Faculté de l'Environnement Architectural, Naturel et Construit (ENAC)
Sciences et Ingénierie de l'Environnement (SSIE)
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Bâtiment GR, EPFL - Station 2
CH-1015 Lausanne
http://echo.epfl.ch

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

| **ENAC-SIE, SIE Project, Fall 2017** | Start: | 18/09/2018 |
|---|---|---|
| 4 ECTS credits | End: | 21/12/2018 (approx.) |

| | |
|---|---|
| Title | **Analysis of new high-resolution 3D soil images** |
| Supervisors | Doct. Paolo Benettin, Prof. Andrea Rinaldo |
| Objective | Using a dedicated software to analyze high-resolution images of soil structure coming from X-ray micro-CT images (PIXE laboratory, EPFL) |
| Abstract | The ENAC faculty has recently launched the PIXE facility (https://pixe.epfl.ch) that allows taking 3D images of complex structures like soils. Two different soil cores have already been scanned and are ready for image analysis. The available software allows reconstructing 3D images of the soil grains and the porous spaces (see example Figure 1). |
| Task description | 1. getting acquainted with the software<br>2. analyze images from the two different experiments<br>3. compute metrics like the pore size distribution |
| Required skills | • positive attitude towards image analysis |
| Location | EPFL campus and Chamberonne catchment, Lausanne (CH) |
| Contact | paolo.benettin@epfl.ch |

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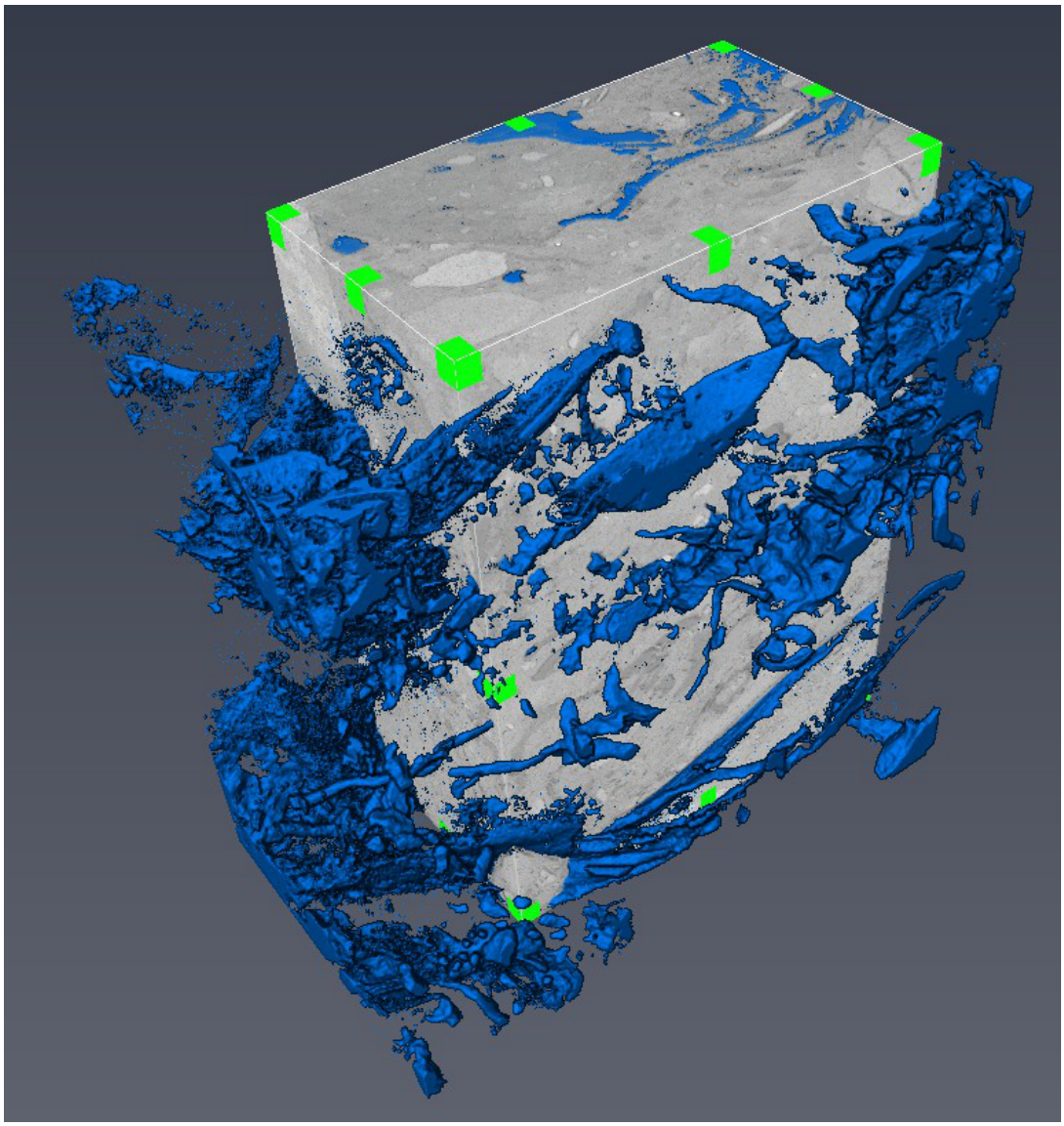

Figure 1: Example of 3D reconstruction of the porous space