



Facilitator: Erin Newburn, PhD, Applications Scientist, OpGen Inc.

### Are NGS Technologies Enough to Get it Right?

Whole Genome Mapping provides the solution for high accuracy sequence assembly. The technology utilizes single molecule reads of 150 Kb to 2.5 Mb to produce *de novo* high resolution, ordered restriction maps that serve as scaffolds to order and orient sequence contigs, identify misassemblies, estimate gaps and measure overlapping regions. OpGen's newest application, Genome-Builder™, has now expanded the technology to provide the ability to join scaffolds in the genome assembly of plants, animals, as well as human samples. Core labs can access the technology by offering OpGen's MapIt® Services to their clients or by integrating the ARGUS® Whole Genome Mapping System into their core labs and preparing the maps internally.

This informative workshop will explain the technical basis of OpGen's novel single molecule technology, and demonstrate how to utilize this data within their genomics laboratories for faster and more accurate whole genome finishing. The first half of the workshop will provide an overview of the technology, followed by a discussion of recent published findings. A demonstration of OpGen's Mapsolver™ software, contained in the ARGUS Whole Genome Mapping System, will illustrate the analysis functionality featuring the ability to create dendrograms, import and compare the annotated genes of referenced genomes to a genome of interest, and place DNA sequence contigs to the *de novo* Whole Genome Map scaffold for assembly and validation. Dr. Stefan Green, from the University of Illinois in Chicago, will be the featured speaker for the second half of the workshop. Dr. Green will present data demonstrating how he utilized Whole Genome Mapping in his sequence assembly of a *Rhodanobacter* species, and in comparison of different species from the genus. Attendees will gain a greater understanding Whole Genome Mapping's sequence-independent approach to providing a new standard for genome assembly and validation.



Thursday Oct 25<sup>th</sup>

1:00-3:00

Hawthorne Room

Renaissance St. Louis Grand Hotel