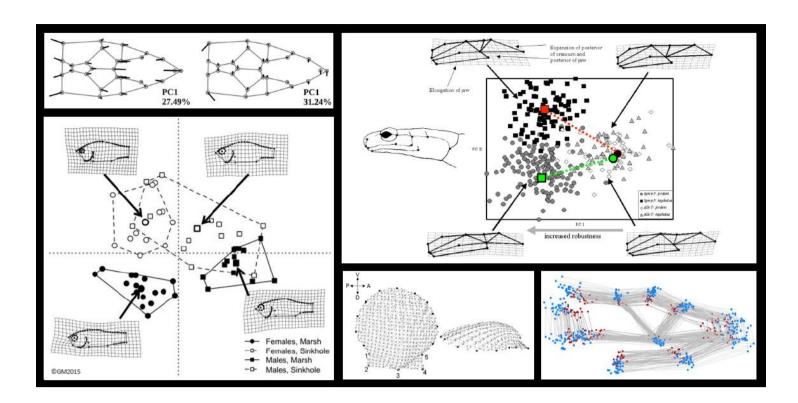# AN INTRODUCTION TO GEOMETRIC MORPHOMETRICS USING R

October 5-9, 2015 | CIBIO-InBIO, Vairão, Portugal

DETAILED SCHEDULE

The course will include both theoretical and practical sessions. During the theoretical session we will provide a comprehensive introduction to the methods of landmark-based geometric morphometrics, which aims at providing the participants with a solid theoretical background for understanding the procedures used in shape data analysis. Practical sessions will include worked examples, giving the participants the opportunity to gain practical experience in the treatment of shape data using the R package *geomorph* and other statistical routines in R. We will provide example datasets, but we encourage the participants to bring their own data for treatment.

Day 1: October 5, 2015 | Primary data
9:00-9:30   Introductions
9:30-10:30   Morphometrics: An Introduction
10:30-11:15   Coffee Break
11:15-12:30   Data acquisition
12:30-14:00   Lunch
14:00-15:30   Review of matrix algebra and multivariate statistics
15:30-16:00   Coffee Break
16:00-18:00   LAB

Day 2: October 6, 2015 | Generating shape variables
9:00-10:30   Superimposition
10:30-11:00   Coffee Break
11:00-12:30   Shape spaces and shape variables
12:30-14:00   Lunch
14:00-15:30   GPA with semilandmarks
15:30-16:00   Coffee Break
16:00-18:00   LAB

Day 3: October 7, 2015 | Analysis of Shape Variation I
9:00-10:30   Shape covariation
10:30-11:00   Coffee Break
11:00-12:30   Allometry
12:30-14:00   Lunch
14:00-15:00   Integration and modularity
15:00-18:00   LAB
16:00-16:30   Coffee Break

Day 4: October 8, 2015 | Analysis of Shape Variation II
9:00-13:00   Group differences
10:30-11:00   Coffee Break
11:00-12:00   Phenotypic trajectory analysis
12:00-13:30   Lunch
13:30-14:30   Asymmetry
14:30-15:30   Missing data
15:30-16:00   Coffee Break
16:00-18:00   LAB

Day 5: October 9, 2015 | Analysis of Shape Variation III
9:00-10:30   Phylogenetic shape variation
10:30-11:00   Coffee Break
11:00-12:30   Disparity
12:30-14:00   Lunch
14:00-18:00   STUDENT PRESENTATIONS