XSD/SDM
Special Presentation

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Title: A workflow for segmentation of teravoxel tomographic datasets

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Time: 1:00 p.m.

Location: 401/A1100

Host: Nicholas Schwarz

Abstract:

3D imaging of large specimens (such as mouse brains at single-neuron resolution) generates Terabyte sized datasets. In follow-on analysis, it is essential to go beyond a 3D density image to segment out features of interest (such as blood vessels, cells, and axons in the example of brains). However, existing segmentation tools such as Ilastik have not been designed to work on Teravoxel-sized datasets that are too big to fit on a single workstation. Here we present a parallel processing workflow for segmenting Teravoxel-sized datasets based on Ilastik Pixel Classification Workflow. Timings and parallelization efficiencies on Argonne supercomputing resources are discussed.