professorship in Vaccinology (Endowed Professorship), University of Maryland School of Medicine

### **Administrative Service**

### **Institutional Service**

#### **Past Service**

- 1996-1998 Assistant Chief, Medical Service, Department of Veterans Affairs Medical Center, Nashville, TN
- 1997-1998 Acting Chief, Medical Service, Department of Veterans Affairs Medical Center, Nashville, TN
- 1998-2000 Program Director, Internal Medicine, Swedish Medical Center, Seattle, WA
- 1999-2004 Member, Internal Medicine Resident Selection Committee
- 2000-2001 Chair, Scientific Review Committee, VA Puget Sound Research and Development
- 2000-2003 Member, Dean's Committee on Issues of Women Faculty
- 2000-2004 Member, Appointment and Promotions Committee, Dept of Medicine
- 2000-2005 Chair, Infection Control Committee, VA Puget Sound Health Care System
- 2001-2002 Member, Scientific Review Committee, VA Puget Sound Research and Development
- 2001-2002 Co-moderator, 2001 and 2002 Junior Faculty Development Seminar
- 2003-2004 Member, UW Faculty Senate
- 2003-2005 Associate Director, Clinical Research Unit, VA Puget Sound

#### **Service at University of Maryland School of Medicine**

- 2015-present Member, Executive Committee of the School of Medicine
- 2016-2017 Co-Chair, Research Strategic Planning Committee
- 2016-2017 Member, Dermatology Chair Search Committee
- 2016-present Member, Diversity Advisory Committee
- 2016-present Member, Institute for Global Health Executive Committee
- 2017-present Member, Search Committee for Malaria Faculty Position
- 2017-present Member, Search Committee for Dept of Micro Influenza Scientist Faculty Position
- 2015-2018 Director, Center for Vaccine Development, UMSOM
- 2015-2018 Deputy Director, Institute for Global Health, UMSOM
- 2016-2018 Chief, Division of Geographic Medicine, Department of Medicine, UMSOM
- 2018-present Director, Center for Vaccine Development and Global Health, UMSOM
- 2019-present Chair, Dean's Culture Transformation Advisory Committee

### **National Service**

- 1997-2014 Member, Executive Committee, VA Cooperative Study 438: Evaluation of a Live Attenuated Influenza Vaccine
- 2000-present Member, National Physician Advisory Board, ACP Adult Immunization Initiative
- 2000-2006 ACP Liaison Representative to Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention
- 2001-2002 Member, Institute of Medicine Committee to Review the CDC Program on the Safety and Efficacy of Anthrax Vaccine
- 2002-2003 Member, Test-Writing Committee for Infectious Diseases, ABIM

2003-2005 Member, Subspecialty Board on Infectious Diseases, ABIM  
2004-present ACP Representative to Immunization Action Coalition Advisory Board  
2004-2008 Member, National and Global Public Health Committee, IDSA  
2005-2008 Chair, Vaccines in Pregnancy Working Group Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention  
2005-2008 Chair, Pandemic Influenza Task Force, Infectious Disease Society of America (IDSA)  
2006-2010 Member, Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention  
2008-2010 Chair, Influenza Vaccine Working Group, Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention  
2008-2012 Member, Pandemic Influenza Task Force, Infectious Disease Society of America (IDSA). Chair 2011-2012  
2008, 2009, 2010 & 2011 Co-Chair, IDSA Seasonal and Pandemic Influenza Conference, Washington, DC  
2009 Collaborator, Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. *Red Book: 2009 Report of the committee on Infectious Diseases*. 28<sup>th</sup> ed. Elk Grove Village, IL: American Academy of Pediatrics  
2011-present IDSA Liaison Representative to Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention  
2011-present IDSA Liaison Representative to Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention  
2012-2015 Member, IDSA Nominations Committee  
2013-present Member, Program Committee, Annual Conference on Vaccine Research, National Foundation for Infectious Diseases  
2016-present Reviews Editor, *Vaccine*  
2016-present Editorial Board, *NPJ Vaccines*  
2017-present Board member, National Foundation of Infectious Disease, Awards Committee and Finance Committee  
2018-present Member, Safety Monitoring Committee, A Phase 1 Clinical Trial to Evaluate the Safety, Tolerability and Immunogenicity of the ID93 GLA-SE Tuberculosis Vaccine in Healthy Adult Subjects  
2019-present Member, IDSA Annual Meeting Program Committee  
2019-present Review Panel Participant, NIH NIAID Special Emphasis Panel  
2019-present Member, National Academy of Medicine

### **International Service**

2004-present Faculty, Advanced Course of Vaccinology (ADVAC), Annecy, France  
2006-2010 Member, WHO Steering Committee on Diarrheal Disease Research  
2007 Co-Chair, WHO Meeting, "Rotavirus Vaccines in the Developing World: Evaluating Clinical Trial Data and Guiding Future Research," Atlanta, GA, November 27-29  
2008 Meeting Rapporteur, WHO meeting on the role of neuraminidase in inducing protective immunity against influenza infection, Vilamoura, Portugal, September 14  
2008-2014 Member, Scientific Advisory Board, Introduction of an oral live human rotavirus (Rotarix) vaccine in Matlab, Bangladesh  
2008-2009 Member, WHO Ad hoc Group of Experts on Rotavirus

- 2009-2011 Member, Data Safety Monitoring Board, A Phase 2 Study to Assess the Safety and Immunogenicity of an A (H1N1) 2009 Influenza Virus-like Particle (VLP) Vaccine in Mexican Adults
- 2009, 2013 Member, Scientific Organizing Committee, WHO Global Vaccine Research Forum
- 2011-2016 Member, Working Group for Safety of Vaccines in Pregnant Women, Global Advisory Committee for Vaccine Safety, WHO, December 2
- 2011 Member, Expert Committee on Influenza Vaccines for Children and Pregnant Women, European CDC
- 2011-2014 Member, Data Safety and Monitoring Board, CAPITA (Community-Acquired Pneumonia Immunization Trial in Adults trial, Prevnar-13), Pfizer
- 2012-present Member, ROTA Council
- 2014 Member, Program Committee, International Rotavirus Symposium, Delhi, India
- 2014-2015 Member, Data Safety Monitoring Board, Phase I clinical trial of the cAd3-EBO-Z Ebola vaccine in Mali, University of Maryland Center for Vaccine Development and NIH
- 2015-2017 Chair, Scientific Steering Committee, CDC Ebola vaccine trial in Sierra Leone
- 2015-2016 Member, Advisory Board, WHO committee on vaccine composition for tropics and sub-tropics
- 2015-2016 Chair, Working Group, WHO preferred product characteristics for next generation influenza vaccines
- 2015-2017 Member, Technical Advisory Committee on Maternal Influenza immunization project, WHO/PATH
- 2016 Member, Scientific Organizing Committee, Global Vaccine and Immunization Research Forum (GVIRF), Johannesburg, South Africa, March 15-17
- 2016 Member, Working Group to Determine Outcome Definitions for Severe Influenza in the Context of Vaccine Clinical Trials, WHO
- 2016 Co-Chair, Scientific Organizing Committee, 10<sup>th</sup> African Rotavirus Symposium, Bamako, Mali, June 1-2
- 2016-2017 Member, Scientific Advisory Board, Enteric Vaccine Initiative, PATH
- 2016 Member, Steering Committee, Full Public Health Value of Preventive Vaccines, Foundation Mérieux
- 2016-present Scientific Advisory Board member, Coalition for Epidemic Preparedness Innovations (CEPI), WHO
- 2017 Member, Scientific Advisory Board, XIX International Symposium on Respiratory Viral Infections, June 22-25.
- 2017 Member, Scientific Organizing Committee, Vaccine Congress, San Diego, CA, September 16-19.
- 2018 Member, Scientific Organizing Committee, Global Vaccine and Immunization Research Forum (GVIRF), Bangkok, Thailand, March 20-22.
- 2018 Member, Scientific Organizing Committee, Vaccine Congress, Budapest, Hungary, September 16-19.
- 2018 Member, WHO Strategic Advisory Group of Experts on Immunization, World Health Organization

## **Teaching Service**

### **Undergraduate and Graduate Student Teaching**

#### **University of Washington School of Public Health**

- 2005-2011 Lecturer, Influenza  
Zoonotic Infections (526)  
15 public health students, 2 contact hours/year
- 2005-2013 Lecturer, Influenza and rotavirus vaccines  
Vaccines – various topics (527)  
30 students per class, 1.5 contact hours/year
- 2007-2015 Lecturer, Influenza (every other year)  
Epidemiology of Infectious Disease in Resource-Limited Countries (532)  
15 public health students per class, 2 contact hours/year
- 2008 Lecturer, Influenza  
Epidemiology of infectious Disease (520)  
20 public health students, 1.5 contact hours/year
- 2010 Lecturer, Seasonal and pandemic influenza  
Emerging Infections of International Public Health Importance (EPI 520)  
20 public health students, 1.5 contact hours/year
- 2010, 2011 Lecturer, Project management: Case study influenza vaccine development  
Global Health Project Life cycle – Managing for success (GH 590)  
30 global health students per class, 4 contact hours/year  
(Presented and evaluated student presentations)
- 2012-2014 Lecturer, Vaccines for low resource populations  
Contemporary Issues in Global Health (GH 402/502)  
60 public health students, 1.5 contact hours/year
- 2012, 2014 Lecturer, Meningitis vaccine  
Controlling Infections with Vaccines (GH 580)  
15 global health students, 2 contact hours/year

