MARCH 20TH
MIRACL WORKSHOP

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University of Toronto

Workshop introducing the MIRACL platform, a computational platform that incorporates AI for image registration to reference atlas, atlas generation, segmentation, and novel sub-regional analyses.

MIRACL (**M**ulti-modal **I**mage **R**egistration **A**nd **C**onnectivity ana**L**ysis) is a general-purpose AI-based pipeline for automated:

- Registration of tissue cleared and imaging data (eg. LSFM and MRI) to standard (eg. Allen Reference Atlas) or study-specific atlases
- 3D Segmentation/mapping of neuronal activity and feature extraction (eg. Whole brain c-fos)
- Tract-specific or network-level connectivity analysis (eg. Virus tracing)
- Regional and cluster-wise (sub-regional) statistical analyses & visualization

Wu Tsai
Neurosciences Institute
Stanford University
Neuroscience Microscopy Service

WHOLE BRAIN ATLAS REGISTRATION

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LARGE DATA VOLUME WORKFLOWS

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CELL / C-FOS SEGMENTATION AND CLUSTER ANALYSIS

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TRACT TRACING & CONNECTIVITY ANALYSIS

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ATLAS GENERATION

STANFORD NEUROSCIENCE BUILDING

290 Jane Stanford Way
James Ling and Nisa Leung
Seminar Room
E153

March 20th, 1:30pm