

20th ADVANCED COURSE OF VACCINOLOGY- 2019

| MONDAY 13 MAY 2019 | | Theme Coordinator: Adam Finn (University of Bristol, UK) |
|--|--|--|
| 09:00 | Opening | Alain Mérieux , President, Fondation Mérieux |
| 09:20 | Definition of the course objectives | Philippe Duclos , Director of the ADVAC Course |
| SESSION 1a - THE MULTIFACETED NATURE OF VACCINOLOGY | | Chairperson: Edwin Asturias , Children's Hospital Colorado, USA |
| 09:50-10:30 | Opening Lecture: How to develop a new program of immunization | David Salisbury , former Director of Immunisation, Department of Health, UK |
| 10:30-10:50 | Discussion | |
| 10:50-11:20 | Break | |
| 11:20-12:00 | Access to vaccination in GAVI countries and at global level | Aurelia Nguyen , GAVI Alliance, Geneva |
| 12:00-12:20 | Discussion | |
| 12:20-14:00 | Lunch | |
| 14:00-14:30 | The challenge of malaria vaccines and of their potential introduction | Mary Hamel , WHO |
| 14:30-14:50 | Discussion | |
| 14:50-15:10 | Break | |
| 15:10-16:50 | SESSION 1b - Special lectures from Industry | |
| 16:50-17:50 | Debate on mandatory vs voluntary vaccination | Adam Finn with Hanna Nohynek , National Institute for Health and Welfare, Helsinki, Finland |
| 17:50-19:00 | Self-presentation of individual participants (background, interests in life...) & Welcome reception | |

| SESSION 1b - Special lectures from Industry | | |
|--|---|---|
| 15:10-15:40 | Role of DC vaccine industry for meeting global needs | Suresh Jadhav , Executive Director, Serum Institute of India, Pune, India |
| 15:40-16:00 | Discussion | |
| 16:00-16:30 | Development and production of vaccines for global use: the role of vaccine industry | Luis Jodar , Chief Medical and Scientific Affairs Officer, Pfizer Inc. USA |
| 16:30-16:50 | Discussion | |

Theme Coordinator : Adam Finn (Bristol, UK)

| TUESDAY 14 MAY 2019 | | |
|--------------------------------------|--|--|
| SESSION 2 - HOW VACCINES WORK | | Chairpersons: Adam Finn and Daniel Pinschewer, University of Basel, Switzerland |
| 09:00-09:30 | How are vaccine responses elicited? What a vaccinologist should know about the basic aspects of immunological responses a- B-cell responses | Claire-Anne Siegrist, University of Geneva |
| 09:30-10:00 | Discussion | |
| 10:00-10:30 | Break | |
| 10:30-11:00 | What a vaccinologist should know about the basic aspects of immunological responses b-T-cell responses | Claire-Anne Siegrist, University of Geneva |
| 11:00-11:30 | Discussion | |
| 11:30-12:10 | Use and limitations of correlates of immunity in vaccinology | Andrew Pollard, University of Oxford, UK |
| 12:10-12:40 | Common discussion | |
| | Lunch | |
| 14:15-14:45 | Vaccines and mucosal immunity | Adam Finn, University of Bristol, UK |
| 14:45-15:05 | Discussion | |
| 15:05-16:00 | Vaccines and immunological memory Quiz and general discussion | Adam Finn, University of Bristol & Claire-Anne Siegrist, University of Geneva |
| 16:00-16:20 | Break | |
| 16:20-17:00 | Advances in vaccine and immunization technologies | Cristina Casetti, NIH-NIAID, USA |
| 17:00-17:20 | Discussion | |
| 17:20-18:00 | Immunological memory | Rafi Ahmed, Emory University, USA |
| 18:00-18:20 | Discussion | |