#### **University of Maryland School of Medicine**

- 2017 Lecturer, Domestic and international vaccine policy  
Vaccinology Course (PREV 627)  
8 postdoctoral students, 1 contact hour/year
- 2017 Lecturer, Rotavirus vaccines  
Vaccinology Course (PREV 627)  
8 postdoctoral students, 1 contact hour/year
- 2017 Lecturer, Rotavirus, vaccines and vaccine introduction  
Principals of Virology (GPLS 704)  
20 graduate students, 1.5 contact hours/year

### **Medical Student Teaching**

#### **University of Washington School of Medicine**

- 2005-2014 Lecturer, Vaccines  
Infectious Diseases Conjoint Course for second year medical students (550)  
100 second year medical students, 2 contact hours/year
- 2005-2015 Lecturer, Rotavirus and meningococcal vaccines for low resource settings  
Tropical Medicine (561)  
50 medical students, 2 contact hours/year

**University of Maryland School of Medicine**

- 2015 Lecturer, Overview of Vaccinology  
Immunology and Microbiology Course  
Second year medical students, 1 contact hour/year
- 2016 Lecturer, Overview of Vaccinology  
Immunology and Microbiology Course  
Second year medical students, 1 contact hour/year
- 2016-2017 Lecturer, Pneumonia  
Small group HDID Session for second year medical students  
2 contact hours/year
- 2017 Lecturer, Respiratory Infections  
Small group HDID Session for second year medical students  
2 contact hours/year
- 2016-2018 Lecturer  
Infectious Disease Interest Group  
First year and second year medical students, 1 contact hour/year
- 2017 Lecturer, Rotavirus Vaccine Development  
Principles of Virology  
MD-PhD students, 1.5 contact hours/year
- 2017 Lecturer  
Medical Scientist Training Program – Physician Scientist Career Seminar  
MD-PhD students, 1 contact hour/year

**Resident and Fellow Teaching**

**University of Washington School of Public Health**

- 2010, 2014 Lecturer, Careers in the non-profit sector  
Infectious Diseases Fellows Conference  
15 Infectious Diseases fellows, 1 contact hour/year

**University of Maryland School of Medicine**

- 2016 Lecturer  
Medicine Grand Rounds  
30 residents, 1 contact hour/year
- 2016 Lecturer, Reaching every child with rotavirus vaccines  
Pediatric Grand Rounds for the Global Health Track  
30 pediatric residents, 1 contact hour/year
- 2017 Lecturer, Updates in Vaccines  
Infectious Diseases Fellow Friday Conference  
14 ID fellows, 1 contact hour/year

**Significant Mentoring Activities**

- 2009-2013 Dissertation committee, Dr. Kristen Lewis, Walden University; PhD—Public Health, Epidemiology; Degree conferred in Feb. 2013,  
Dissertation: Lewis, K. (2012). *Optimizing the measurement of severe rotavirus gastroenteritis among children under 2 years of age in Africa and Asia*. Available from ProQuest Digital Dissertations database (AAT 3517551).
- 2010-2014 Primary mentor for Dr. Justin Ortiz, Pulmonary and Critical Care Fellow and MPH candidate (degree conferred 2014). Dr Ortiz has received the following grants for which I was the primary mentor:

- Development of Novel Tools to Estimate the Burden of Influenza-Associated Critical Illness Robert Wood Johnson Harold Amos Medical Faculty Development Program (Grant 67423). 7/1/10 - 6/30/14, \$375,000  
Assessment of Indoor Air Pollution as a Risk Factor for Influenza in Senegalese Children Thrasher Research Fund Early Career Award (Grant NR-0099). 10/1/09 - 9/30/11, \$25,000
- 2016-current Primary mentor for Dr. Meagan Fitzpatrick, Postdoctoral Fellow and T32 Vaccinology Training grant fellow.  
Dr. Fitzpatrick received the NIH K01 grant for which I am the primary mentor. The grant is in the amount of \$129, 891. Project period 12/1/18- 11/30/23. Project title: Mathematical modeling to optimize rotavirus vaccination in sub-Saharan Africa.
- 2017 Dissertation committee, Hoi Ting Yeung, The Chinese University of Hong Kong Faculty of Medicine Department of Medicine & Therapeutics; PhD candidate – Medical Sciences; Dissertation: Yeung, Hoi Ting (2017). *Identifying and Lowering Barriers to Optimise Interventions and Pneumonia and Diarrhoea in Children*. Dissertation not yet available.
- 2019 Primary Mentor for Dr. Megan Birkhold, Surgery Resident.

### **Grant Support**

#### **Active Grants:**

- 10/01/14-11/30/19: (PI: 10%)  
*“Impact of rotavirus vaccine introduction on diarrhea in Africa study”*  
  
The Bill and Melinda Gates Foundation, OPP1116751  
Annual Direct Costs: \$506,495  
Total Award: \$4,800,000
- 09/16/16-03/31/20 (PI: 10%) Contract PI: Karen Kotloff  
*“A Phase I Randomized, Double-Blind, Controlled Trial in Healthy Adults to Assess the Safety, Reactogenicity, and Immunogenicity of a Monovalent Inactivated Influenza A/H5N8 Virus Vaccine Administered Intramuscularly Given With or Without AS03 or MF59 Adjuvants: Assessment of Immunological Responses and Lymphocyte Interplay”*  
NIAID Vaccine Treatment and Evaluation Unit, 15-0066  
Total Direct Costs: \$2,092,160
- 10/24/16-10/30/21 (PI: 30%)  
*“Accelerating Availability and Access to Typhoid Conjugate Vaccines”*  
The Bill and Melinda Gates Foundation, OPP1151153  
Annual Direct Costs: \$4,790,885  
Total Award: \$42,554,455.09
- 07/12/17-07/11/19 (Co-Investigator: 10%) Contract PI: Karen Kotloff  
*“Overall administration, clinical operations support and concept and protocol developments, implementation and assays”*  
NIAID Vaccine Treatment and Evaluation Unit, FY.2019.A1B1C1D1.0077  
Total Direct Costs: \$725,647



- 07/28/17-05/31/20 (Protocol PI: 20%) Contract PI: Karen Kotloff  
*"Vaccine and Treatment Evaluation Units (VTEU) Protocol Development and Implementation Task Area B-C Phase II Vaccine Trial for Influenza Task Order Task Area B-C (Clinical Trials of H7N9 Vaccines)"*  
NIAID Vaccine Treatment and Evaluation Unit, FY.2017.B2C12.0080  
Total Direct Costs: \$3,029,005
- 09/11/17-09/11/20 (Protocol PI: 10%) Contract PI: Karen Kotloff  
*"A Phase II Trial to Evaluate the Safety, Immunogenicity, and Efficacy of a Single Dose of Tdap on Infant Immune Responses in Pregnant Women in a Low-Middle Income Country"*  
NIAID Vaccine Treatment and Evaluation Unit, 16-0024  
Total Direct Costs: \$3,807,592
- 07/01/18-06/30/23 (Contact PI: 1%)  
*"Fellowship Training Program in Vaccinology"*  
National Institute of Allergy and Infectious Disease (NIAID), T32AI007524  
Total Direct Costs: \$1,594,640
- 07/01/19-06/30/20 (Contact PI: 1%)  
*"Improving Vaccine Education Among Low Income Pregnant Women"*  
National Foundation for Infectious Diseases (NFID)  
Total Direct Costs: \$94,832
- 04/15/19-08/09/21 (Protocol PI: 20%) Contract PI: Karen Kotloff  
*"Vaccine and Treatment Evaluation Units (VTEU) Protocol Development and Implementation, Natural History Challenge Study for Influenza, Task Area B-C, 18-0010.B1C1.0120"*  
NIAID Vaccine Treatment and Evaluation Unit, FY.2018.B1C1.0120  
Total Direct Costs: \$1,601,464
- 09/16/19-09/15/26 (Contact PI: 20%)  
*"Collaborative Influenza Vaccine Innovation Centers (CIVICs) Component C: Clinical Core"*  
National Institute of Allergy and Infectious Disease (NIAID),  
75N93019C00055  
Total Direct Costs: \$5,144,676

**Completed Grants at University of Maryland:**

- 2015 (PI: 5%)  
*"To develop a preferred product for universal influenza vaccine"*  
World Health Organization  
Total Direct Costs: \$24,100
- 2015-2016 (PI: 15.6%)  
*"Analysis of influenza vaccine trials in Bangladesh and Senegal"*  
Subcontract from PATH  
Total Direct Costs: \$52,775

