**INTRODUCTION TO STATISTICS WITH R FOR BIOLOGICAL SCIENCES**

**COURSE PROGRAM**

**CIIMAR - 16 hours; 7-10 April 2025**

Session 1. 10:00 – 14:00 h (break from 11:45 to 12:15h)

1.1 Descriptive statistics

1.2 Probability distributions

1.3 Data exploration

1.4 How to deal with missing values

1.5 Exercises

Session 2. 10:00 – 14:00 h (break from 11:45 to 12:15h)

2.1 Contrast of hypothesis: parametric and non-parametric methods

2.2 Goodness of fit contrasts

2.3 Homogeneity contrasts

2.4 Exercises

Session 3. 10:00 – 14:00 h (break from 11:45 to 12:15h)

3.1 Linear regression

3.2 Non-linear regression

3.3 Non-parametric regression

3.4 Exercises

Session 4. 10:00 – 14:00 h (break from 11:45 to 12:15h)

4.1 Analysis of variance: foundations

4.2 Analysis of variance: worked example

4.3 Analysis of variance: repeated-measures and nested designs

4.4 Exercises