**IBA course Vaccinology (VAC901)**

Time: Week 41, 10th – 13th October 2022, Level: PhD Proposed ECTs: 2

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| The course is intended for PhD-students and post-docs working in immunology or vaccine related projects. It will provide an introduction to the history of vaccines, vaccine development, immunological mechanisms of protection, clinical trials, adjuvants and mode of action of different types of vaccines. It will be held as a combination of lectures and student assignments.Presence is **mandatory** during whole course (physically). All students prepare and present a selected topic during the course. There will be focused discussions in smaller groups on ethical and strategic issues. |

**Physical presence:** Conferanse rom (3B109F) all days except Tuesday. On Tuesday we use group room 9A109bP. Both rooms are in Bygg for biologisk basalfag.

**Preparatory tasks**

Read CDC Pink Book & Nature reviews article. Prepare one 15 minute lecture on a given topic.

**Grading Scale**

Pass / Failed. Presence, active participation. Evaluation of student presentations.

**Reading List**

The syllabus will be covered by lectures, a digital CDC free text book and one review article.

* Epidemiology and Prevention of Vaccine-Preventable Diseases. The Pink Book: Course Textbook - 13th Edition (2015). 23 chapters, most were updated 2020. <https://www.cdc.gov/vaccines/pubs/pinkbook/chapters.html>
* Pollard A & Bijker EM. A guide to vaccinology: from basic principles to new developments. Nature reviews – immunology. Feb 2021. Vol 21 page 83-100. <https://doi.org/10.1038/s41577-020-00479-7>

**Local course committee**

Kurt Hanevik

Rebecca Cox

Amit Bansal

Camilla Ekanger

**Tentative preliminary Program**

**Monday, October 10th**

08:30 **Welcome and logistics,** division into student work groups

9:15 **Bjarne Bjorvatn, Professor emeritus, UiB –** Historical perspective on vaccine development

Break

10:15 **Einar Kristoffersen, MD, PhD, Haukeland University Hospital** - Immunological background for how infection and vaccines provide protection against future infection

11:00 Break

**Student presentation x 3**

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| --- | --- |
| 11:10  |  |
|  | Discussion |
| 11:27  |  |
|  | Discussion |
| 11:45  |  |
|  | Discusion |

12:05 Lunch

13:00 **Else Bijker, Postdoctoral researcher, Oxford Vaccine Group, University of Oxford** – Vaccine types overview – to be confirmed

13:45 Break

14:00 **Stanley Plotkin, Professor emeritus of Virology, University of Pennsylvania** – Correlates of vaccine-induced immunity

15:00 Break

15:15 **Bali Pulendran, Professor, Stanford University** - Important role of adjuvants in modulating/enhancing vaccine induced immunity

16:15 End

**Tuesday, October 11th**

08:30 **Gunnveig Grødeland, Senior researcher, Institutt for klinisk medisin, UiO** - Nucleic acid vaccines

09:15 Break

09:30 **Gunnveig Grødeland, Senior researcher, Institutt for klinisk medisin, UiO** – Preclinical vaccine development and animal models.

10:15 Break

**Student presentation** – models, design and DTP vaccine

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| 10:30  |  |
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| 10:49  |  |
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| 11:08 |  |
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| 11:25 |  |
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| 11:43 |  |
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12:00 Lunch

**Student presentations** - x3 Vaccines against viruses

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| 13:00  |  |
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| 13:17 |  |
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| 13:35 |  |

14:00 **Kurt Hanevik, ass. professor, K2, UiB** - Controlled human infection studies in theory and practice

14:45 Break 15 minutes

15:00 **Florian Krammer, Professor, Department of Microbiology, Icahn School of Medicine, Mount Sinai** – Antigen discovery & vaccine development

16:00 End

**Wednesday, October 12th**

**Student presentations**

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| 08:30  |  |
| 08:47 |  |

Break

09:15 **Rebecca Cox, Professor, K2, UiB** – Influenza vaccine + COVID vaccines

10:05 Break

**Student presentation -** Vaccines against viruses & bacteria

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| 10:15  |  |
| 10:32 |  |
| 10:50 |  |
| 10.07 |  |
| 11:10 |  |
| 11:27 |  |
| 11:45 |  |

12:02 Lunch

**Student presentation** - Vaccines against Salmon lice

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| 13:00  |  |

13:20 Break - 10 minutes

13:30 Vaccines for Diarrheal diseases – presenter to be confirmed

14:15 Fish vaccines – presenter to be confirmed

15:00 Break – 10 minutes

Student presentation moved to Thursday 11:00

15:25 Break - 5 minutes

15:30 **Tehmina Mustafa, CIH, UiB** - BCG vaccine

16:00 End

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| *16:30 Guided tour of Leprosy museum, followed by course dinner*  |

**Thursday 13th**

08:30 **Ole Erik Iversen, Professor emeritus, UiB** - HPV vaccine

09:00 Break

09:10 **Svein Rune Andersen, Scientific Director, Norwegian Medicines Agency** – Clinical evaluation and licensing of vaccines, and post-licensing surveillance – to be confirmed

10:00 Break

10:15 Vaccine prioritization – to be confirmed

10:55 Break

**Student presentations -** Vaccination strategies & challenges to success

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| 11:05 |  |
| 11:22 |  |
| 11:40 |  |

12:00 Lunch

13:00 **Group activity** – Vaccine skepticism

14:00 Interactive test and course evaluation

15:30 End