- 2016 (PI: 1%)  
*"10<sup>th</sup> African Rotavirus Symposium, Bamako, Mali"*  
The Bill and Melinda Gates Foundation  
Total Direct Costs: \$150,000
- 2017 (Site PI: 1%)  
*"Vaccination modeling and cost-effectiveness analyses"*  
Yale University  
Total Direct Costs: \$15,159
- 2017 (Site PI: 1%)  
*"Effectiveness and cost effectiveness of vaccine programs for pertussis in Israel"*  
Yale University  
Total Direct Costs: \$67,911

**PATH Grants (Note: Several grants could not transfer when Dr. Neuzil moved to the University of Maryland, Baltimore School of Medicine Center for Vaccine Development in July 2015, so the end date may extend beyond that date)**

- 2010-2015 (Co-Inv, 10%) PI: Chris Victor  
*"Understanding the performance of rotavirus vaccines in developing countries"*  
Bill and Melinda Gates Foundation  
Annual Direct Costs: \$1,920,000  
Total Direct Costs: \$9,600,000  
*This proposal has funded several clinical trials, effectiveness studies and work on correlates of protection to understand the immunogenicity and to evaluate interventions to improve the immunogenicity of current rotavirus vaccines through innovative schedules, booster doses and studying the effects of breastfeeding or probiotics*
- 2011-2015 (Co-Inv, 10%) PI: Chris Victor  
*"Senegal Influenza Vaccine Effectiveness Study in a Tropical Developing Country"*  
Center for Disease Control  
Annual Direct Costs: \$1,110,000  
Total Direct Costs: \$4,440,000  
*This grant funded the 4<sup>th</sup> year of a large, cluster-randomized trial of influenza vaccine among children in Senegal (see below), as well as two additional trials of adjuvanted influenza vaccine and live-attenuated vaccines in this rural population in Senegal.*
- 2013-2015 (PI, 15%)  
*"Accelerating introduction of rotavirus vaccines in India"*  
Bill and Melinda Gates Foundation  
Annual Direct Costs: \$372,000  
Total Direct Costs: \$1,860,000
- 2013-2016 (PI, 20%)  
*"Maternal influenza immunization: Building an immunization platform in conjunction with antenatal care in low and middle income countries"*  
World Health Organization

Annual Direct Costs: \$486,667  
Total Direct Costs: \$1,460,000

- 2014-2015 (PI, 15%)  
“Advancing maternal immunization against pertussis”  
Bill and Melinda Gates Foundation  
Total Direct Costs: \$251,149
- 2014-2017 (Co-Inv, 10%) PI: Anthony Marfin  
“Japanese Encephalitis (JE) vaccine introduction and sustainability project”  
Bill and Melinda Gates Foundation  
Annual Direct Costs: \$5,400,000  
Total Direct Costs: \$16,200,000  
*This multifaceted project involves technical assistance on manufacturing and pharmacovigilance to the Chinese manufacturer, clinical trials to assess the need for booster doses of JE vaccine and the effect of co-administration with measles-rubella vaccine, and work with countries to assist them with vaccine introduction planning.*
- 2015-2017 (PI, 10%)  
“Meningitis Sustainability Project”  
Bill and Melinda Gates Foundation  
Annual Direct Costs: \$2,450,000  
Total Direct Costs: \$4,900,000
- 2015-2019 (Co-Inv, 10%) PI: Carla Botting  
“Optimizing the public health impact of ppRTS,S malaria vaccine in malaria-endemic countries”  
Bill and Melinda Gates Foundation  
Annual Direct Costs: \$7,500,000  
Total Direct Costs: \$30,000,000  
*With phase 3 studies of the RTS,S malaria vaccine completed, this grant will fund regulatory and policy activities, and, after anticipated approvals by regulatory agencies, phase IV safety and effectiveness studies, including possible demonstration projects in select countries.*

### **Past PATH funding**

- 2003-2010 Clinical Director  
“Accelerated Development and Introduction Plan for Rotavirus Vaccines”  
GAVI Alliance  
Annual Direct Costs: \$6,428,572  
Total Direct Costs: \$45,000,000  
*I led the clinical development plan and the partnerships on four clinical trials throughout Africa and Asia to establish the evidence base for the policy decision on rotavirus vaccines.*
- 2006-2008 (PI)  
“Subaward, Intradermal versus intramuscular influenza vaccine in immunocompetent elders”

United States Agency for International Development (USAID)  
Annual Direct Costs: \$124,500  
Total Direct Costs: \$249,000

- 2006-2011 (PI)  
*"The Immunogenicity and Reactogenicity of Alternative Schedules of HPV Vaccine in 11-13 Year Old Girls in Vietnam"*  
Bill & Melinda Gates Foundation
- 2008-2011 (Co-Inv) PI: Chris Victor  
*"Senegal Influenza Vaccine Effectiveness Study in a Tropical Developing Country"*  
Center for Disease Control  
Annual Direct Costs: \$1,330,000  
Total Direct Costs: \$3,990,000  
*This grant funded a three-year large, cluster-randomized trial of influenza vaccine among children ages 6 months through 10 years in Senegal to assess total and indirect effects.*
- 2008-2015 (Project director 2008-2012, 50%, PI 2012-2015, 20%)  
*"Advancing seasonal and pandemic influenza vaccines project"*  
Bill & Melinda Gates Foundation  
Annual Direct Costs: \$5,542,858  
Total Direct Costs: \$38,800,000
- 2009-2013 (PI)  
*"Enhancing influenza vaccine development in Vietnam"*  
U.S. Biomedical Advanced Research and Development Authority (BARDA)  
Total Annual Costs: \$1,975,000  
Total Direct Costs: \$7,900,000
- 2014 (PI, 5%)  
*"Influenza Vaccine Probe Pilot"*  
World Health Organization  
Total Direct Costs: \$136,500

**Research Activities, University of Washington**

- 1999-2005 (PI Seattle site)  
*"Trial of varicella-zoster vaccine for the prevention of herpes zoster and its complications"*  
Department of Veterans Affairs Cooperative Study #403  
Total Annual Costs: \$140,334  
Total Direct Costs: \$842,000
- 2000-2001 (PI)  
*"The effect of influenza on school and family life"*  
GlaxoWellcome Worldwide Epidemiology, Unrestricted educational grant  
Total Direct Costs: \$69,091
- 2000-2001 (PI)

- "The burden of influenza illness in the veteran population"*  
GlaxoWellcome Worldwide Epidemiology, Unrestricted educational grant  
Total Direct Costs: \$72,657
- 2000-2002 (PI)  
*"RSV-associated morbidity in adults aged greater than 50 years"*  
Aventis-Pasteur, unrestricted educational grant  
Total Annual Costs: \$17,272  
Total Direct Costs: \$34,545
- 2001-2002 (PI)  
*"Diagnosing influenza in a highly immunized, high-risk veteran population"*  
Department of Veterans Affairs Epidemiology Pilot Project  
Total Direct Costs: \$25,000
- 2002-2005 (Co-Inv) PI: Lisa Jackson  
*"Vaccine Safety Datalink Project"*  
Centers for Disease Control and Prevention
- 2002-2005 (Co-Inv) PI: Janet Englund  
*"Improving the delivery of influenza vaccine to young children"*  
Aventis-Pasteur
- 2002-2005 (PI Seattle site)  
*"Comparative randomized study of safety and immunogenicity of a non-  
adjuvanted RSV vaccine versus an RSV vaccine adjuvanted with aluminum  
phosphate when administered with a licensed influenza vaccine in high-risk  
adults aged > 65 years of age"*  
Aventis-Pasteur  
Total Annual Costs: \$46,667  
Total Direct Costs: \$140,000
- 2004-2005 (PI)  
*"Risk of stroke following clinically evident herpes zoster reactivation"*  
UW Royalty Research Fund  
Total Direct Costs: \$25,000
- 2004-2005 (PI Seattle site)  
*"SchoolMist A Phase IV Study to Evaluate the Effectiveness of FluMist (Influenza  
Vaccine, Live Intranasal) Vaccine in a School-Based Intervention Program"*  
MedImmune  
Total Direct Costs: \$366,400
- 2005-2007 (PI)

*“Intradermal vs intramuscular influenza vaccine in immunocompetent elders”*  
VA Merit Review  
Total Annual Costs: \$124,500  
Total Direct Costs: \$249,000  
(Award declined secondary to job change; grant resubmitted and awarded through USAID to PATH, see above)

## **Publications**

### **Peer-reviewed original investigations**

1. Graham BS, Henderson GS, Tang YW, Lu X, **Neuzil KM**, Colley DG. Priming immunization determines T helper cytokine mRNA expression patterns in lungs of mice challenged with respiratory syncytial virus. *J Immunol* 1993; 151:2032-2040.
2. **Neuzil KM**, Gruber WC, Chytil F, Stahlman MT, Engelhardt BA, Graham BS. Vitamin A levels in respiratory syncytial virus infection. *J Pediatr* 1994; 124:433-6. (Cited in *Yearbook of Infectious Diseases*, 1995.)
3. **Neuzil KM**, Mitchell HG, Loyd JE, Lagerstrom CF, Hammon JW, Graham BS. Extrapulmonary thoracic disease caused by *Blastomyces dermatitidis*. *Chest* 1994; 106: 1885-1887.
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### **Book Chapters**

