

## VACCINES (7 H)

### Program :

1. Introduction
2. Brief history
3. The main principles of the immune system
  - 3.1. Innate immunity
  - 3.2. Acquired immunity
  - 3.3. The anatomy of the immune system
  - 3.4. Antigens
  - 3.5. Antibodies
  - 3.6. Inflammation
4. Passive immunity
  - 4.1. Passive administration of antibodies
  - 4.2. Immunity transmitted by the mother
  - 4.3. Adoptive transfer of cytotoxic T lymphocytes
5. Principles of vaccination
  - 5.1. Mass immunization
  - 5.2. How do vaccines work ?
6. Different vaccine approaches
  - 6.1. Vaccines based on killed organisms
  - 6.2. Attenuated organism-based vaccines
  - 6.3. Sub-unit" (protein) vaccines
  - 6.4. DNA vaccines
7. Vaccine strategies under consideration
  - 7.1. Parasite vaccines
  - 7.2. HIV vaccines
  - 7.3. Tumor vaccines
8. Current vaccines
  - 8.1. Vaccines used in Europe and the United States
  - 8.2. Case of meningitis vaccine development
  - 8.3. Immunization program for children
9. Adjuvants
  - 9.1. Molecular
  - 9.2. Cellular