

21st ADVANCED COURSE OF VACCINOLOGY - 2021

Due to the COVID crisis, this 21st edition of ADVAC will be held in a virtual interactive mode. As the course will be orchestrated out of Les Pensières Centre for Global Health, Paris time is used.

| SUNDAY 9 MAY 2021 | | |
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| 13:00-13:10 | Opening | Alain Mérieux , President, Fondation Mérieux |
| 13:10-13:30 | Presentation of the Course and objectives | Philippe Duclos , Director, ADVAC |
| SESSION 1a - THE MULTIFACETED NATURE OF VACCINOLOGY | | Chairperson: Adam Finn , University of Bristol, UK |
| 13:30-13:55 | Opening Lecture: How to develop a new program of immunization | David Salisbury , former Director of Immunisation, Department of Health, UK, Centre on Global Health Security, UK |
| 13:55-14:15 | Discussion | |
| 14:15-15:00 | Break | |
| 15:00-17:00 | Self-presentation of individual participants (background, interests in life...) and support/facilitation team in Les Pensières | |

| MONDAY 10 MAY 2021 | | |
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| SESSION 1a - THE MULTIFACETED NATURE OF VACCINOLOGY (ctd.) | | Chairperson: Adam Finn , University of Bristol, UK |
| 13:00-13:25 | Access to vaccination in GAVI eligible countries and at global level | Aurelia Nguyen , GAVI Alliance, Geneva |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | A global perspective on the regulation of vaccines | Norman Baylor , Biologics Consulting Inc., USA |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | The challenge of malaria vaccines and of their potential introduction | Mary Hamel , WHO, Geneva |
| 14:55-15:15 | Discussion | |
| 15:15-16:00 | Break | |
| 16:00-17:30 | Session 1b: Special lectures from Industry | |
| 17:30-18:30 | Debate on mandatory vs voluntary vaccination | Chaired by Hanna Nohynek , National Institute for Health and Welfare, Helsinki Adam Finn , University of Bristol, UK & Saad Omer , Yale University, USA |

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| | SESSION 1b - Special lectures from Industry | |
| 16:00-16:25 | Role of LMIC vaccine industry for meeting global needs | Suresh Jadhav , Executive Director, Serum Institute of India, Pune, India |
| 16:25-16:45 | Discussion | |
| 16:45-17:10 | Development and production of vaccines for global use: the role of vaccine industry | Luis Jodar , Chief Medical and Scientific Affairs Officer, Pfizer Inc. USA |
| 17:10-17:30 | Discussion | |

| TUESDAY 11 MAY 2021 | | |
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| SESSION 2 - HOW VACCINES WORK | | Chairperson: Daniel Pinschewer, University of Basel, Switzerland |
| 13:00-13:25 | 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 |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | What a vaccinologist should know about the basic aspects of immunological responses (b) T-cell responses | Claire-Anne Siegrist, University of Geneva |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Use and limitations of correlates of immunity in vaccinology | Andrew Pollard, University of Oxford, UK |
| 14:55-15:15 | Discussion | |
| 15:15-16:00 | Break | |
| 16:00-16:25 | Vaccines and mucosal immunity | Adam Finn, University of Bristol, UK |
| 16:25-16:45 | Discussion | |
| 16:45-17:30 | Vaccines and immunological memory Quiz and general discussion | Claire-Anne Siegrist, University of Geneva |
| 17:30-17:55 | Immunological memory | Rafi Ahmed, Emory University, USA |
| 17:55-18:15 | Discussion | |