1. **Neuzil KM**, Wright PF. Respiratory Viruses. In: Textbook of Internal Medicine Third Edition. William N. Kelley, ed. Lippincott-Raven, New York, 1997, 1751 - 1757.
2. **Neuzil KM**, Rubin DH. Human Herpesviruses 6, 7, and 8. In: Infectious Diseases Second Edition. Gorbach SL, Bartlett JG, Blacklow NR, eds. W. B. Saunders Company, Philadelphia, 1998.
3. Morrow JM, **Neuzil KM**. Pharmacology of antimicrobial agents used in the therapy of gastrointestinal infections. Chapter 89 In: Infections of the Gastrointestinal Tract. Blaser MJ, Smith PD, Ravdin JI, Greenberg HB, Guerrant RL, eds. Raven Press, New York, 1995, 1345-84.
4. Rubin DH, **Neuzil KM**. Human Herpesviruses 6, 7, and 8. In: Infectious Diseases Third Edition. Gorbach SL, Bartlett JG, Blacklow NR, eds. W. B. Saunders Company, Philadelphia, 2004.
5. Wright PF, **Neuzil KM**. Influenza Viruses. In: Infectious Diseases Third Edition. Gorbach SL, Bartlett JG, Blacklow NR, eds. W. B. Saunders Company, Philadelphia, 2004.
6. Jackson LA, **Neuzil KM**. Pneumococcal polysaccharide vaccine. In: Vaccines. Plotkin and Orenstein. 2007.
7. Keitel WA, **Neuzil KM**, Treanor J. Immunogenicity and efficacy of inactivated/live virus seasonal and pandemic vaccines. In: Textbook of Influenza. Second Edition. Wester RG, Monto AS, Braciale TJ, Lamb RS, eds. Wiley Blackwell, West Sussex, UK, 2013.
8. **Neuzil KM**, Ortiz JS. Influenza Vaccines. In: The Vaccine Book. Second Edition. Bloom BR, Lambert P, eds. Academic Press, 2016.

### **Major Invited Speeches (since 1998)**

#### Local

1. Department of Medicine Grand Rounds, University of Washington, "Influenza 1999: Challenges and Controversies," September 9, 1999.
2. Swedish Medical Center Grand Rounds, "Influenza Update," September 16, 1999.
3. Department of Pediatrics Grand Rounds, University of Washington, Children's Hospital, "Preventing influenza in children: controversies and challenges," October 21, 1999.
4. Providence Medical Center CME Series, "Disease Prevention in Nursing Homes – Focus on Influenza," October 23, 1999.
5. Swedish Medical Center Grand Rounds, "Immunization Update," March 9, 2000.
6. State of Washington Immunization Action Coalition, Children's Hospital, "Influenza in Children," June 14, 2000.
7. Pacific Northwest Conference for Primary Care Practitioners, sponsored by the University of Washington School of Nursing, "The Brave New World of Influenza," September 28, 2000.
8. Current Concepts in Drug Therapy Course, sponsored by the University of Washington Department of Medicine, "Adult Immunizations," November 2, 2000.
9. King County Medical Society Historical Committee "Adult Immunizations: Past and Present," December 13, 2000.
10. Auburn Regional Medical Center CME Series. "The In and Out of Hospital Pneumonias," June 26, 2001.
11. Group Health Cooperative of Puget Sound Center for Health Studies. "Measuring influenza morbidity in populations: a recurring problem." June 26, 2001.
12. Virginia Mason Medical Center Grand Rounds "Influenza 2001: Challenges and controversies," October 5, 2001.

13. Polyclinic Grand Rounds, Seattle, WA "Influenza Vaccine: Issues for 2001," October 9, 2001.
14. Plenary speaker, Washington State ACP-ASIM Annual Meeting, Seattle, WA "Adult immunization update," October 19, 2001.
15. State of Washington Immunization Action Coalition, Children's Hospital. "Influenza vaccine for persons with asthma." January 23, 2002.
16. Providence St. Peter Hospital's Immunization Update, Olympia, WA "Influenza: Is it time for universal immunization?" November 2, 2002.
17. Department of Medicine Grand Rounds, University of Washington, "Influenza: Here, There and Everywhere," February 20, 2003.
18. Pacific Northwest Dermatology Conference, Skamania, WA. "Herpes zoster: new insights into epidemiology, treatment and prevention," July 12, 2003.
19. Virginia Mason Medical Center Grand Rounds: "Influenza: History Repeats Itself," February 6, 2004.
20. Keynote speaker. Infection Control for a New Age, Yakima, WA "Vaccine-preventable viral diseases: Past, Present and Future," April 30, 2004.
21. Faculty, Public Health Seattle-King County Immunization and Communicable Disease Update 2004. "Influenza in Children," June 9-10, 2004.
22. Invited speaker. Influenza vaccination programs during an influenza vaccine shortage. Immunization Action Coalition of Washington. October 20, 2004.
23. Invited speaker, Respiratory Viral Infections, Kapi'olani Medical Center, Honolulu, HI. "Influenza – Population impact of the disease" and "Changing recommendations for influenza vaccination," November 20, 2004.
24. Invited Speaker, 20th Annual Infectious Disease Conference, Providence Everett Medical Center, "Influenza and SARS," Seattle, WA, December 11, 2004.
25. Department of Medicine Grand rounds, University of Washington, "The Fragile State of Influenza control," February 3, 2005.
26. Invited Speaker, "Respiratory etiquette in ambulatory care," ADA Primary Care Update, Seattle, WA, April 28, 2005.
27. Invited Speaker, "Seasonal and pandemic influenza," AAFP Board Review Course, Seattle, WA, June 27, 2006.
28. Invited Panelist, "HPV Vaccine: Issues for Introduction," University of Washington AIDS and STD Research Symposium, Seattle, WA, December 11, 2006.
29. Department of Medicine Grand rounds, University of Washington, "Varicella Vaccines Across the Lifespan," February 3, 2006.
30. Women's Business Exchange Forum, "Global Health: Passion, Persistence and Partnerships," Seattle, WA, January 11, 2007.
31. Panel Member, "Pandemic Influenza: Are We Ready," City Club, Seattle, WA, February 14, 2007.
32. Invited Speaker, Fred Hutchinson Cancer Research Institute, VIDJ Lecture Series, "Rotavirus Vaccines for the Developing World: Are We There Yet?," Seattle, WA, October 31, 2008
33. Invited Speaker, Infectious Diseases Society of Washington Fall Meeting, "Influenza Vaccination: Will Current Strategies Carry Us Into the Future?," November 19, 2008, Seattle, WA
34. Moderator, Washington Global Health Alliance, Discovery Series, "Vaccines: A Panel Discussion," January 22, 2009, Seattle, WA.
35. Invited Speaker, "Influenza at the animal-human interface" Zoo Venture Dinner, Woodland Park Zoo, Seattle, WA, June 4, 2009.