| WEDNESDAY 15 MAY 2019 | | Theme Coordinator: Hanna Nohynek (National Institute for Health and Welfare, Helsinki) |
|------------------------------|---|---|
| | SESSION 3 - DECISION-MAKING IN VACCINE RESEARCH AND PRECLINICAL DEVELOPMENT | Chairpersons: Carole Heilman , former Director, DMID/NIAID, USA |
| 09:00-09:40 | How do vaccines cause adverse events? | Neal Halsey , Johns Hopkins B. School of Public Health, Baltimore, USA |
| 09:40-10:00 | Discussion | |
| 10:00-10:30 | Vaccine adjuvants | Martin Friede , WHO, Geneva |
| 10:30-10:50 | Discussion | |
| 10:50-11:10 | Break | |
| 11:10-11:40 | From pre-clinical research to vaccine development: Examples of go-no-go decisions | Veronica Gambillara , (Zurich) |
| 11:40-12:00 | Discussion | |
| 12:00-12:40 | Progress with RSV and Zika vaccines: how new technologies can change viral vaccine development | Barney Graham , Vaccine Research Center, NIAID, NIH, Bethesda, USA |
| 12:40-13:00 | Discussion | |
| | Lunch | |
| 14:30-16:00 | Regulatory considerations A round table debate | Chair: Carole Heilman Norman Baylor , Biologics Consulting Group, Inc., USA, Pieter Neels , Vaccine-advice, Belgium, Saeedeh Fakhrzadeh , Iran |
| 16:00-16:20 | Break | |
| 16:20-16:50 | The complexity of quality control in vaccine manufacturing, | Philippe Juvin , Lyon, France |
| 16:50-17:10 | Discussion | |
| 17:20-18:20 | Debate: Dealing with human challenge studies. | Joris Vandeputte , IABS and Pieter Neels , Vaccine-advice, Belgium Introduction by Joris Vandeputte (IABS) (5 min) |

| | | Theme Coordinator: Hanna Nohynek, (THL, Helsinki) |
|-------------|---|--|
| | THURSDAY 16 MAY 2019 | |
| | SESSION 4 - ASSESSING VACCINES IN CLINICAL TRIALS (I) | Chairpersons: Hanna Nohynek |
| 09:00-09:40 | Clinical trials: an overview of issues to be considered | Myron Levine , University of Maryland, USA |
| 09:40-09:55 | Discussion | |
| 09:55-10:25 | Introduction to statistical aspects of clinical trials 1- Defining sample size: practical approaches and examples | Peter Smith , London School of Hygiene and Tropical Medicine, UK |
| 10:25-10:40 | Discussion | |
| 10:40-11:00 | Break | |
| 11:00-13:45 | How to design, recruit volunteers for, and analyze the results of selected phase II trials Small group exercise #1: Five Groups- Themes and Facilitators: Group 1 Rotavirus Veronica Gambillara Group 2 <i>S. aureus</i> Pieter Neels Group 3 Dengue Norman Baylor Group 4 Zika Edwin Asturias Group 5 RSV Adam Finn | |
| 12:40-13:10 | Buffet lunch | |
| 13:50-14:20 | Assessing herd protection and vaccine effectiveness (and use for licensure) | John Clemens , International Centre for Diarrheal Disease Research, Bangladesh |
| 14:20-14:40 | Discussion | |
| 14:40-15:10 | Clinical trials: role of a Data Safety Monitoring Board (DSMB) (with several examples of intervention) | Penny Heaton , Bill & Melinda Gates Medical Research Institute, Seattle, USA |
| 15:10-15:30 | Discussion | |
| 15:30-15:50 | Break | |
| 15:50-16:30 | THE 4th LAMBERT LECTURE Challenges and prospects for new tuberculosis vaccines | Helen McShane , University of Oxford, UK |
| 16:30-16:50 | Discussion | |
| 17:10-18:30 | Special "Debate": From Ideas to Implementation: The realities of funding for vaccine research | Carole Heilman (Chair), Veronica Gambillara (Zurich), Penny Heaton (Bill & Melinda Gates Medical Research Institute, Seattle, USA) and selected ADVAC students |

