ASGSR 2016 GeneLab Activities

Overview:

The GeneLab project goals include the development of an omics data repository, the **G**ene**L**ab **D**ata **S**ystem (GLDS), which enables public access to data from experiments that explore the molecular responses of terrestrial biology to spaceflight environments. The large amount of raw data generated by Space Biology omics experiments is being made freely available to the worldwide community of scientists, computational biologists, students and educators. The workshops will provide an update on the overall project and will include the capabilities of the existing data system, future implementation plans, GeneLab-spaceflight collaborations, and tutorials.

Workshop Schedule:

THURSDAY OCTOBER 27, 12:00-2:00 pm GeneLab Plenary Session Hope Ballroom E

- **Craig Kundrot, Ph.D**., Director, Space Life and Physical Sciences, NASA Headquarters: ***Welcome and overview***
- **Mike Skidmore**, GeneLab Project Manager, NASA Ames Research Center: ***Current status of GeneLab and future plans***
- **Homer Fogle (GeneLab) for John Pfail,** Stony Brook University; Space Life Science Training Program (SLSTP) Intern/GeneLab: ***Cross-species meta analysis of spaceflight datasets***
- **Simon Gilroy, Ph.D.,** University of Wisconsin, Madison: ***From data mining to making connections: Genelab and the plant spaceflight transcriptome***
- **Sarah Wyatt Ph.D.**, Ohio University: ***Arabidopsis proteomic responses to microgravity***
- **Claire Ward and Stephen Chapes, Ph.D.,** Kansas State University, Manhattan KS: ***Using GeneLab data to assess immunoglobulin gene segment usage***

FRIDAY OCTOBER 28, 1:30-3:00 pm GeneLab Tutorial Hope Ballroom A-C

Members of the GeneLab project team from NASA Ames Research Center will present tutorials on the capabilities and use of the **G**ene**L**ab **D**ata **S**ystem (GLDS) and the GeneLab collaborative process.

- **Peter Tran:** ***Current and future capabilities of the GLDS; how to search and download data in the GLDS; citing GeneLab***
- **Daniel Berrios, M.D., Ph.D., M.P.H:** ***GLDS Data curation, metadata and metadata standards***
- **Homer Fogle:** ***GLDS data submission process***
- **Jonathan Galazka, Ph.D.:** ***Overview of GeneLab collaborative process***

GeneLab is also presenting the following posters and minisymposia:

62 **San-Huei Lai**, Valery Boyko, Kaushik Chakravarty, Rick Chen, Daniel Berrios, Homer Fogle, Oana Marcu, Linda Timucin, Jonathan Galazka, Sigrid Reinsch, Olga Stotzky, Mike Skidmore
GeneLab: Multi-Omics Investigation of Rodent Research-1 Bio-Banked Tissues
Wed, Oct 26th 6:00 pm

82 **Peter Tran**, Mohana Gurram, Jairon Hashim, Sneha Raghunandan, Jon Welch, Sonja Caldwell, Michael Skidmore, Daniel Berrios
GeneLab Phase 2: Federation of Space Biology Experiment Data
Wed, Oct. 26th 6:00 pm

127 **John Pfail**, Oana Marcu, Homer Fogle
Cross-Species Meta-Analysis of Spaceflight Transcription Profiling Datasets
Fri, Oct 26th 11:00 am

Minisymposium: Health Care Technologies CONCURRENT SESSION – Center Street A

16 **David J. Smith,** Aaron Burton, Sarah L. Castro-Wallace, Kristen K. John, Sarah E. Stahl, Doug Botkin, Jason P. Dworkin, Mark L. Lupisella, Christopher E. Mason, Kate Rubins
Biomolecule Sequencer: Next-Generation DNA Sequencing Technology for In-Flight Environmental Monitoring, Research, and Beyond
Fri, Oct. 26th 9:00-10:00 am

Minisymposium: Education CONCURRENT SESSION – Center Street A

Elizabeth A. Blaber, Kevin Sato, Diana Ly
GeneLab for High Schools – A New Space Biology Education Initiative
Fri, Oct. 26th 1:30 -3:00 pm