36. Invited Speaker and Panelist, Medical Response to Infectious Disease Outbreaks and Public Health Emergencies, "Pandemic Influenza: From Preparedness to Action," University of Washington, Seattle, WA, September 25, 2009
37. Invited Panelist, Infectious Diseases Society of Washington Fall Meeting, "Pandemic Influenza," Seattle, WA, November 4, 2009.
38. Invited Speaker, "H1N1 Influenza," Washington Vaccine Alliance (WAVA) Vaccine Development Forum, Seattle, WA, March 31, 2010
39. Invited speaker, "Vaccines and Equity", Disease and Social Responsibility, Seattle Preparatory School April 29, 2010.
40. Invited speaker, "Meningitis and rotavirus vaccines for low resource populations", Pierce County Immunization Coalition Symposium, Tacoma, WA March 1, 2012
41. Invited speaker, "Vaccines for low resource populations", Disease and Social Responsibility, Seattle Preparatory School April 19, 2013.
42. Invited speaker, "Vaccine value chain: Development to delivery. Case study: Japanese encephalitis vaccines." Seattle Global Health Ambassador event. Bill and Melinda Gates Foundation, Seattle, WA. June 27, 2014.
43. Invited speaker, "Rotavirus vaccines in low resource countries: What challenges remain?" Fred Hutchinson Cancer Center Vaccines and Infectious Diseases Seminar, Seattle, WA, October 14, 2014.
44. Keynote speaker, "HPV vaccines for low resource settings: Overcoming challenges with innovation". 2014 STD & AIDS Research Symposium, University of Washington, Seattle, WA October 29, 2014.
45. Speaker, Board of Directors, University of Maryland Medical System, "Vaccine Research: A Powerful Tool to Achieve Health Equity," Baltimore, MD, March 9, 2016.
46. Department of Internal Medicine Grand Rounds, MedStar Harbor Hospital, "Influenza Vaccine: New Options, New Opportunities," Baltimore, MD, April 29, 2016.
47. Invited speaker, "Vaccine Research: A Powerful Tool to Achieve Health Equity." The University of Maryland School of Medicine Board of Visitors, Baltimore, MD, Sept. 27, 2016.
48. Invited Panelist, Zika Global to Local: Addressing the Epidemic from and International and Interprofessional Lens, University of Maryland, Baltimore, MD, February 15, 2017.
49. Invited Panelist, The Dean's Research Strategy Forum, University of Maryland, Baltimore, MD, May 1, 2017.
50. Invited Speaker, "Success in science and global health: persistence, partnerships, passion", STEM Graduate and Professional School Forum, Morgan State University, Baltimore, MD, September 21, 2017.
51. Session Co-Chair, "Session E: Public Health Science and Responses – From Local to Global", 19<sup>th</sup> Annual International Meeting of the Institute of Human Virology, Baltimore, MD, October 24, 2017.
52. Invited Speaker, "Typhoid Vaccine Acceleration Consortium", Tropical Medicine Dinner Club Talk, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, November 1, 2017.
53. Symposium Organizer and Moderator, "Controlling Typhoid Disease: New Insights on Vaccines and Vaccination Strategies", 26th Annual Meeting American Society of Tropical Medicine & Hygiene, Baltimore, MD, November 8, 2017.
54. Invited speaker. "Influenza". Global Virology Network 2018 Short Course in Virology. Baltimore, MD August 8, 2018.
55. Webinar presenter. "Updates from October 2018 ACIP Meeting", National Foundation for Infectious Diseases Webinar, November 6, 2018.

56. Invited Panelist, "Women in Medicine and Science - Acquiring Professional Confidence and Visibility", University of Maryland School of Medicine, Baltimore, MD, January 9, 2019
57. Invited Speaker, "Typhoid fever, Antimicrobial Resistance, and Vaccines", UMMC Medical Grand Rounds, Baltimore, MD, February 27, 2019.
58. Moderator, "Center for Vaccine Development and Global Health", UMB Global Health Summit, Baltimore, MD, May 29, 2019.
59. Invited Speaker, Success in science and global health: persistence, partnerships, passion", UMB School of Medicine's Summer Research Program's Summer Series, Baltimore, MD, June 18, 2019.
60. Invited Speaker, "Using Human Challenge Models to Understand Disease Pathogenesis", Infectious Disease Grand Rounds, Baltimore, MD, August 19, 2019.
61. Invited Speaker, Typhoid Fever, Antimicrobial Resistance, and Vaccines", Mercy Hospital Grand Rounds, Baltimore, MD, September 18, 2019.
62. Invited Speaker, "Center for Vaccine Development and Global Health", University of Maryland, Baltimore Board Meeting, Baltimore, MD, November 6, 2019.

#### National

63. Faculty participant, "What's new with the flu – cost-effectiveness of influenza vaccine," CME Symposium at ICAAC, San Diego, CA, September 1998.
64. Vanderbilt University Infectious Diseases Grand Rounds "Preventing Influenza: Challenges and Controversies," Nashville, TN, October 28, 1999.
65. Oregon Health Sciences University Medical Grand Rounds: "Influenza 2000," Portland, OR, November 23, 1999.
66. Faculty participant, panel session: "Adult Immunization – Influenza Vaccine," ACP/ASIM Annual Session, Philadelphia, PA, April 15, 2000.
67. Faculty participant, "Respiratory Viral Vaccines for Prevention of Otitis Media – Epidemiology of respiratory viral illnesses in children." CME Symposium preceding 38th Annual Meeting of the Infectious Diseases Society of America, New Orleans, LA, September 7, 2000.
68. Anchorage, AL CME series: Alaska Native Medical Center, Providence Medical Center. "The Brave New World of Influenza" and "Update on Adult Immunizations." October 19-20, 2000.
69. University of South Carolina Medical Grand Rounds. "Influenza: New Insights into an Old Disease," Charleston, SC, November 7, 2000.
70. Advisory Committee for Immunization Practices, CDC, "Review of inactivated influenza vaccine safety and efficacy/effectiveness," Atlanta, GA, October 17, 2001.
71. Meet the Professor Session "Principles, Priorities and Practicalities of Immunizing Adolescents and Adults," 39th Annual Meeting of the Infectious Diseases Society of America, San Francisco, CA, October 27-28, 2001.
72. Meet the Expert Session "Prevention and Treatment of Influenza," 41st Annual ICAAC, Chicago, IL, December 17, 2001.
73. Advisory Committee for Immunization Practices, CDC, "The economics of vaccinating children younger than 5 years with influenza vaccine," Atlanta, GA, February 20, 2002.
74. Moderator and speaker, Meet the Professor session: "Adult Immunization," ACP/ASIM Annual Session, Philadelphia, PA, April 11 and 12, 2002.
75. National Foundation for Infectious Diseases, "The epidemiology of influenza virus infection in children." Washington, DC, November 1, 2002.
76. Plenary lecture, "Influenza vaccine for children," National Immunization Conference, Chicago, IL, March 18, 2003.

77. Moderator and speaker, Meet the Professor session: "Immunization for adults: an ounce of prevention," ACP Annual Session, San Diego, CA, April 4-5, 2003.
78. Advisory Committee for Immunization Practices, CDC, "Safety and efficacy of influenza vaccine in young children," Atlanta, GA, October 17, 2003.
79. Faculty participant, "Increasing pediatric influenza immunization in infants and children," Symposium sponsored by National Foundation for Infectious Diseases at AAP Annual Meeting, New Orleans, LA, November 2, 2003.
80. Moderator, Symposium, "Influenza: New Strains and New Approaches," 44th Annual ICAAC, October 31, 2004 and speaker "The Fragile State of Influenza Prevention," 44th Annual ICAAC, Washington, DC, October 31, 2004.
81. Plenary speaker, "Vaccine-preventable viral diseases: Past, present and future," AORN/APIC/Kimberly-Clark Ninth Conference on Infectious Diseases, Atlanta, GA, December 8, 2004.
82. Invited Speaker, "Accelerating vaccine introduction in the developing world," World Health Week, Vanderbilt University School of Medicine, Nashville, TN, March 28, 2006.
83. Advisory Committee for Immunization Practices, CDC, "One vs two doses of TIV in children: review of recent data," Atlanta, GA, June 29, 2006.
84. Moderator, Plenary Session, "Pandemic Influenza," 45th Annual Meeting of the Infectious Diseases Society of America, Toronto, CA, October 15, 2006.
85. Faculty speaker, NFID Vaccine Course, "Influenza Vaccination for Adults," Atlanta, GA, November 3, 2006.
86. Faculty speaker, NFID Vaccine Course, "Influenza Vaccination Strategy," Atlanta, GA, November 4, 2006.
87. Plenary speaker, "Pandemic Influenza," Western Society for Clinical Investigation, Carmel, CA, February 1, 2007.
88. Invited speaker, "Preventing morbidity and mortality from vaccine-preventable diseases: A comprehensive approach," Vanderbilt University School of Medicine, Nashville, TN, February 23, 2007.
89. Moderator, "Vaccine Effectiveness and Safety Issues," CSTE Meeting on "Routine Vaccination against Influenza for Older Children (5-18 years) – Developing Plans to Address Evidence Gaps and Implementation Challenges," Atlanta, GA, September 10, 2007.
90. Moderator, Plenary Session, "Pandemic Influenza: From 1918 to 2007," 45th Annual Meeting of the IDSA, San Diego, CA, October 4, 2007.
91. Faculty, NFID Vaccine Course, "Influenza: An overview of available vaccines, schedules and future vaccination strategies," Bethesda, MD, November 9, 2007.
92. Co-Chair, WHO Meeting, "Rotavirus Vaccines: Evaluating Clinical Trial Data and Guiding Future Research," Atlanta, GA, November 27-29, 2007.
93. Meeting Co-Chair and Invited Speaker, "Influenza Control Policy: How Can Influenza Vaccines and Antivirals be Best Delivered in the U.S.?" IDSA Seasonal and Pandemic Influenza Conference, Washington, DC, May 18-20, 2008.
94. Meeting Co-Chair and Invited Speaker, "Vaccines: Update on Recommendations for Adults" and "US Recommendations on Influenza Vaccines for Children: Who, Why, and How?" 46th Annual Meeting of the IDSA, Washington, DC, October 2008.
95. Faculty, NFID Vaccine Course, "Influenza: An Overview," and "Influenza," Bethesda, MD, November 14-15, 2008.
96. Meeting Co-Chair, and Invited Speaker, "Changing Landscape of Vaccines," IDSA Seasonal and Pandemic Influenza Conference, Washington, DC, February 2-3, 2009.
97. Panelist, "Vaccines: Filtering the Noise," Meeting of the Association of Health Care Journalists, April 17, 2009, Seattle, WA.



