# Genotyping-by-sequencing workshop May 12-28, 2015 Tuesday-Thursday 10am-12pm, ALS 3005

|  |  |  |  |
| --- | --- | --- | --- |
| Instructor | Kelly Vining | Phone | 541-737-0018 |
| Office | 3135 ALS | E-mail | Kelly.Vining@oregonstate.edu |
| Office Hours | Tues-Thurs 2-3 pm |  |  |

### Description:

Genotyping-by-sequencing (GBS) is a powerful technology that is being applied to a broad range of research projects in molecular genetics. This three-week workshop intends to explore all aspects of GBS, from applications to experimental design considerations, data formats, and data processing. We’ll use several popular software packages to manipulate, analyze and visualize GBS data. In class discussions, GBS veterans will have an opportunity to share their experiences with GBS newbies. We’ll also talk about GBS services provided by the OSU Center for Genome Research and Biocomputing.

### Goals:

Understand how GBS works

Gain experience with bioinformatic processing of GBS data

Learn what tools and services are available at the CGRB

### Requirements:

CGRB account   
Basic command line familiarity   
R experience helpful, but not required

### Course Schedule:

| Date | Topic |  |
| --- | --- | --- |
| 5/12/15 | Introduction to GBS: overview of applications and lab methods |  |
| 5/14/15 | Introduction to variant callers: GBS with and without a reference genome |  |
| 5/19/15 | Data processing with TASSEL and UNEAK pipelines |  |
| 5/21/15 | Data processing with Stacks pipeline |  |
| 5/26/15 | Alternative data processing pipelines |  |
| 5/28/15 | Genome-wide association analyses (GWAS) |  |