From Images to Knowledge with ImageJ & Friends

virtual conference

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Conferences

Automatic and manual image registration workflows

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Session 1:   2020-11-30 21:00 UTC – 2020-12-01 01:00 UTC
Session 2:   2020-12-01 13:00 UTC – 2020-12-01 17:00 UTC

Title:
"Automatic and manual image registration workflows"

Summary

Students will learn:
* The principals of image transformation and registration.
  * types of transformations (similarity, affine, non-linear)
  * displacement fields for non-linear transformations
  * basics of imglib2 spatial transformations
* Using elastix for automatic image registration
  * Parameter choices
  * cost functions for image-based regitration
  * Jacobian determinant of a transformation
* How to use BigWarp to perform manual registration or to fine-tune an automatic registration.
  * landmark-based registration
  * concatenating transformations
  * converting transformations to convenient formats (e.g. N5) for use in different tools.

Prerequisites

Students should be familiar with ImageJ/Fiji, and understand basic image analysis concepts such as resampling and interpolation.