

Bayesian Methods for Biomedical Research (BAYES)

From June 8th to June 10th, 2026 (3 days)
9:30 a.m. - 12:30 p.m. / 1:30 p.m. - 4:30 p.m.

Location: Isped, Carreire campus
University of Bordeaux

Teaching fees:

Individual inscription: 360 €

Institutional inscription: 900 €

Coordinator:

- Boris HEJBLUM (coordinator), Biostatistics Research Associate - Inserm U1219 SISTM team

Objectifs



[Module Video](#)
[Presentation](#)

- › Understand and assess a Bayesian modelling strategy, and discuss its underlying assumptions
- › Rigorously describe expert knowledge by a quantitative prior distribution
- › Perform a Bayesian regression using R, applied to meta-analysis
- › Put into perspective the results from a Bayesian analysis described in a scientific article

Programme

- › This course provides an introduction to Bayesian tools, with an emphasis on biostatistical applications, in order to familiarize students with such methods and their practical applications.
- › We will cover the following topics:
 - Bayesian modeling (prior, posterior, likelihood, Bayes theorem);
 - Bayesian estimation (Credibility Intervals, Maximum a Posteriori, Bayes factor);
 - Bayesian applications to meta-analyses;
 - Practical Bayesian Analysis with R and JAGS softwares;
 - Critical reading of medical publications.All concepts will be illustrated with real-life examples from the medical literature.

Requirements

To be able to follow this course, participants need both:

- › Some knowledge in statistics (most notably some familiarity with usual probability distributions, probability density functions, confidence intervals and Maximum Likelihood Estimation)
- › A practical knowledge of R programming (especially functional programming, for loops and "if" statements, vector allocation, linear regression).