



Spatial and Temporal Models in Epidemiology

Workshop at the FERAL Campus on the 8th and 9th of August, 2017

Workshop Overview

This two day workshop will cover the basics of spatial and temporal modelling and display of disease data. It is targeted at persons interested in learning about techniques in spatial epidemiology.

Please note: this is not a beginners workshop and participants are expected to know basic R programming and to have some familiarity with GIS.

The topics covered will be:

- ▷ Mapping disease and other environmental data in R (and a little QGIS).
- ▷ Predictive models of disease outbreak in R-classification and regression trees and other predictive models.
- ▷ Space Time Surveillance Models in R and SatScan.
- ▷ Neighbors and how the spatial components affect results.
- ▷ Creating Infographics in Impress.
- ▷ Working with Your Data: To help participants who already have data in an advanced stage to analyse and visualise their own data.

Each session will briefly cover the theory behind the technique, then all participants will follow along with an instructor in the software. Finally, each participant will then redo the analysis on a different data-set to make sure participant can "do it on their own".

Please watch this introductory video on the workshop: https://youtu.be/sq_Lx0h_DR4 for more details.

Software Requirements

Participants are required to bring their own lap-top computers with the latest versions of the software mentioned below. **Please install and test all the software before coming.**

- ▷ R <https://www.r-project.org>. Package for statistical computing and visualisation.
- ▷ QGIS <https://www.qgis.org>. GIS and basic remote-sensing.
- ▷ SatScan <https://www.satscan.org/>. Spatial, temporal and space-time data using the spatial, temporal, or space-time scan statistics. Used especially for disease surveillance for early detection of disease outbreaks.
- ▷ LibreOffice <https://www.libreoffice.org>. Open source office suite. You can use any other office suite with a spreadsheet and presentation package.
- ▷ RStudio <https://www.rstudio.com/products/rstudio/>. RStudio is an integrated development environment for R. It includes a console, syntax-highlighting editor, tools for plotting, history, debugging and workspace management.

Logistics

There is no fees for this workshop and participants will be provided tea and lunch. However participants need to make their own arrangements for travel and stay.

Outstation participants please note that Pondicherry is a busy tourist town and you will need to book hotel/guest house rooms well in advance. Pick up and drop from JIPMER bus stop to the FERAL campus will be arranged on request. The shuttle will leave from JIPMER bus stop at 08:30AM.

The workshop will be run at the FERAL Campus. The closest landmark is the Morattandi toll gate on the Pondicherry-Tindivannam highway.

The address of the FERAL Campus is:

170/3 Morattandi, Auroville Post.

Vanur Tk., Villupuram Dt.,

Tamil Nadu 605101.

Visit this link for directions: <http://feralindia.org/drupal/our-campus-morattandi-0>.