98. Invited Speaker, "New Vaccine Strategies," for the "What's New in Seasonal Influenza Symposium," 46th Annual Meeting of the IDSA, Philadelphia, PA, October 30, 2009.
99. Invited Speaker, "Vaccine Challenges in Pandemic Response," 5th Decennial Internal Conference on Healthcare-Associated Infections, Atlanta, GA, March 22, 2010.
100. Invited Speaker, Plenary Session, "Technological Challenges in Global Health: Influenza Vaccine," XXV Congress of the International Society for Advancement of Cytometry, Seattle, WA, May 10, 2010.
101. Presenter, "Update on influenza vaccines", NFID Clinical Vaccinology Course, Bethesda, MD, November 10, 2010
102. Visiting professor, "Rotavirus vaccines for low resource countries" and "Alternative schedules for HPV vaccines", UT Southwestern School of Medicine, April 27, 2011.
103. Invited Speaker, "Rotavirus Vaccines: A Review of Vaccine Trial Results" Annual Conference on Vaccine Research, Baltimore, MD May 7, 2012
104. Invited speaker, "The Promise and Challenge of a Maternal Immunization Approach to RSV Prevention in Low-resource Countries". RSV Symposium, Santa Fe, New Mexico September 30, 2012
105. Invited speaker, "Global Impact of Rotavirus Vaccines", Johns Hopkins University School of Medicine Biennial Meeting, Baltimore, Md, June 8, 2013
106. Invited speaker, "A glimpse into the future of influenza vaccines". Infectious Diseases Society of America Annual Meeting, San Diego, CA, October 2, 2013
107. Keynote speaker, "Success in Global Health: persistence, partnership, passion." Clinical and Translational Research Annual Retreat, Vanderbilt University, Nashville, TN October 3, 2013.
108. Faculty, "Influenza vaccines: Giving the right dose at the right time." National Foundation for Infectious Diseases Clinical Vaccinology Course. Seattle, WA, March 24, 2014.
109. Invited Speaker, "Vaccines for the Developing World: Japanese Encephalitis Vaccine", Annual Conference on Vaccine Research, Bethesda, Md. April 29, 2014
110. Invited Speaker, "Maternal immunization: an introduction to PATH's work". NIH symposium on including pregnant women in clinical trials. Bethesda, Md. September 29, 2014.
111. Invited Speaker, "Vaccines in low resource settings: What is on the horizon?" Infectious Diseases Society of America Annual Meeting, Philadelphia, PA, October 11, 2014
112. Moderator, Keynote I: "Towards a universal influenza virus vaccine," 19<sup>th</sup> Annual Conference on Vaccine Research, Baltimore, MD, April 17, 2016.
113. Invited Speaker, "Vaccines for the global community," for the "Dr. Richard J. Duma Meet the Experts Breakfast Sessions," 19<sup>th</sup> Annual Conference on Vaccine Research, Baltimore, MD, April 20, 2016.
114. Invited Speaker, "Vaccine research: A powerful tool to achieve health equity," Plenary Session for Vanderbilt MPH 2016 Reunion and 20<sup>th</sup> Anniversary, Nashville, TN, October 21, 2016.
115. Invited Speaker, "Influenza vaccines: Giving the right dose at the right time," National Foundation for Infectious Diseases Clinical Vaccinology Course, Philadelphia, PA, November 4, 2016.
116. Invited Speaker, "Rotavirus vaccine: A powerful tool to achieve health equity," Seminar Series for the Yale School of Public Health, Department of Epidemiology of Microbial Diseases, New Haven, CT, January 19, 2017.
117. Moderator, "Development and approval pathways of vaccines for the prevention of emerging infectious diseases," Annual Conference on Vaccine Research (ACVR), Bethesda, MD, April 24, 2017.

118. Invited Speaker, "Developing and deploying influenza vaccines: The pandemic-seasonal interplay," Association of University Anesthesiologists (AUA), Washington, DC, May 4, 2017.
119. Invited panelist, "Hot Topics in Vaccinology." ASM Microbe 2017, New Orleans, LA, June 4, 2017.
120. Session Chair, "New Influenza Vaccines", 11<sup>th</sup> Vaccine Congress, San Diego, CA, September 18, 2017.
121. Session Chair, "New Vaccines – Old Diseases", 11<sup>th</sup> Vaccine Congress, San Diego, CA, September 19, 2017.
122. Invited panelist, "Science-Policy Interphase Roundtable Session", 11<sup>th</sup> Vaccine Congress, San Diego, CA, September 19, 2017.
123. B.H. Kean-Boxer Family Foundation Lecture in Global Health, "Vaccine Research: A Powerful Tool for Health Equity," Medicine Grand Rounds, Weill Cornell Medicine New York Presbyterian Hospital, New York City, NY, October 11, 2017.
124. Invited Speaker, "Giving the Right Dose at the Right Time," NFID Vaccine Course, Bethesda, MD, November 4, 2017.
125. William Kirby Lectureship, "Influenza Research: A Lesson in Humility," University of Washington School of Medicine Division of Allergy & Infectious Diseases, Seattle, WA, December 6, 2017.
126. William Kirby Lectureship, "Vaccines, Antimicrobial Resistance, and Health Equity," Medicine Grand Rounds, University of Washington School of Medicine, Seattle, WA, December 7, 2017.
127. Invited Speaker, "Interim VIDA results: Changes in overall and etiology-specific diarrhea incidence VIDA ISAC Meeting," Jan. 20, 31, 2018 Seattle, Washington
128. Invited Speaker, "Vaccines, Antimicrobial Resistance, and Health Equity," Jefferson Vaccine Center Annual 2018 Symposium, Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA, March 13, 2018.
129. Moderator, "Using Vaccines to Combat Antimicrobial Resistance," Annual Conference on Vaccinology Research, Bethesda, MD, April 23, 2018.
130. Invited Speaker, "Case Study: Typhoid Vaccines in Low-resource Settings," Annual Conference on Vaccinology Research, Bethesda, MD, April 23, 2018.
131. Moderator, "Building Research Careers in Vaccinology", Annual Conference on Vaccinology Research, Bethesda, MD, April 24, 2018.
132. Moderator, "Live Attenuated Influenza Vaccine (LAIV): What Have We Learned & Where Do We Go Next?", Annual Conference on Vaccinology Research, Bethesda, MD, April 25, 2018.
133. Plenary Speaker, "Rotavirus Vaccines: Evidence to Action to Impact" University of Washington Seattle Children's Hospital Science Day, Seattle, WA, May 24, 2018.
134. Moderator, "Maternal-infant Immunization: Clinical Implementation and Public Health Benefits". ASM Annual Meeting. Atlanta, Ga June 11, 2018
135. Invited speaker. "Influenza Vaccine Research in the International Setting: Trials, Tribulations and Lessons Learned." NIAID Influenza Interest Group Seminar Series. Bethesda, MD August 3, 2018.
136. Discussion Leader, "Session IV. Discussion and Questions from Participants", Workshop on the Epidemiology and Evolutionary Dynamics of Broadly Protective Influenza Vaccines, Bethesda, MD, September 20, 2018.
137. Plenary speaker, "Time 101: Optimizing Meetings", Infectious Diseases Society of America Annual Meeting, San Francisco, CA, October 5, 2018.
138. Plenary speaker, "The Ghost of the Future: Universal Influenza Vaccine", Infectious Diseases Society of America Annual Meeting, San Francisco, CA, October 6, 2018

139. Invited speaker, "Decision-Making on Typhoid Vaccines at the Country Level: Evidence, Action and Sustainability", American Society of Tropical Medicine & Hygiene, New Orleans, LA, October 29, 2018.
140. Invited speaker, "From Identifying a Vaccine to Scaling up: The Critical Role of Partners", American Society of Tropical Medicine & Hygiene, New Orleans, LA, November 1, 2018
141. Invited speaker, "Influenza Vaccines and Vaccination Strategies, "Fall 2018 Clinical Vaccinology Course (CVC), Bethesda, MD, November 10, 2018.
142. Invited speaker, "Influenza Vaccine Research in the International Setting: What Can We Learn?", Harvard Infectious Disease Epidemiology Spring Seminar Series, Boston, MA, February 21, 2019.
143. Invited speaker, "Tdap vs Td Vaccine for Pregnant Women in Mali: Current Status and Future Plans", Annual Meeting of the Vaccine and Treatment Evaluation Units (VTEUs), Rockville, MD, May 8, 2019.
144. Moderator, "Influenza Vaccines", Infectious Disease Week 2019, Washington, DC, October 4, 2019.
145. Moderator, "Vaccines and Antimicrobial Resistance", Infectious Disease Week 2019, Washington, DC, October 4, 2019.
146. Invited speaker, "Current Influenza Vaccines: Are We Ready for Different Vaccines for Different Populations?", Infectious Disease Week 2019, Washington, DC, October 4, 2019.
147. Moderator, "Maternal Immunization: Progress and Challenges", Infectious Disease Week 2019, Washington, DC, October 5, 2019.

