

Introduction to Bayesian analysis for medical studies

Part I: Bayesian theory

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Bayesian vocabulary


- paradigm
- *a priori*
- *a posteriori*
- elicitation

Course objectives

1 **Familiarize** oneself with the **Bayesian framework**:

- 1 understand and assess a Bayesian modeling strategy, and discuss its underlying assumptions
- 2 rigorously describe expert knowledge by a quantitative prior distribution

2 **Study** and **perform** Bayesian analyses in **biomedical applications**:

- 1 understand, discuss and reproduce a Bayesian (re-)estimation of a Relative Risk
- 2 understand and perform a Bayesian meta-analysis using 
- 3 understand and explain an adaptive design for Phase I/II trials and the associated decision-rule

NB : this course is by no means exhaustive, and the curious reader will be referred to more complete works such as *The Bayesian Choice* by C Robert.