| | FRIDAY 17 MAY 2019 | Theme Coordinator : Neal Halsey (Johns Hopkins B. School of Public Health, Baltimore) |
|-------------|--|--|
| | SESSION 5 - VACCINE SAFETY - ASSESSMENT OF ADVERSE EFFECTS | Chairpersons: Kari Johansen and Neal Halsey |
| 09:00-09:30 | Lessons from previous adverse effects of vaccination and Assessment of causal relationships | Neal Halsey , Johns Hopkins B. School of Public Health, Baltimore, USA |
| 09:30-09:50 | Discussion | |
| 09:50-10:20 | Vaccination and autoimmune diseases | Paul-Henri Lambert , University of Geneva |
| 10:20-10:40 | Discussion | |
| 10:40-11:00 | Break | |
| 11:00-11:30 | Population-based post-licensure surveillance | Nick Andrews , Public Health England, UK |
| 11:30-11:50 | Discussion | |
| 11:50-12:20 | Vaccination and narcolepsy | Hanna Nohynek , THL, Finland |
| 12:20-12:40 | Discussion | |
| 12:40-14:00 | Lunch | |
| 14:00-14:30 | Immunization safety in developing country vaccination programs | Philippe Duclos , ADVAC |
| 14:30-14:50 | Discussion | |
| 14:50-15:20 | Addressing vaccine hesitancy | Noni McDonald , Dalhousie University, Halifax, Canada |
| 15:20-15:40 | Discussion | |
| 15:40-16:00 | Break | |
| | SESSION 6– ASSESSING VACCINES IN CLINICAL TRIALS (II) | Chairperson: Hanna Nohynek |
| 16:00-16:30 | Introduction to statistical aspects of clinical trials 2- Statistical assessment of phase 3 trials - including new methods to measure efficacy e.g. ebola-VSV, LAIV | Peter Smith , LSHTM, UK |
| 16:30-16:50 | Discussion | |
| 16:50-19:00 | Small group exercise #2: Designing and analyzing the results of selected phase III trials | Objective: To understand how to critically appraise and compare phase III trial results |
| | Introduction to the Group Work Exercise | Hanna Nohynek |
| | Five Groups | Facilitators: Edwin Asturias, Hanna Nohynek, Penny Heaton, Peter Smith, Kari Johansen |

| | | |
|-------------|--|---|
| | SATURDAY 18 MAY 2019 | Theme Coordinator: Kari Johansen (European Centre for Disease Prevention and Control, Stockholm, Sweden) |
| | SESSION 7 - ETHICAL ISSUES Ethical considerations related to vaccine trials and implementation of vaccines in organized programs - available principles, guidelines and frameworks | Chairperson: Kari Johansen (ECDC) |
| 09:00-09:45 | Principles, guidelines and frameworks for ethical considerations in clinical trials of vaccines | Catherine Slack , University of KwaZulu-Natal, South Africa |
| 09:45-10:30 | Applied ethics in immunization programs and practice | Noni McDonald , Dalhousie University, Halifax, Canada |
| 10:30-10:40 | Pick up and bring coffee/tea/fruit to group exercise | |
| 10:40-13:00 | Small group exercise 3: ETHICAL CONSIDERATIONS IN MALARIA VACCINE TRIALS | Coordinated by Kari Johansen, Betty Dodet (Dodet Bioscience, France) and Catherine Slack |
| | Six Groups Facilitators: Catherine Slack, Betty Dodet, Noni McDonald, Kari Johansen, Pieter Neels | |
| 13:00 | Lunch | |

| | | Theme Coordinator: Mark Miller (NIH) |
|-------------|---|---|
| | MONDAY 20 MAY 2019 | |
| 08:40-09:00 | Report on Ethics session | Catherine Slack , University of KwaZulu-Natal, South Africa |
| | SESSION 8.1 - INTRODUCING NEW VACCINES INTO VACCINATION PROGRAMMES (1) | Chairperson: Hanna Nohynek , THL, Finland |
| 09:00-09:30 | Disease burden and the public health value of vaccines | Annelies Wilder-Smith , Consultant, WHO |
| 09:30-09:50 | Discussion | |
| 09:50-10:20 | Health economics (including modelling) as a tool in analyzing vaccine policy options | Mark Miller , NIH, USA |
| 10:20-10:50 | Discussion | |
| 10:50-11:10 | Break | |
| 11:10-11:40 | Challenges and solutions in making evidence-based national vaccination policies and recommendations | Philippe Duclos , ADVAC |
| 11:40-12:00 | Discussion | |
| 12:00-12:40 | Dengue vaccines | Anna Durbin , Johns Hopkins B. School of Public Health, Baltimore, USA |
| 12:40-13:00 | Discussion | |
| 13:00-14:00 | Lunch | |
| 14:00-14:30 | Response to polysaccharides and conjugates vaccines: basic aspects | David Goldblatt , University College London, UK |
| 14:30-14:50 | Discussion | |
| 14:50-15:20 | Pneumococcal conjugate vaccines: Available vaccines for children and adults: Efficacy and limitations | Moderator: Hanna Nohynek Ron Dagan , Soroka Medical Center, Beer Sheva, Israel |
| 15:20-15:50 | Existing and potential vaccination strategies | Keith Klugman , Bill & Melinda Gates Foundation, USA |
| 15:50-16:10 | Discussion | |
| 16:10-16:30 | Break | |
| 16:30-17:00 | Non-specific effects of vaccines | Nigel Curtis , The Royal Children's Hospital, Melbourne |
| 17:00-17:20 | Discussion | |
| 17:20-18:40 | Debate: Does a vaccine have to protect against a VPD that kills to matter to politicians and parents? | Chair: Ron Dagan , Soroka Medical Center, Beer Sheva, Israel |