#### International

148. Invited Speaker. "Clinical aspects of influenza and immunization against influenza in pregnant women." XIII European Meetings on Influenza and Its Prevention, Nice, France, September 23, 1999.
149. Plenary speaker. "Influenza or RSV?" and "Is it time for universal immunization with influenza vaccine?" First Symposium on Respiratory Diseases, VigiGrip, University of San Paolo, San Paolo, Brazil, March 9 and 10, 2001.
150. Invited speaker: "Should healthy children receive influenza vaccine?" Annual Beijing Symposium on Influenza, Beijing, China, September 12, 2001.
151. Invited speaker. "Should healthy children receive influenza vaccine?" Third World Congress of Pediatric Infectious Diseases, Santiago, Chile, November 20, 2002.
152. Invited Speaker, "Influenza vaccine for children and pregnant women", Asian-Pacific Committee on Influenza, Manila, Phillippines, April 25, 2004.
153. Invited Speaker, "Burden of influenza illness in children", Annual Philippine Pediatric Congress, Manila, Philippines, April 27, 2004.
154. Lecturer, "Influenza: Vaccines and Vaccination Strategies." Advanced Course on Vaccinology, Annecy, France, May 24, 2004
155. Invited speaker "Influenza vaccination programs for children and adults." Mexico City, Mexico, October 4, 2004.
156. Lecturer, "Influenza: Evaluating Influenza Vaccine Strategies for Low Resource Countries." Advanced Course on Vaccinology, Annecy, France, May 24, 2005
157. Invited speaker, "Influenza in Pregnancy", University of Toronto OB-Gyn Grand Rounds, Toronto, CA, October 14, 2005.
158. Invited speaker, "Influenza vaccination programs: who, why and how?" University of Toronto Infectious Disease Forum, Toronto, CA, October 14, 2005
159. Invited presenter, "Building the evidence base for rotavirus vaccine introduction," WHO Strategic Advisory Group of Experts on Immunization (SAGE) Meeting, Geneva, Switzerland, November 10, 2005

160. Lecturer, "Influenza: Virus, Vaccines and Vaccination Strategies." Advanced Course on Vaccinology, Annecy, France, May 23, 2006
161. Invited Speaker, "Building the evidence base for rotavirus vaccine introduction", 5th Asian Rotavirus Surveillance Workshop, Pattaya, Thailand, July 18, 2006.
162. Invited Speaker, "Future directions for rotavirus vaccines: Focus on developing countries," 5th Asian Rotavirus Surveillance Workshop, Pattaya, Thailand, July 19, 2006.
163. Lecturer, "Seasonal and Pandemic Influenza." Advanced Course on Vaccinology, Annecy, France, May 22, 2007.
164. Invited Speaker, "Rotavirus Vaccine as a Case Study," Global Vaccine Safety Data Net Meeting, Annecy, France, September 13, 2007.
165. Invited Presenter, "Vaccines", WHO Strategic Advisory Group of Experts on Immunization (SAGE) Meeting, Geneva, April 8, 2008.
166. Lecturer, "Influenza: Virus, Vaccines and Vaccination Strategies." Advanced Course on Vaccinology, Annecy, France, May 27, 2008
167. Invited Speaker, "Potential Impact of Rotavirus Vaccines in the Developing World," WHO Global Vaccine Research Forum, Paris, France, June 29 - July 2, 2008.
168. Invited Presenter, WHO Strategic Advisory Group of Experts on Immunization (SAGE) Meeting, "Rotavirus Vaccines in the Developing World: Evidence for Impact," Geneva, Switzerland, November 5, 2008.
169. Invited Presenter, "Update on Rotavirus Vaccines for the Developing World", WHO Strategic Advisory Group of Experts on Immunization (SAGE) Meeting, Geneva, April 6-8, 2009
170. Lecturer, "Influenza: Virus, Vaccines and Vaccination Strategies." Advanced Course on Vaccinology, Annecy, France, May 26, 2009
171. Invited Presenter, 27<sup>th</sup> Annual Meeting of the European Society for Paediatric Infectious Diseases, "RIX4414 is Protective Against Severe RVGE Caused by Diverse Rotavirus Serotypes During the First Year of Life in African Infants," June 9-13, 2009, Brussels, Belgium.
172. Invited Presenter, 5<sup>th</sup> International Conference on Vaccines for Enteric Diseases, "A Global Perspective of Rotavirus Vaccines for Children in Developing Countries," September 9, 2009, Malaga, Spain.
173. Invited Speaker, "Regional Perspectives on the Burden of Influenza, Including School-Aged Children," 6th World Congress of the World Society for Pediatric Infectious Diseases, Buenos Aires, Argentina, November 18, 2009.
174. Moderator for session on "Seasonal and Pandemic Influenza Vaccines Research and Development," and Invited Speaker "Rotavirus vaccine clinical trials' results" WHO Global Vaccine Research Forum, Bamako, Mali, December 7, 2009.
175. Invited Presenter, "An Update on Rotavirus Vaccines and the WHO Recommendation," 5th Annual Global Immunization Meeting, Geneva, Switzerland, February 2, 2010.
176. Invited Speaker, "Influenza Vaccines in the Developing World," Annual Meeting of the Pediatric Academic Societies, Vancouver, Canada, May 3, 2010.
177. Lecturer, "Influenza: Seasonal and Pandemic Vaccines and Vaccination Strategies." Advanced Course on Vaccinology, Annecy, France, May 28, 2010
178. Invited Speaker and Moderator, "Update on Rotavirus Vaccines," 9<sup>th</sup> International Rotavirus Symposium, Johannesburg, South Africa, August 2, 2010.
179. Moderator "Epidemiology, Disease Burden and Health Economics," Options for the Control of Influenza VII Conference in Hong Kong, China, September 3, 2010.
180. Invited Speaker "Rotavirus vaccines for low resource countries", "Epidemiology and Disease Burden of Respiratory Viruses" and "The 2009 Influenza Pandemic: Lessons

- Learned,” First Advanced Vaccinology Course in India, Vellore, India, September 22-24, 2010.
181. Plenary speaker, The Joseph E. Smadel Lecture, “The Global Impact of Vaccines,” Infectious Diseases Society of America (IDSA) 48th Annual Meeting, Vancouver, Canada, October 23, 2010.
  182. Lecturer, “Influenza: Virus, Vaccines and Vaccination Strategies.” Advanced Course on Vaccinology, Annecy, France, May 24, 2011
  183. Invited speaker, Maternal immunization: results of a landscape analysis”, Bill and Melinda Gates Foundation Maternal immunization meeting, London, UK, June 1, 2011
  184. Invited speaker, “Improving clinical trial design & capacity and harnessing clinical trials to identify then validate correlates of risk or protection. Case study: Rotavirus vaccines”. Second global Health Research Congress, Seattle, WA, June 21, 2011
  185. ICAAC Meet-the-Experts, Progress and Promise in Perinatal Vaccination: Maternal and Neonatal, ICAAC Annual Meeting, Chicago, IL September 18, 2011
  186. Invited speaker, Global Threats to Child Health Symposium: “Diarrheal Disease and Impact of Rotavirus Vaccines”, ICAAC Annual Meeting, Chicago, IL, September 20, 2011
  187. Invited speaker, “Live attenuated influenza vaccines for low resource countries”, Influenza Technical Advisory Meeting on Developing country Influenza Vaccine Manufacturers, Belgrade, Serbia March 28, 2012
  188. Lecturer, “Influenza biology, new vaccines and vaccination strategies for different age groups” Advanced Course on Vaccinology, Annecy, France, May 21, 2012
  189. Invited speaker, “Hot topics in Vaccines: Malaria Vaccines”, ICAAC Annual meeting, San Francisco, CA. September 10, 2012
  190. Lecturer, “Influenza vaccines for children adults and elderly”. Advanced Course on Vaccinology, Annecy, France, May 13, 2013
  191. Invited presenter, “Japanese Encephalitis Vaccine Global Usage and Safety Profile.” WHO Global Advisory Committee on Vaccine Safety, Geneva, Switzerland, June 13, 2013
  192. Invited speaker, “Efficacy of commercially available rotavirus vaccines in low resource countries.” International symposium on rotavirus vaccines for India. Delhi, India, May 14, 2013.
  193. Speaker and moderator “Developing next generation rotavirus vaccines”, Global Vaccine and Immunization Research Forum, Bethesda, Md. March 4, 2014
  194. Plenary speaker, “Influenza vaccines: Novel vaccines and vaccination strategies.” International Congress on Infectious Diseases, Cape Town, South Africa, April 5, 2014.
  195. Invited speaker, “Clinical evaluation of live attenuated seasonal influenza vaccine in Bangladesh and Senegal” Second WHO Integrated Meeting on development and clinical trials of Influenza vaccines that induce broadly protective and long-lasting immune responses, Geneva, Switzerland, May 6, 2014
  196. Lecturer, “Influenza: Virus, Vaccines and Vaccination Strategies”. Advanced Course on Vaccinology, Annecy, France, May 20, 2014
  197. Invited speaker, “The case for influenza vaccine: A debate.” ADVAC Alumni meeting, Philadelphia, PA, October 9, 2014
  198. Invited speaker. “Clinical evaluation of seasonal, live attenuated influenza vaccines in Bangladesh and Senegal”. WHO meeting to assess live-attenuated influenza vaccines, Geneva, Switzerland, December 16, 2014.
  199. Invited speaker, “Influenza vaccines for children”. WHO meeting to assess live-attenuated influenza vaccines, Geneva, Switzerland, December 16, 2014.
  200. Plenary speaker, “Global burden of rotavirus disease and the potential role of immunization to control rotavirus.” World Congress on Public Health – Rotavirus: priorities for control Kolkata, India, February 13, 2015

