Data Studio

1:00–2:30pm, Wednesday, 31 March 2021
Videoconference:
https://stanford.zoom.us/j/94176271679?pwd=UHRjdENYUlI1NXZTbHJXNXFLWjB1UT09
Password: 423149

Investigator: **Stephan Rogalla** (1)
Investigator: **Derek Holman** (2)
Investigator: **Aaron Mayer** (2)
(1) Department of Medicine, Division of Gastroenterology & Hepatology
(2) Department of Radiology, Molecular Imaging Program

Title: **High-dimensional Fluorescent Microscopy for Guiding Therapy in Ulcerative Colitis Patients**

Summary:

The Data Studio Workshop brings together a biomedical investigator with a group of experts for an in-depth session to solicit advice about statistical and study design issues that arise while planning or conducting a research project. This week, the investigator(s) will discuss the following project with the group.

The unique characteristics of tissues arise from the identities of their constituent cells and how these cells interact and communicate. We use spatially-resolved high-dimensional fluorescent microscopy to uncover the spatial cellular organization of gut tissues from patients with Ulcerative Colitis. We are interested in using these tissue architectural themes to predict whether patients will respond to therapy. By representing our microscopy images as Voronoi tessellations and assigning fluorescence intensities to each polygon, we are able to readily extract both cell types and their spatial relationships. We then generate classifiers using machine learning algorithms and logistic regression.

Questions:

Our statistical questions for this workshop focus on three areas: 1) sample size for validation cohorts and study design when effects and effect sizes are unknown (as for machine learning classifiers), 2) statistical analysis for features that take spatial relationships into account, and 3) multi-scale feature extraction.

Zoom Meeting Information

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Join from PC, Mac, Linux, iOS or Android:
  https://stanford.zoom.us/j/94176271679?pwd=UHRjdENYUlI1NXZTbHJXNXFLWjB1UT09
  Password: 423149

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  Password: 423149

Or iPhone one-tap (US Toll):
  +18333021536,,94176271679# or
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Or Telephone:
    Dial: +1 650 724 9799 (US, Canada, Caribbean Toll) or
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    Password: 423149
    International numbers available: https://stanford.zoom.us/u/adhaJFGUK2

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For more information about Data Studio:

http://med.stanford.edu/dbds/resources/data-studio.html