


# SPATIO-TEMPORAL MODELS WITH INLABRU

Noumea (New Caledonia) 9-12 March 2026

Jafet Belmont, Sara Martino and Janine Illian

## 1 Welcome to the course!

- Welcome to the `inlabru` workshop in New Caledonia!
- The aim of this workshop is to introduce you to a range of statistical modelling approaches, in particular the temporal, spatial and spatio-temporal modelling as implemented in the `inlabru` package.
- Workshop materials are available in the github repository

 Important! □

Please use the instructions provided [here](#) to install and check your installation *before* the course start.

## 2 Learning Objectives for the workshop

At the end of the workshop, participants will have an understanding of:

- the motivation for and the challenges of analysing and modelling spatial data
- statistical models used to analyse spatial and spatio-temporal data
- the implementation of these models in the `inlabru` package
- how to independently analyse spatial data with `inlabru`

## 3 Intended audience

The workshop aims to cater for participants with a range of different backgrounds, who is interested in analysing data with modern spatial and spatio-temporal statistical modelling approaches.

## 4 Prerequisites

Participants should be familiar with the R environment, and general statistical approaches for modelling such as regression, analysis of (co)variance, and generalized linear models.

No knowledge of R-INLA or `inlabru` is required.

## 5 Schedule

**NOTE** The schedule is indicative and some changes might come!

### 5.0.1 Day 1

Time	Topic
10:00 - 10:30	<b>Welcome and intro to the course</b>
10:30 - 11:30	<b>Session 1:</b> Introduction to inlabru
11:30 - 13:00	<b>Session 2:</b> Some practical tips on inlabru
13:00 - 14:30	Lunch break ☐
14:00 - 15:00	Practical Session 1 Practical Session 2
15:00 - 16:00	<b>Session 3:</b> Time Series Models

### 5.0.2 Day 2

Time	Topic
8:00 - 9:00	<b>Session 3 cont.:</b> Time Series Models
9:00 - 11:00	Practical Session 3
11:00 - 12:00	<b>Session 4:</b> Introduction to Spatial Statistics
12:00 - 13:00	Lunch
13:00 - 14:00	<b>Session 5:</b> Areal processes
14:00 - 15:00	<b>Session 6:</b> Geostatistics

### 5.0.3 Day 3

Time	Topic
8:00 - 09:00	<b>Session 7:</b> Point Processes
09:00 - 11:00	Practical Session 4 Practical Session 5
11:00 - 12:00	<b>Session 8:</b> Spatiotemporal models
12:00 - 13:00	Lunch break ☐
13:00 - 14:00	<b>Session 9:</b> Model comparison and evaluation
14:00 - 15:00	Practical Session 6

### 5.0.4 Day 4

Time	Topic
8:00 - 9:00	<b>Session 10:</b> Multi-likelihood/joint likelihood models
9:00 - 10:00	Practical Session 7
10:00 - 11:00	<b>Session 11:</b> Zero Inflated Models
12:00 - 13:00	Lunch ☐
13:00 - 14:00	Practical Session 7
14:00 - 15:00	Closing session and discussion

## 6 Licence

## 7 Citation

Belmont J., Martino S., Illian, J. F (2026). *inlabruCourseMarch2026: Course Materials for Noumea inlabru Course 10-14 March 2026*. <https://inlabru-courses.github.io/NewCaledonia2026/>

```
@Manual{Belmont2026inlabru,  
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  author = {Belmont, Jafet and Martino, Sara and Illian, Janine},  
  year = {2026},  
  url = {https://inlabru-courses.github.io/NewCaledonia2026/}  
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