| WEDNESDAY 12 MAY 2021 | | |
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| 13:00-13:25 | Advances in vaccine and immunization technologies | Cristina Cassetti , NIH-NIAID, USA |
| 13:25-13:45 | Discussion | |
| | SESSION 3 - DECISION-MAKING IN VACCINE RESEARCH AND PRECLINICAL DEVELOPMENT | Chairperson: Emily Erbeiding , Director, DMID, NIH, USA |
| 13:45-14:10 | How do vaccines cause adverse events? | Saad Omer , Yale University, New Haven, USA |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Vaccine adjuvants | Martin Friede , WHO, Geneva |
| 14:55-15:15 | Discussion | |
| 15:15-16:00 | Break | |
| 16:00-16:25 | From pre-clinical research to vaccine development: Examples of go-no-go decisions | Veronica Gambillara , GlycoEra AG, Switzerland |
| 16:25-16:45 | Discussion | |
| 16:45-17:10 | The complexity of quality control in vaccine manufacturing | Philippe Juvin , Sanofi Pasteur, Lyon, France |
| 17:10-17:30 | Discussion | |
| 17:30-18:30 | Regulatory considerations A round-table debate | Chair: Emily Erbeiding , Director, DMID/NIAID, USA Norman Baylor , Biologics Consulting Group, Inc., USA, Pieter Neels , Vaccine-advice, Belgium, Saeedeh Fakhrzadh , Food and Drug Administration, Iran, Ozzie Berger , GSK and David Greenberg , Sanofi Pasteur |

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| | THURSDAY 13 MAY 2021 | |
| | SESSION 4 - ASSESSING VACCINES IN CLINICAL TRIALS (I) | Chairperson: Hanna Nohynek , National Institute for Health and Welfare, Helsinki, Finland |
| 13:00-13:25 | Clinical trials: an overview of issues to be considered | Myron Levine , University of Maryland, USA |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | Introduction to statistical aspects of clinical trials 1- Defining sample size | Peter Smith , London School of Hygiene and Tropical Medicine, UK |
| 14:10-14:30 | Discussion | |
| 14.30-14.55 | Assessing herd protection and vaccine effectiveness (and use for licensure) | John Clemens , International Centre for Diarrheal Disease Research, Bangladesh (icddr,b) |
| 14:55-15:15 | Discussion | |
| 15:15-16:00 | Break | |
| 16:00-17:45 | How to design, recruit volunteers for, and analyze the results of selected phase II trials Small group exercise 1: Seven groups- Themes: Group 1 <i>S. aureus</i> Group 2 Ebola Group 3 Dengue Group 4 GBS Group 5 RSV Group 6 Men B Group 7 Coronavirus | Facilitators: Veronica Gambillara Pieter Neels Norman Baylor Edwin Asturias Kari Johansen Adam Finn Emily Erbeling |
| 17:45-18:25 | THE 5th LAMBERT LECTURE Interactions between the immune system and the microbiota | Yasmine Belkaid , NIH/NIAID, USA |
| 18:25-18:45 | Discussion | |

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| | FRIDAY 14 MAY 2021 | |
| | SESSION 5 - VACCINE SAFETY - ASSESSMENT OF ADVERSE EFFECTS | Chairperson: Kari Johansen, EDCD |
| 13:00-13:25 | Lessons from previous adverse effects of vaccination and assessment of causal relationships | Madhav Balakrishnan, WHO, Geneva |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | Vaccination and immune-mediated diseases | Paul-Henri Lambert, University of Geneva |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Population-based post-licensure surveillance | Nick Andrews, Public Health England, UK |
| 14:55-15:15 | Discussion | |
| 15:15-15:55 | Break | |
| | SESSION 6– ASSESSING VACCINES IN CLINICAL TRIALS (II) | Chairperson: Hanna Nohynek, National Institute for Health and Welfare, Helsinki, Finland |
| 15:55-16:20 | 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 |
| 16:20-16:40 | Discussion | |
| 16:40-17:05 | Introduction to statistical aspects of clinical trials 2- Statistical assessment and reporting of phase 3 trials | Peter Smith, LSHTM, UK |
| 17:05-17:25 | Discussion | |
| 17:25-19:10 | Small group exercise 2: Designing and analyzing the results of selected phase 3 trials | |
| | Introduction to the Group Work Exercise | Hanna Nohynek, National Institute for Health and Welfare, Helsinki, Finland |
| | Seven groups | Facilitators: Nick Andrews, Brad Gessner, Penny Heaton, Kari Johansen, Pieter Neels, Peter Smith |

