BIO_5

Title of the doctoral program

Bioengineering and Medical-Surgical sciences

Title of the research activity

Multiresolution and multiscale quantification and rendering of medical images

Short description of the research activity

The research activity planned for the PhD candidate will focus on the development of fully automated multiresolution and multiscale algorithms for the segmentation, characterization, and rendering of medical images. Research studies and clinical applications often adopt imaging instruments where scale and resolution can be changed depending on the need. The candidate will be involved in the development of a comprehensive processing and visualization framework to aid the researcher/clinician in the perception/quantification of the images. Specific applications will span from cellular and subcellular images (i.e. histological analysis, molecular imaging, etc …) to morphological and functional images, with a particular focus to surgical imaging and pre-surgical planning.

Scientific responsible (name, surname, role, email)

Prof. Filippo Molinari, Associate Professor, Filippo.molinari@polito.it

Number of vacancies for XXXI cycle (3 years program)

1

Specific requirements (experiences, skills)

- Experience in the field of image processing and imaging devices
- Skills in (at least one of)the following programming languages, programs, and libraries: C/C++, Java, Matlab, ITK/VTK

Website of the research group (if any)

http://socrate.polito.it/biolab/Home.html