

Data to Structural Models 2018

Structural models will be derived from structural data obtained primarily from 3D imaging modalities, including electron tomography, multi-photon and confocal microscopy, and whole-body medical imaging modalities like CT and MRI.

The course will include:

1. Automated and manual image segmentation and annotation strategies;
2. improving the quality of surface meshes and generating volumetric meshes with GAMer;
3. using Hex-Blender to construct 3D models as well as developing high-order finite-element meshes, including patient-specific organ models with Continuity. Participants will learn to build meshes and models that are suitable for a range of biophysical modeling applications from stochastic Monte Carlo, Brownian Dynamics simulations, subcellular and whole- cell transport to whole-organ biomechanics and electrophysiology investigations. Introductions and hand-on tutorials to:
4. SEEKR and BrownDye and;
5. cellPACK and cellVIEW tools.

In consultation with the course organizers, those accepted into the program will be encouraged to bring and work with their own data sets.

Dates: August 13th - 17th, 2018

Venue: University of California San Diego, La Jolla, CA, USA

Organizers: NBCR

Instructors	Contact
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Matthias Haberl, Christoper Churas, Mike Holst, Chris Lee, Andrew McCulloch, Eric Carruth, Kevin Vincent, Gary Huber, Ben Jagger, Art Olson, Ludovic Autin, Michel Sanner, Brett Barbaro and more...

Registration and workshop
questions
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