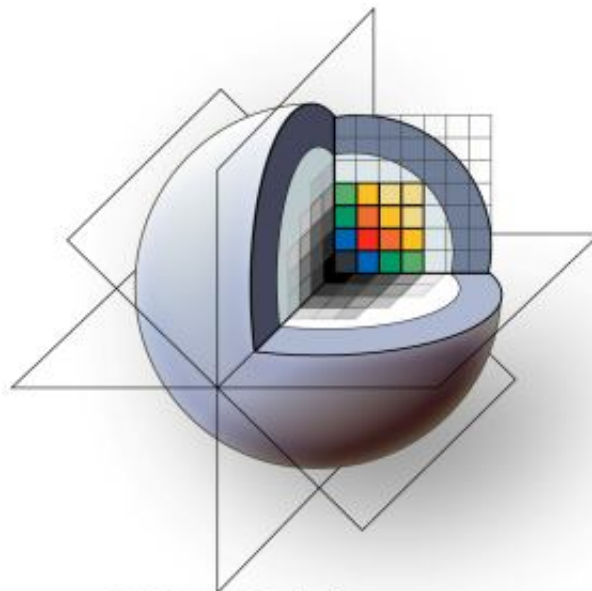# Training program

3D Slicer + Plus

3DSlicer

Course description.

Course Format

The course will consist of lectures, exercises, midterm assessments, and a final project. Contents and lecture exercises will be provided through the e-learning platforms of the *MACbioIDI* project. A detailed description of each course component can be found below. All course work will be hosted on the private user account for the professionals of the medical area and on the private GitHub for the professionals of the engineering area.

Course Workflow

After the lessons, progress of the proposed activities will be carefully monitored. It is critical that students set up a private repository to upload their results. Repositories will be private but users can share with others any question or solution they consider useful. The teaching staff will be providing comments to questions, proposals or any suggested issue.

Final Project

The main goal of the final project is to develop skills for medical imaging technology applications and computational research. Methods are illustrated with examples using a wide range of imaging modalities. Topics include data loading, analysis, 3D transform and saving.

Expected Learning Outcomes

- Learning and understand how 3D Slicer and Open Anatomy work, and their philosophy.
- Analyse medical imaging using 3D Slicer and Open Anatomy
- Understand the use of these applications and be prepared to model data in both of them.
- Work with examples to solve a variety of problems.
- Propose a plan to introduce these applications in their main topic of interest
- Propose research projects.

Course Introduction

Medical imaging technology has become an indispensable tool in many branches of the biomedical, the health area and the research, and is vitally important the training of professionals in these fields. It is not only about the tools, technologies and knowledge provided but also about the community that this training project proposes. The main objective of this course is to drill down from an overall view of the medical imaging technology to specific examples of its use in image guided therapy and medical training. Along this course we will investigate the 3D Slicer and the Open Anatomy projects and explore their use through practical examples drawn from a variety of scientific and engineering disciplines.