| TUESDAY 21 MAY 2019 | | Theme Coordinator : Mark Miller (NIH) |
|----------------------------|--|---|
| | SESSION 8.2 - INTRODUCING NEW VACCINES INTO VACCINATION PROGRAMMES (2) | Chairperson: Bernard Fritzell , Bordeaux, France |
| 09:00-09:40 | Influenza biology, new vaccines and vaccination strategies for different age groups | Kathy Neuzil , Center for Vaccine Development, University of Maryland, Baltimore, USA |
| 09:40-10:00 | Discussion | |
| 10:00-10:40 | Vaccine responses and efficacy in the elderly (including the specific example of the Zoster vaccine) | Keipp Talbot , Vanderbilt University, USA |
| 10:40-11:00 | Discussion | |
| 11:00-11:20 | Break | |
| 11:20-12:00 | Special lecture: The population biology of bacterial pathogens and its importance for vaccination strategies | Martin Maiden , Oxford University, UK |
| 12:00-12:20 | Discussion | |
| 12:20-13:30 | Lunch | |
| 13:30-14:10 | Meningococcal vaccines | Ray Borrow , Public Health England, UK |
| 14:10-14:30 | Discussion | |
| 14:30-15:00 | Success and challenges with rotavirus and norovirus vaccines | Umesh Parashar , Centers for Disease Control, Atlanta, USA |
| 15:00-15:20 | Discussion | |
| 15:20-15:40 | Break | |
| 15:40-17:10 | Small group exercise 4: Decision-making for the evaluation and impact assessment of new vaccines introduced in selected countries: safety and effectiveness | Chairperson: Bernard Fritzell , BFL Conseils, Bordeaux, France Organized by Kari Johansen and Hanna Nohynek |
| | Objective: To learn what facts are needed in a decision-making process and how other factors influence the outcome 6 Groups Vaccines: Rotavirus, HPV, Influenza, Dengue, Shingles, Men B | Facilitators: Mark Miller, Hanna Nohynek, Kari Johansen, Edwin Asturias, Brad Gessner, Keipp Talbot, Umesh Parashar, Kathy Neuzil, Ray Borrow |
| 17:10-17:40 | History of Vaccines and Vaccination | Stanley Plotkin , University of Pennsylvania, USA |
| 17:40-18:00 | Discussion | |
| 18:00 | Soccer game North vs South of the World | |