| SATURDAY 15 MAY 2021 | | |
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| | SESSION 5 - VACCINE SAFETY - ASSESSMENT OF ADVERSE EFFECTS (Ctd) | Chairperson: Kari Johansen, ECDC |
| 13:00-13:25 | Vaccination and narcolepsy | Hanna Nohynek, National Institute for Health and Welfare, Helsinki, Finland |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | Immunization safety in low and middle income country vaccination programs | Philippe Duclos, ADVAC |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Addressing vaccine hesitancy | Noni McDonald, Dalhousie University, Halifax, Canada |
| 14:55-15:15 | Discussion | |
| 15.15-16:00 | Break | |
| | 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 |
| 16:00-16:25 | Principles, guidelines and frameworks for ethical considerations in clinical trials of vaccines | Catherine Slack, University of KwaZulu-Natal, South Africa |
| 16:25-16:45 | Discussion | |
| 16:45-17:10 | Applied ethics in immunization programs and practice | Noni McDonald, Dalhousie University, Halifax, Canada |
| 17:10-17:30 | Discussion | |
| 17:30-19:15 | Small group exercise 3: Ethical considerations in COVID vaccine trials | Coordinated by Kari Johansen, Betty Dodet and Catherine Slack |
| | Seven groups | Facilitators: Catherine Slack, Betty Dodet (Dodet Bioscience, France), Noni McDonald, Kari Johansen, Pieter Neels, Adam Finn, Romina Libster |

| MONDAY 17 MAY 2021 | | |
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| | SESSION 8 - INTRODUCING NEW VACCINES INTO VACCINATION PROGRAMMES | Chairperson: Anna Durbin , Johns Hopkins B. School of Public Health, Baltimore, USA |
| 13:00-13:25 | Disease burden and the public health value of vaccines | Annelies Wilder-Smith , Consultant, WHO |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | Health economics (including modelling) as a tool in analyzing vaccine policy options | Mark Miller , NIH, USA |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Challenges and solutions in making evidence-based national vaccination policies and recommendations | Philippe Duclos , ADVAC |
| 14:55-15:15 | Discussion | |
| 15:15-16:00 | Break | |
| 16:00-16:25 | Dengue vaccines | Anna Durbin , Johns Hopkins B. School of Public Health, Baltimore, USA |
| 16:25-16:45 | Discussion | |
| 16:45-17:10 | Response to polysaccharide and conjugate vaccines: basic aspects | David Goldblatt , University College London, UK |
| 17:10-17:30 | Discussion | |
| 17:30-17:55 | Pneumococcal conjugate vaccines: Efficacy and limitations of available vaccines and existing and potential vaccination strategies | Ron Dagan , Soroka Medical Center, Beer Sheva, Israel Keith Klugman , Bill & Melinda Gates Foundation, USA |
| 17:55-18:15 | Discussion | |
| 18:15-19:15 | 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 Presenters: Keipp Talbot , Vanderbilt University, USA, Kari Johansen , ECDC, and Mark Miller NIH, USA |

| TUESDAY 18 MAY 2021 | | |
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| | SESSION 8 (Ctd) - INTRODUCING NEW VACCINES INTO VACCINATION PROGRAMMES | Chairperson: Roger Glass , Fogarty International Centre, NIH |
| 13:00-13:25 | HPV vaccines | Margaret Stanley , Cambridge University, UK |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | Meningococcal vaccines | Ray Borrow , Public Health England, UK |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Vaccine responses and efficacy in the elderly (including the specific example of the Zoster vaccine) | Keipp Talbot , Vanderbilt University, USA |
| 14:55-15:15 | Discussion | |
| 15:15-15:55 | Break | |
| 15:55-16:20 | Population biology of bacterial pathogens and its importance for vaccination strategies. | Richard Moxon , Oxford University, UK |
| 16:20-16:40 | Discussion | |
| 16:40-17:05 | Success and challenges with rotavirus and norovirus vaccines | Umesh Parashar , Centers for Disease Control, Atlanta, USA |
| 17:05-17:25 | Discussion | |
| 17:25-18:55 | <p>Small group exercise 4: Decision-making for the evaluation and impact assessment of new vaccines introduced in selected countries: safety and effectiveness</p> <p>Objective: To learn what facts are needed in a decision-making process and how other factors influence the outcome</p> <p>7 groups:</p> <p>Vaccines: Rotavirus, HPV, Coronavirus (two groups - one in LMIC country and one in high income country), Malaria, Shingles, Tdap</p> | <p>Organized by Kari Johansen and Hanna Nohynek</p> <p>Facilitators: Edwin Asturias, Janet Englund, Brad Gessner, Roger Glass, Kari Johansen, Mark Miller, Hanna Nohynek, Umesh Parashar, Keipp Talbot, Kathy Neuzil</p> |

