Geometric Morphometrics

Module Lead: Prof Paul O’Higgins
Term: Autumn
Level / Credits: Level 7 / 10 Credits
Module status: Elective Module

The module will run over 4 weeks comprising lectures, seminars and practicals. Students will have an opportunity to try software and problem solving and troubleshoot issues with course leader. The taught part of the module will then be followed by a self-directed learning period (5 weeks) for assessment projects.

Learning Outcomes

By the end of this module, you should be able to show that you can:

1. Outline the key methodologies for data acquisition.
2. Outline the motivation and key methodologies for the measurement of biological form with emphasis on landmark data.
3. Outline the fundamentals of Geometric morphometric methods; GPA, TPS, Shape spaces.
4. Apply appropriate statistical methods in analyses of variation, covariations with form, and analyses of differences between groups.

Module Aims

The module aims to provide students with a firm foundation in the theory and practice of geometric morphometrics as applied to the study of phenotypic and functional variation.

Module Workload / Assessments

<table>
<thead>
<tr>
<th>Lectures:</th>
<th>4 hours</th>
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<tbody>
<tr>
<td>Practicals:</td>
<td>12 hours</td>
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<tr>
<td>Seminars:</td>
<td>4 hours</td>
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<tr>
<td>Self-Directed Learning:</td>
<td>40</td>
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<tr>
<td>Assessment:</td>
<td>2000-word journal style article</td>
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