201. Invited speaker, "Influenza in the developing world: prospects for disease control". International Symposium on Respiratory Virus Infections, Vancouver, Canada, March 6, 2015
202. Invited speaker, "Influenza vaccine for pregnant women: How far have we come in the past decade?" WHO Maternal Immunization Technical Consultation, Geneva, Switzerland, March 25, 2015
203. Lecturer, "Influenza: Virus, Vaccines and Vaccination Strategies." Advanced Course on Vaccinology, Annecy, France, May 19, 2015
204. Plenary speaker, "Introduction & lessons learned from GVIRF 2014." Global Vaccine and Immunization Research Forum (GVIRF), Johannesburg, South Africa, March 15, 2016
205. Session chair, "Evolving Global Vaccine Markets," Global Vaccine and Immunization Research Forum (GVIRF), Johannesburg, South Africa, March 15, 2016.
206. Invited Speaker, "Immunisation and Pregnancy: Past Present and Perspectives." SOMAGO 5th Congress of the Malian Society of Gynecologists and Obstetricians, Bamako, Mali, March 30, 2016.
207. Lecturer, "Influenza biology, new vaccines and vaccination strategies for different age groups." Advanced Course on Vaccinology, Annecy, France, May 31, 2016.
208. Invited Speaker, "Sustainability and Financing for GAVI and GAVI-graduating countries." 10<sup>th</sup> African Rotavirus Symposium, Bamako, Mali, June 2, 2016.
209. Co-moderator, Session VI, "Sustainability and Control of Diarrhea in African Children: Looking to the Future," 10<sup>th</sup> African Rotavirus Symposium, Bamako, Mali, June 2, 2016.
210. Invited Speaker, "Preferred product characteristics (PPC) of next-generation influenza vaccines." 8<sup>th</sup> WHO Meeting on Development of Influenza Vaccines that Induce Broadly Protective and Long-lasting Immune Responses, Chicago, IL, August 23, 2016.
211. Panelist, "Discussion of PPC an integrated influenza vaccine development in low resource settings." 8<sup>th</sup> WHO Meeting on Development of Influenza Vaccines that Induce Broadly Protective and Long-lasting Immune Responses, Chicago, IL, August 23, 2016.
212. Moderator, "Industry panel discussion." 8<sup>th</sup> WHO Meeting on Development of Influenza Vaccines that Induce Broadly Protective and Long-lasting Immune Responses, Chicago, IL, August 24, 2016.
213. Moderator, "Public Health Featured Symposia: Influenza Vaccines." ISIRV Options IX for the Control of Influenza, August 26, 2016.
214. Moderator, "The road ahead: Issue landscape, opportunities, and challenges for advocacy." ROTA Council Strategy Meeting, Melbourne, Australia, September 6, 2016.
215. Moderator, "Session III: Poster Session", Twelfth International Rotavirus Symposium, Melbourne Australia, September 7, 2016.
216. Participant, Roundtable Discussion, "Session IV: Women Leaders in the Scientific Advancement of Rotavirus – Tribute to Ruth Bishop", Twelfth International Rotavirus Symposium, Melbourne Australia, September 7, 2016.
217. Invited Speaker, "The Expanding Rotavirus Vaccine Landscape: Lessons learned from influenza vaccines," Session VII: Policy Session, Twelfth International Rotavirus Symposium, Melbourne Australia, September 8, 2016.
218. Session Chair, "Session C: Emerging Viruses and the Global Virus Network", 18<sup>th</sup> Annual International Meeting of the Institute of Human Virology, Baltimore, MD, September 19, 2016.
219. Session Chair, "Session 4: Progress under Objective 3: R&D for Influenza Vaccines", Third WHO Consultation on Global Action Plan for Influenza Vaccines (GAP III), Geneva, Switzerland, November 16, 2016.

220. Invited speaker, "New broad spectrum influenza vaccines", Third WHO Consultation on Global Action Plan for Influenza Vaccines (GAP III), Geneva, Switzerland, November 16, 2016.
221. Session Chair, "Session 1: The Public Health Value of Vaccines: Socio-economic Aspects", Estimating the Full Public Health Value of Vaccines, Annecy, France, December 6, 2016.
222. Invited Speaker, "Unique considerations of public health value of vaccines given to pregnant women", Estimating the Full Public Health Value of Vaccines, Annecy, France, December 6, 2016.
223. Session Chair, "Global Trends in Typhoid Fever: Determinants and Implications for Policy", 10<sup>th</sup> International Conference on Typhoid and Other Invasive Salmonellosis, Kampala, Uganda, April 6, 2017.
224. Invited Speaker, "Introduction of Typhoid Conjugate Vaccines: Opportunities and Challenges", 10<sup>th</sup> International Conference on Typhoid and Other Invasive Salmonellosis, Kampala, Uganda, April 6, 2017.
225. Lecturer, "Influenza biology, new vaccines and vaccination strategies for different age groups." Advanced Course on Vaccinology, Annecy, France, May 16, 2017.
226. Small group facilitator, "Decision-making for the evaluation and impact assessment of new vaccines introduced in selected countries: safety and effectiveness." Advanced Course on Vaccinology, Annecy, France, May 16, 2017.
227. Invited Speaker "Rotavirus Vaccine Effectiveness" and "Pan-site Analyses: Etiology and Outcomes," at the Third Annual VIDA Investigator's Meeting, Kisumu, Kenya, May 21, 2017.
228. Invited Speaker, "Global disease burden of influenza and RSV", XIX International Symposium on Respiratory Viral Infections, Berlin, Germany, June 24, 2017.
229. Session Chair, "Session III: Vaccination Programs for Preventions of Respiratory Infections," XIX International Symposium on Respiratory Viral Infections, Berlin, Germany, June 24, 2017.
230. Roundtable discussion, "Current Vaccines and Future Vaccine Development," XIX International Symposium on Respiratory Viral Infections, Berlin, Germany, June 24, 2017.
231. United Nations Medical Expert on Typhoid Webinar. "Typhoid, AMR and new Vaccines". May 9, 2018.
232. Invited Speaker. "Human Controlled Infection Models for Influenza: Lessons Learned from Cholera and Typhoid." Bill and Melinda Gates Foundation Convening on Human Challenge Models, London, UK, May 31, 2018.
233. Moderator, "Session VI: Current rotavirus vaccines in routine immunization", 13<sup>th</sup> International Rotavirus 2018 Symposium, Minsk, Belarus, August 30, 2018.
234. Invited Speaker. "Influenza in Low Resource Countries: Virus, Vaccines and Vaccination." African Advanced Vaccinology Course 2018, Johannesburg, South Africa, September 10, 2018.
235. Session Chair. "Influenza", 12<sup>th</sup> Vaccine Congress, Budapest, Hungary, September 17, 2018.
236. Session Chair. "Typhoid Conjugate Vaccine", 12 Vaccine Congress, Budapest, Hungary, September 18, 2018.
237. Invited keynote speaker, "From Global Action to Local Impact: Typhoid Vaccines ", 11<sup>th</sup> International Conference on Typhoid & Other Invasive Salmonellosis, Hanoi, Vietnam, March 26, 2019.
238. Session Chair, STRATAA/TyVAC Symposium, 11<sup>th</sup> International Conference on Typhoid & Other Invasive Salmonellosis, Hanoi, Vietnam, March 27, 2019.

239. Debate, "Does a vaccine have to protect against a VPD that kills to matter to politicians and parents?", 20<sup>th</sup> Advanced Course of Vaccinology, Annecy, France, May 20, 2019
240. Invited Speaker, "Influenza biology, new vaccines and vaccination strategies for different age groups", 20<sup>th</sup> Advanced Course of Vaccinology, Annecy, France, May 21, 2019.
241. Facilitator, "Decision-making for the evaluation and impact assessment of new vaccines introduced in selected countries: safety and effectiveness", 20<sup>th</sup> Advanced Course of Vaccinology, Annecy, France, May 21, 2019.
242. Invited Speaker, "Typhoid Conjugate Vaccines", 7<sup>th</sup> Annual Asian Vaccine Conference, Yangon, Myanmar, September 15, 2019.