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| | WEDNESDAY 19 MAY 2021 | |
| | SESSION 9 - SELECTING APPROPRIATE VACCINATION STRATEGIES | Chairperson: Janet Englund , Children's Hospital and Regional Medical Center, Seattle, USA |
| 13:00-13:25 | Vaccination in early life | Claire-Anne Siegrist , University of Geneva |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | Impact of vaccination on disease epidemiology | Roy Anderson , Director, London Centre for Neglected Tropical Disease Research, Imperial College, London |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Vaccination and pregnancy: Scientific basis, main issues and applications | Janet Englund , Children's Hospital and Regional Medical Center, Seattle, USA |
| 14:55-15:15 | Discussion | |
| 15:15-16:00 | Break | |
| 16:00-18:00 | Parallel working group sessions | |
| | 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 | Nick Andrews , Public Health England, UK, Carolina Danovaro , WHO Geneva, and Kari Johansen , ECDC, Sweden, |
| | 4. Cold Chain management | Suleymane Kone , WHO Geneva and Collins Tabu , Immunization Manager, Kenya |
| 18:00-18:25 | Vaccination in immuno-compromised individuals, including HIV positive patients | Janet Englund , Children's Hospital and Regional Medical Center, Seattle, USA |
| 18:25-18:45 | Discussion | |

| THURSDAY 20 MAY 2021 | | |
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| | SESSION 9 - SELECTING APPROPRIATE VACCINATION STRATEGIES (ctd) | Chairperson: Janet Englund , Children's Hospital and Regional Medical Center, Seattle, USA |
| 13:00-13:25 | Non-specific effects of vaccines | Nigel Curtis , The Royal Children's Hospital, Melbourne |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | Vaccination schedules: Past, present and future - is there some rationale? | Edwin Asturias , Children's Hospital Colorado, USA |
| 14:10-14:30 | Discussion | |
| 14:30-15:05 | Break | |
| 15:05-15:30 | Influenza biology, new vaccines and vaccination strategies for different age groups | Kathy Neuzil , Center for Vaccine Development, University of Maryland, Baltimore, USA |
| 15:30-15:50 | Discussion | |
| | SESSION 10: VACCINES UNDER DEVELOPMENT | Chairperson: Edwin Asturias , Children's Hospital Colorado, USA |
| 15:50-16:30 | History of vaccines and vaccination | Stanley Plotkin , University of Pennsylvania, USA |
| 16:30-16:50 | Discussion | |
| | Special lecture: THE 13TH PLOTKIN LECTURE | |
| 16:50-17:00 | Introduction and Chair | Edwin Asturias , Children's Hospital Colorado, USA |
| 17:00-17:40 | Yellow fever | Thomas Monath , Crozet BioPharma LLC |
| 17:40-18:00 | Discussion | |
| 18:00-18:25 | Vaccines against epidemic and orphan diseases: How new technologies can change vaccine development | Barney Graham , Vaccine Research Center, NIAID, NIH, Bethesda, USA |
| 18:25-18:45 | Discussion | |

