

Linear Mixed Models ViroiDoc training

This hybrid training in September 2026 is aimed for bioscience and biomedicine PhD students.

Participants will develop practical skills in **Linear Mixed Models (LMMs)**, with a focus on analysing complex clustered datasets. They will learn how to prepare data, fit mixed-models in R, and interpret the results. The training will be delivered in a hybrid format (online and in person), with a limited number of places available.

What: Linear Mixed Models – ViroiDoc transferable skills training

When: 7–10 September 2026, 9:00–13:00 CET ([Time Zone Converter](#))

Format: Hybrid

Where:

- **In person:** Biotechnical Faculty UL– Department of Agronomy Classroom A2, Jamnikarjeva 101, Ljubljana, Slovenia, [see map](#).
- **Online:** Zoom. *For ViroiDoc DCs only. The event link will be shared prior to the start of the training.*

Presented by Rok Blagus.

Register [HERE](#). NOTE: Registration is limited and will be accepted until all places have been filled, but no later than **1 September 2026**. Please register only if you intend to attend. If you cannot make it, please cancel as soon as possible to info@viroidoc.eu so someone else can take your place. Applicants will be notified by 3 September at the latest whether they can attend the training course.

This English-language training is free of charge for selected participants who have registered. It is part of the EU-funded ViroiDoc project. The training is organized by the University of Ljubljana, Faculty of Medicine in cooperation with Biotechnical Faculty.

More information: info@viroidoc.eu. *The organizer reserves the right to change the program.*

ViroiDoc Transferable skills training course
empowered for digital transformation

Linear Mixed Models (LMMs)

7–10 September 2026



Funded by
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Session overview and who should attend?

This training programme equips bioscience PhD students with practical skills in mixed-effects modelling in R. Participants will learn how to prepare the data and apply mixed-effects models to analyse complex, hierarchical, and/or clustered datasets. The programme also introduces verification of key model assumptions and extensions to Generalized Linear Mixed Models (GLMMs). Alternatives to mixed-effects models will also be presented.

Presenter

Dr. Rok Blagus, B.A. in Economics, is an Associate Professor at the Faculty of Medicine, University of Ljubljana, and at the Faculty of Mathematics, Natural Sciences, and Information Technologies, University of Primorska, where he works in the field of biostatistics. His research work focuses on the development of new methods, particularly for the analysis of correlated and high-dimensional data. He also teaches a range of statistics-related courses.

Learning objectives

Linear Mixed Models (LMMs) (16 h): Students will gain proficiency in understanding, fitting, and interpreting linear mixed models. They will be able to correctly model the fixed- and random-effects in data handling hierarchical and correlated data structures.

- **Data Manipulation for LMM in R** focuses preparing data for LMM analysis.
- With **Model fitting in R**, students learn how to fit complex mixed-effects models in R, in particular how to specify the fixed- and random-effects; this part contains modelling complex non-linear associations and extends to models with potentially heteroscedastic residual variability, residual correlation and multiple levels of random-effects.
- With **Model Interpretation** students learn to interpret the results of LMMs, including fixed and random effects, and variance components. They will understand how to make inferences from the models.
- **Model Assumptions** training covers the assumptions of LMMs, enabling students to assess the validity of the model and apply appropriate modifications when necessary. Extensions to generalized linear mixed models and alternative approaches will also be covered.

Prepare before the lecture

Prerequisites: Participants are expected to be proficient in R/R studio, R Markdown, and familiar with working in a command line.

Technical requirements:

- In-person participants should bring their own laptop with recent new version of web browser, e.g. Firefox, Chrome or Safari installed.
- Due to the complexity of the software installation process, the required R with necessary packages will be accessible exclusively through the MRIC IBMI server provided by the organizer.
- For online participants we recommend using the Zoom application installed on their computers.
- All other information will be provided within e-learning classroom.