Review of SIO Bioinformatics Users Group activities

Covering Oct 2015 - June 2017

https://open-data-science-at-sio.github.io

Mission statement for SIO-BUG

Our mission is to facilitate information exchange and networking within the UCSD-SIO-NOAA bioinformatics community. Since its establishment in 2015, our goals have expanded to provide opportunities for training in scientific computing, data analysis, and open science practices.
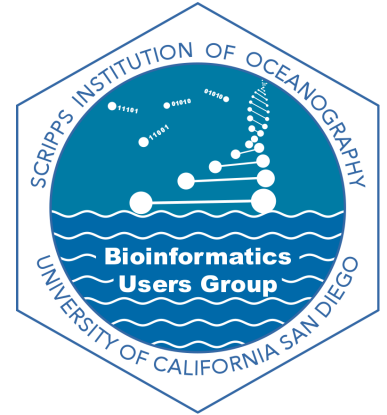
What have we accomplished

See tables at end for details

Information exchange in these first two years took place via our email listserv and during our twelve seminars. All seminar slides, workshop and course materials have been posted to public GitHub repositories accessible through the website.

In addition to seminars, we hosted a number of casual meetups for folks to get together to do work, share information, and converse. Structurally, we broadened the community to include more folk with common interests by joining with the R-Users group under the umbrella of SIO Open Data Science (ODS). We are now also advertising with our new logo, developed from an original submission by Du Niu! Jessica Blanton and Hao ye currently have stickers available on request.

With regards to our goal of broadening opportunities for training in scientific computing, data analysis, and open science practices, we have hosted four training workshops, with >100 attendees in total, and developed three new classes directly aimed at filling needs in our community.

Generous funding was provided by

- UCSD Research IT
- SIO Department
- SIO Biology Section
- SIO Students/ UCSD Graduate Student Association
- SIO Genome Center

Outcomes to be evaluated

Over the summer, the faculty advisors and student organizers will be reviewing what we have learned over the past two years to evaluate how to best serve our needs in the future at SIO. This will include discussions of our training, community building, and research support needs.

Next steps:

We have a number of upcoming events planned, but of course are looking to hear from you! Keep an eye out for updates via email and on the GitHub website. If you have questions, suggestions, or simply would like to chat about bioinformatics research or training, please get in touch with us!

Contacts:

SIO-BUG Faculty Advisors:

      Lena Gerwick - lgerwick@ucsd.edu

      Eric Allen - eallen@ucsd.edu

SIO-BUG Past student organizers - contact for feedback or questions on happenings through Spring 2017

      Jessica Blanton - jmblanton@ucsd.edu

      Tessa Pierce - ntpierce@ucsd.edu (moving to Davis in Summer 2017)

SIO-BUG Future student organizers - contact for suggestions and questions about happenings starting Fall 2017

      Tiago Leao - tferreir@ucsd.edu

      Sara Rivera - s6rivera@ucsd.edu

      Lauren Manck - lmanck@ucsd.edu

Open Data Science

      Hao Ye - hye@ucsd.edu

R-Users Group

      Beverly French - bfrench@ucsd.edu

      Lynn Waterhouse - lwaterho@ucsd.edu

      Brian Stock - b1stock@ucsd.edu

Intensive workshops for research trainings:

Workshop Name	Dates	Attendance	# of Curricular groups / Departments / Institutions represented
Qiime, amplicon analysis pipeline	Jun 29, 2016	>20	>5
strataG, Population Genetics	May 3, 2016	9	5
Software Carpentry, intro to scientific computing training	Sep 19-20, 2016	37	15
Shotgun Metagenomics	Oct 12-13, 2016	38	18
Transcriptomics pt 1 (prep discussion)	*Spring 2017*	*28*	*8*
Upcoming:			
(Transcriptomics pt 2)	October 2017	TBD	TBD
(Data Curation & Doc-a-Thon)	August 2017	TBD	TBD
(The Methods of Reproducible Research)	Fall 2017	TBD	TBD

* While noted as a presentation, this event was an explicit precursor to the Fall 2017 workshop

New Courses for research training at SIO:

Topic	Title	Quarter	Instructors	Registrants	Users group
Metagenomic Analysis	Ocean 'Omics: Metagenome Data Processing & Analysis (SIOB 278) https://github.com/JessicaMBlanton/SIO278B-Metagenome-Data-Processing-Workshop	Spring 2017	Eric Allen, Jessica Blanton	8	SIO-BUG
Reproducible Research	RRROBOTS – Reproducible Research in R for Ocean Biosciences: Open-science Training Seminar https://github.com/Open-Data-Science-at-SIO/RRROBOTS	Spring 2017	Hao Ye	9	ODS
Data Visualization	Intro to data visualization and data wrangling in R https://github.com/Open-Data-Science-at-SIO/Intro-Data-Viz-Winter-2017	Winter 2017	Hao Ye, Lynn Waterhouse, Brian Stock	20	R-Users

Seminar presentations:

Date	Speaker	Speaker's Institution	Topic/Title
May 4, 2017	John McCrow, Lisa Komoroske	JCVI, NOAA	Transcriptomic Workshop, Part 1: a discussion of study design and analysis considerations
May 8, 2017	Amro Hamdoun	UCSD - SIO	How to present your research
Apr 17, 2017	Jeff Bowman	UCSD - SIO	OTU-free community structure, metabolic inference, and meta-'omic analysis with paprica
Mar 20, 2017	Richard Scheuermann	JCVI	Application of machine learning to determine the cell type diversity of the human neocortex
Nov 7, 2016	Nadine Ziemert	University Tübingen, Germany	Evolution based computational tools for drug discovery in Actinomycetes
Oct 14, 2016	Titus Brown	UC Davis	Upcoming opportunities and challenges in environmental sequencing data analysis
Apr 11, 2016	Tiago Leal, Sheila Podell, Michelle Schorn, Jesse Trawler	UCSD - SIO	Microbial Genomes Lightning talks
Mar 14, 2016	Thiago Lima	UCSD - SIO	Searching for hybrid inviability across a hybrid genome using Pool-Seq data
Feb 8, 2016	Tessa Pierce	UCSD - SIO	MMT Make my transcriptome
Feb 8, 2016	Terry Gaasterland	UCSD - SIO	Intro to flexible command-line biocomputing: harness the power of Triton to explore your data
Jan 11, 2016	Tristan Carland	Illumina	A bioinformatician's toolchest
Nov 9, 2015	Sheila Podell	UCSD - SIO	DIAMOND (fast alignment tool)
Nov 9, 2015	Luke Thompson	UCSD - Pediatrics	IPython notebook
Oct 12, 2015	Kristen Jepsen	UCSD - IGM Genomics Center	Sequencing Capacities at Institute for Genomic Medicine
Oct 12, 2015	Heather Matson	Amazon Web Services	High-level Overview on Amazon Web Services (AWS)