| | | Theme Coordinator: Edwin Asturias |
|-------------|--|---|
| | WEDNESDAY 22 MAY 2019 | |
| | SESSION 9 - SELECTING APPROPRIATE VACCINATION STRATEGIES | Chairperson: Edwin Asturias and Janet Englund |
| | 1. Vaccination and pregnancy | |
| 08:45-09:30 | Scientific basis, main issues and applications | Janet Englund , Children's Hospital and Regional Medical Center, Seattle, USA |
| 09:30-09:50 | Discussion | |
| | 2. Vaccination in early life | |
| 09:50-10:20 | Advantages and limitations | Claire-Anne Siegrist , University of Geneva |
| 10:20-10:40 | Discussion | |
| 10:40-11:00 | Break | |
| | 3. Vaccination schedules | |
| 11:00-11:30 | Past, present and future - is there some rationale? | Edwin Asturias , Children's Hospital Colorado, USA |
| 11:30-11:50 | Discussion | |
| | Special lecture | |
| 11:50-12:30 | Impact of vaccination on disease epidemiology | Roy Anderson , Director, London Centre for Neglected Tropical Disease Research, Imperial College, London |
| 12:30-12:50 | Discussion | |
| 12:50-16:00 | Parallel working group sessions (with sandwich lunch) | |
| | 1. National decision-making for immunization programmes | Christoph Steffen , WHO and Philippe Duclos , ADVAC |
| | 2. Clinical vaccinology: patients' problem solving | Claire-Anne Siegrist and Alessandro Diana , University of Geneva |
| | 3. New approaches towards vaccination e-registries | Kari Johansen , ECDC, Sweden and Carolina Danovaro , WHO |
| 16:00-16:20 | Break | |
| | Special lecture: THE 12th PLOTKIN LECTURE: | |
| 16:20-16:30 | Introduction and Chair | Edwin Asturias , Children's Hospital Colorado, USA |
| 16:30-17:15 | CEPI and emerging infections | Richard Hatchett , CEPI |
| 17:15-17:45 | Discussion | |
| 18:00 | Departure to Château de Menthon Visit and special reception | |

| | | Theme Coordinator : Edwin Asturias |
|-------------|---|--|
| | THURSDAY 23 MAY 2019 | |
| | | Chairperson: Edwin Asturias |
| 09:00-09:40 | Vaccination in immune-compromised individuals, including HIV positive patients | Janet Englund , Children's Hospital and Regional Medical Center, Seattle, USA |
| 09:40-10:00 | Discussion | |
| | Special lectures: New vaccines | |
| 10:00-10:30 | HPV vaccines | Margaret Stanley , Cambridge University, UK |
| 10:30-10:50 | Discussion | |
| 10:50-11:10 | Break | |
| 11:10-11:40 | CMV vaccines in development | Stanley Plotkin , University of Pennsylvania, USA |
| 11:40-12:00 | Discussion | |
| 12:00-12:30 | Global challenges for pertussis vaccines | Kathy Edwards , Vanderbilt Vaccine Research Program, USA |
| 12:30-12:50 | Discussion | |
| 12:50-13:30 | Buffet Lunch | |
| 13:30-14:00 | HIV vaccines | Brigitte Autran , INSERM, France |
| 14:00-14:20 | Discussion | |
| | Outbreaks' control: Elimination and eradication strategies | Chair: Stanley Plotkin , University of Pennsylvania, USA |
| 14:20-15:00 | Immunization coverage gaps: overcoming the chronic challenges | Philippe Duclos , ADVAC |
| 15:00-15:20 | Discussion | |
| 15:20-15:40 | Break | |
| 15:40-16:10 | Polio | Ananda Bandyopadhyay , Bill & Melinda Gates Foundation, USA |
| 16:10-16:40 | Diphtheria, measles and rubella | Ann Lindstrand , WHO, Switzerland |
| 16:40-17:00 | Discussion | |
| 17:00-17:30 | Vaccine research in low and middle income countries: the example of rotavirus | Roger Glass , Fogarty International Center, Bethesda. USA |
| 17:30-17:50 | Discussion | |
| 17:50-18:20 | Highlights from ADVAC 20 | Romina Libster , USA, Vanderbilt University |
| 18:20 | CME credits Diploma ceremony | Stanley Plotkin, Alain Mérieux and Philippe Duclos |

| | | |
|-------------|---|--|
| | FRIDAY 24 MAY 2019 | Thematic supervisor: Edwin Asturias |
| | SESSION 10: FACING THE MEDIA | Chairperson: Edwin Asturias |
| 08:30-12:45 | Interactive session | Deborah Hall , Broadcaster and Media Affairs Consultant, London, UK |
| | Introduction to media dynamics: How to best deliver vaccinology-related messages to different interest groups | |
| 10:30-10:50 | Break | |
| | Introduction to media dynamics: How to best deliver vaccinology-related messages to different interest groups (continued) | |
| 12:45 | Closure of the Course and Lunch | |