

**PROTINUS SUMMER SCHOOL**

**Pore scale imaging and analysis for environmental science applications"**

Grenoble (France), from 18 July 2016 to 20 July 2016

**18/07/2016: Imaging techniques**

9h00-9h30: Registration, introduction of the summer school, organisation

10h-11h00: Keynote speaker. Steffen Schlüter (Center for Environmental Research, UFZ, Germany)

11h00-12h00: Alfonso Gastelum Strozzi (UNAM): Computed Tomography Techniques

12h00-13h00: Barbara Fayard (NOVITOM): Synchrotron techniques

14h00-17h00: Oral / Poster session from the students explaining their research projects

**19/07/2016: Image processing and analysis**

9h00-11h00: Lectures on Image processing

Steffen Schlüter (UFZ, Germany): Image analysis techniques

Patrice Delmas (Univ. of Auckland): Image processing in the context of CT-scan imaging: filtering and segmentation

11h00-13h00: Lectures on Pore morphology

Alfonso Gastelum Strozzi (UNAM): Tools for calculating pores morphology

14h00-17h00: Practical's: The students will be able to train themselves on image processing and pore morphology extraction from given CT images. The registered students will be sent beforehand the necessary software for image processing and analysis.

**20/07/2016 : Applications**

9h00-13H00: Lectures on application cases (from experiments to processed images) in geoscience

Francesco Morari (Univ. Padova): The role of soil structure on soil organic carbon dynamic

Anne-Julie Tinet and Fabrice Golfier (Georessources, Univ. Lorraine): applications of imaging techniques on rock materials.

Laurent Oxarango (Univ. Grenoble): Scale changes and representative elementary volume

Blanca Prado (UNAM): Applications to pesticides transport and micro fauna role on soil structure

Karin Müller (Plant and Food Research): Macropore networks affecting the filtering capacity of soils

14h00-17h00: Practical's (2<sup>nd</sup> round)