

Corso di Dottorato a.a. 2019-2020

Titolo: "*Shape Analysis and Geometry Processing*"

Docenti:

M.A. Pascali (SILab, Istituto di Scienza e Tecnologie dell'Informazione - CNR)

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Periodo: 2° semestre a.a. 2019-2020 (marzo – maggio 2020)

Durata: n. 32 ore

Descrizione

The course deals with 3D shape analysis and geometry processing, which are key topics in Computer Graphics, Vision and Digital Fabrication. The course introduces well-established and recent geometric concepts and tools (curvature and geodesics, spectral methods, computational topology, topological persistence), emphasizing the discrete and computational viewpoint. In the last decades these topics have attracted the attention of many researchers thanks to the fast-paced growth of the research in 3D, pushed by the technological advances in gaming, machine learning, autonomous navigation, biomedical, digital cultural heritage, computational fabrication, etc. The aim of the course is to let the math student appreciate how geometry is successfully used in applied sciences; and to provide the computer science student the mathematical basis needed to efficiently tackle open issues in such a lively research field.