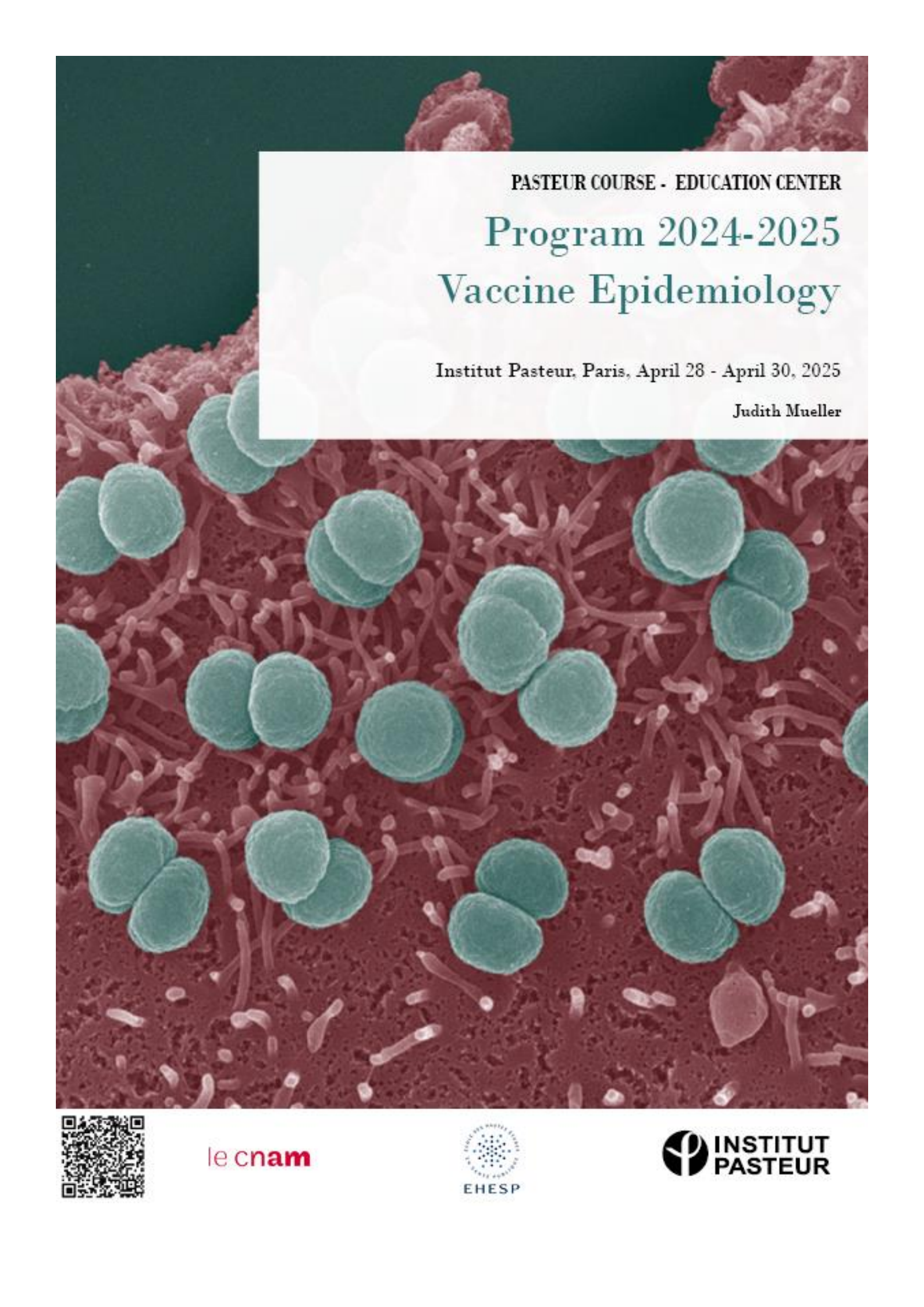




PASTEUR COURSE - EDUCATION CENTER

Program 2024-2025

Vaccine Epidemiology

Institut Pasteur, Paris, April 28 - April 30, 2025

Judith Mueller



le **cnam**



Cours Pasteur

Vaccine Epidemiology

Course director

Judith MUELLER

EHESP French School of Public Health
Institut Pasteur

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APRIL 28TH TO APRIL 30TH, 2025

EDUCATION CENTER OF INSTITUT PASTEUR

(PAVILLON EMILE ROUX, BUILDING 10 - ROOM 2)

28, RUE DU DOCTEUR ROUX, 75015 PARIS

This course targets Mastère, Master and PhD students who wish to consolidate their knowledge and skills in epidemiological methods applied to the control of infectious diseases and clinical prevention. Within this scope, the course focusses on vaccinations against endemic or emerging infectious diseases. At the end of the course, students should be able to :

- Explain different vaccine types and their epidemiological specificities (efficacy, effectiveness against disease/infection/transmission, pharmaco-epidemiology)
- Explain classic and innovative methods that are used in phase III et IV studies (including clinical trials, observational studies and modeling)
- Discuss biases that are inherent to methods and designs, and propose strategies to mitigate these limits to study validity
- Explain the different facets of vaccine-induced indirect protection and its impact at the individual and population level, along with appropriate study designs
- Propose epidemiological studies that contribute to increase vaccine acceptance, including interventional research

The course requires reading articles in preparation of the sessions.

Each lecture is followed by a lab session to assure application to specific situations of vaccination programs.

Monday, April 28

9h00-9h30 Welcome

Administrative Department

9h30-11h00 Reminder on vaccines and their biomedical characteristics

Judith MUELLER
(Institut Pasteur, Paris)

11h15-12h45 Lab session

Judith MUELLER
(Institut Pasteur, Paris)

12h50 Photo

14h00-15h30 Review of epidemiological study designs and their typical biases, applied to vaccination

Judith MUELLER
(Institut Pasteur, Paris)

15h45-17h15 Lab session

Judith MUELLER
(Institut Pasteur, Paris)

Tuesday, April 29

9h30-11h00 Indirect protection induced by vaccination

Judith MUELLER
(Institut Pasteur, Paris)

11h15-12h45 Lab session

Judith MUELLER
(Institut Pasteur, Paris)

14h00-15h30 Modelling vaccine strategies and estimating impact, cost-effectiveness, number to be vaccinated and benefit-risk balance indicators

Judith MUELLER
(Institut Pasteur, Paris)

15h45-17h15 Lab session

Judith MUELLER
(Institut Pasteur, Paris)

Wednesday, April 30

9h30-11h00 Study designs that are specific to innovative designs

Judith MUELLER
(Institut Pasteur, Paris)

11h15-12h45 Lab session

Judith MUELLER
(Institut Pasteur, Paris)

14h00-15h30 Studies on vaccine acceptance

Judith MUELLER
(Institut Pasteur, Paris)

15h30 Pot de fin de cours / Social event

15h45-17h15 Lab session

Judith MUELLER
(Institut Pasteur, Paris)

17h00 Course evaluation / Survey

Sessions are structured around 90 minutes of lectures and 90 minutes in lab sessions.

The lab sessions use various modalities, such as calculation exercises, quizzes and article discussions.

ADMINISTRATIVE CONTACTS

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