HARMONY
Novel tools for test evaluation and disease prevalence estimation
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COST
EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

COST ACTION CA18208

Diagnostic test evaluation with Bayesian Latent Class Models

Location: The Kingsley Hotel, Cork, Ireland

Dates: 17-18 November 2022

The event is a training school, part of the HARMONY COST Action 18208 training activities, with both didactic teaching and hands-on practical sessions on Bayesian Latent Class Models (BLCMs) for diagnostic test evaluation.

The following core topics will be covered:

1. Running basic models in JAGS
2. Introduction to Hui-Walter models
3. Multi-population models
4. Multi-test, multi-population models

Pre-course preparation work will also be provided as a prerequisite for attending the course. Prior experience of Bayesian statistics or latent class methods is not expected, but basic statistical knowledge and R programming skills are expected. Participants will have to bring their own-laptops.

The primary learning objective of the school is that participants understand how to implement these methods on their own data, both in terms of the practice of Markov chain Monte Carlo (MCMC) and how to interpret the results.

Trainers

Prof. Conor McAloon
University College Dublin

Prof. Locksley Messam
University College Dublin

Trainees

The training school is organized under funding from COST Association and financial support is provided according to COST rules*.

Twelve (12) participants will receive an official invitation from e-COST.

Where to Register: https://forms.gle/km1ywbguFvAD4Ypn7

Deadline to Register: Sunday 16 October 2022

For further details of the program, please contact Conor McAloon (conor.mcaloon@ucd.ie) or Locksley Messam (locksley.messam@ucd.ie). For information about financial support, please contact Eleftherios Meletis (emeletis@outlook.com).

*Financial support

The reimbursement of incurred accommodation, meals, and local travel expenses in the meeting country is paid as one item known as daily allowance **[Ireland 211 EUR/day]**. During the training school all participants have to sign the attendance list both days. More information on transport expenses (car travel, airplane/train/bus/ferry travel) can be found in Appendix 1 – Section 3.1. COST Annotated rules document.
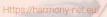
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Date	Start	End	Speaker(s)	Title
Thursday 17 November 2022			The Kingdon-Ward 1	
	9:00	10:15	Locksley Messam	Diagnostic tests and test evaluation
	10:15	11:15	Locksley Messam	Common methods of test evaluation and issues Introduction to latent class models
	11:15	11:45		Coffee break
	11:45	12:55	Conor McAloon and Locksley Messam	Introduction to running LCA models in R required R packages. Estimating Se and Sp using BLCA in R - demonstration
	12:55	14:00		Lunch Break
	14:00	15:00	Conor McAloon and Locksley Messam	Hands on training: Running a basic BLCA model - Two imperfect tests in 1 population
Friday 18 November 2022	9:00	10:15	Conor McAloon and Locksley Messam	Hands on training: Two imperfect tests in multiple populations
	10:15	11:15	Locksley Messam	Theory: Examining the assumptions of the BLCA model for diagnostic test evaluation in more detail
	11:15	11:45		Coffee break
	11:45	12:55	Conor McAloon and Locksley Messam	Hands on training: Two tests, multiple populations, conditional dependence between tests
	12:55	14:00		Lunch Break
	14:00	15:00	Conor McAloon and Locksley Messam	Hands on training: Three tests, multiple population, conditional dependence between tests