| FRIDAY 21 MAY 2021 | | |
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| | SESSION 10: VACCINES UNDER DEVELOPMENT (Ctd) | Chairperson: Edwin Asturias, Children's Hospital Colorado, USA |
| 13:00-13:25 | Available COVID vaccines with focus on effectiveness and safety, what we know and what we do not know. | Melanie Saville, CEPI, UK |
| 13:25-13:45 | Discussion | |
| 13:45-14:10 | HIV vaccines | Brigitte Autran, INSERM, France |
| 14:10-14:30 | Discussion | |
| 14:30-14:55 | Challenges and prospects for new tuberculosis vaccines | Helen McShane, University of Oxford, UK |
| 14:55-15:15 | Discussion | |
| 15:15-16:00 | Break | |
| 16:00-16:25 | Global challenges for pertussis vaccines | Kathy Edwards, Vanderbilt Vaccine Research Program, USA |
| 16:25-16:45 | Discussion | |
| | SESSION 11: OUTBREAKS' CONTROL: ELIMINATION AND ERADICATION STRATEGIES | Chairperson: Stanley Plotkin, University of Pennsylvania, USA |
| 16:45-17:10 | Immunization coverage gaps: overcoming the chronic challenges | Kate O'Brien, WHO, Geneva |
| 17:10-17:30 | Discussion | |
| 17:30-17:55 | Polio | Ananda Bandyopadhyay, Bill & Melinda Gates Foundation, USA |
| 17:55-18:15 | Discussion | |
| 18:15-18:40 | Diphtheria, measles and rubella | Ann Lindstrand, WHO, Switzerland |
| 18:40-19:00 | Discussion | |

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| | SATURDAY 22 MAY 2021 | |
| 13:00-13:25 | Special lecture: Cancer vaccines | Olivier Michielin , Centre hospitalier universitaire vaudois, Suisse |
| 13:25-13:45 | Discussion | |
| | SESSION 12: RECAP | |
| 13:45-14:30 | Answers to important questions received beforehand from participants | Panel session: Selected faculty members based on key questions raised by the participants |
| 14:30-15:10 | Highlights from ADVAC 2021 | Romina Libster , Fundación INFANT/ National Scientific and Technical Research Council/ Vanderbilt University |

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| | MONDAY 24 MAY 2021 | |
| | SESSION 13: FACING THE MEDIA AND ENSURING VIRTUAL IMPACT: WHAT THE VACCINOLOGIST SHOULD KNOW IN THE CONTEXT OF VACCINE HESITANCY AND ANTI-IMMUNIZATION LOBBY (SCHEDULED IN THREE SESSIONS ACCORDING TO DIFFERENT TIME ZONES (THREE REPEATED 2 TIMES 2 HOURS SESSIONS ON DIFFERENT DAYS) | Chairperson: Philippe Duclos , University of Geneva |
| 09:00-11:00 or 14:00-16:00 or 18:00-20:00 | FIRST PART: Interactive session Introduction to media dynamics: How to best deliver vaccinology-related messages to different interest groups | Deborah Hall , Broadcaster and Media Affairs Consultant, London, UK |
| | TUESDAY 25 MAY 2021 | |
| 13:00-15:00 | Debate: From ideas to implementation: The realities of funding for vaccine research and development (RELATE TO SESSION 3) | Emily Erbeling , DMID, NIH, USA, Veronica Gambillara , GlycoEra AG, Switzerland, Penny Heaton , Bill & Melinda Gates Medical Research Institute, Seattle (USA) and selected ADVAC participants |
| | WEDNESDAY 26 MAY 2021 | |
| 13:00-14:30 | Debate: Dealing with human challenge studies (RELATE TO SESSION 4) | Introduction on Challenge trials by Penny Heaton 20 mins. Debate between Joris Vandeputte , IABS and Pieter Neels , Vaccine-advice, Belgium |
| 14:30-16:30 | Alumni presentations | Ann Lindstrand , WHO Shabir Madhi , University of the Witwatersrand, South Africa Benoit Soubeyrand , Blossom Vaccinology, France |
| | THURSDAY 27MAY 2021 | |
| | SESSION 13: FACING THE MEDIA AND ENSURING VIRTUAL IMPACT: WHAT THE VACCINOLOGIST SHOULD KNOW IN THE CONTEXT OF VACCINE HESITANCY AND ANTI-IMMUNIZATION LOBBY | Chairperson: Philippe Duclos , University of Geneva |
| 09:00-11:00 or 14:00-16:00 or 18:00-20:00 | SECOND PART: Interactive session Introduction to media dynamics: How to best deliver vaccinology-related messages to different interest groups (continued) | Deborah Hall , Broadcaster and Media Affairs Consultant, London, UK |