



## BIOLOGICAL SCIENCES ADVISORY BOARD MINUTES

Thursday, April, 13, 2017, 5:00 in Room 1687

### A. Welcome and Introductions

**Vicki Shipman** called the Spring, 2017 meeting of the Biological Science Advisory Board to order at 5:06.

Present:

**Monica Borucki**, Lawrence Livermore National Laboratory

**Dave Brekke**, Sandia National Laboratory

**Jill Carbone**, Las Positas College

**Dianna Maar**, BioRad

**Michael Thelen**, Lawrence Livermore National Laboratory

**Nicholas Heredia**, BioRad

**Gerry Gire**, Las Positas College

**Josie Sette**, Ohlone College

**Camille Troup**, Nanostrings Technology

**Victoria VanderNoot**, Sandia National Laboratory

**Vicki Shipman**, Las Positas College

**Jean O'Neil-Opipari**, Las Positas College

Regrets:

**Claudia Echeverria**, Las Positas College, student

**Nan Ho**; Dean of Math, Science, Engineering and Public Safety, Las Positas College

**Michal Shuldman**, Las Positas College

**Barbara Zingg**, Las Positas College

### B. Approval of Prior Advisory Meeting Minutes (October 25, 2016)

**Jill Carbone** moves to approve Advisory Meeting minutes of October 25, 2016.

**Nick Heredia** seconds the motion.

Motion carries with **Camille Troup, Jill Carbone, Josie Sette, Victoria VanderNoot and Monica Borucki** abstaining

### C. Computational BIO Certificate and degree, Nick Heredia and Jill Carbone

- Certificate program in Bioinformatics discussed during last meeting
- Growing field handling large data sets; large, long-term need
- Discussing certificate vs. degree **Nick Heredia**
- **Jill Carbone**, types of students
  - No background – heavy mathematics and computer science
  - Just biology or just computer science background; mini-degree
  - What kind of math, chemistry
  - Project based

- **Victoria VanderNoot**, There is a large bio-informatics group at Sandia that can help
- How many units required? What are the requirements for transfer?
- On campus, labs impacted
- Number of units for financial aid? Veterans?
- **Vicki Shipman**, Can use grant money for piloting new program
  - Strong workforce program grants, seed money
  - Don't limit program because of equipment/supplies
- **Jill Carbone**, Ideas from the Board
- **Josie Sette**, Looking at Bay Area – What is the purpose of the new degree/certification?
  - QA/QC jobs plentiful in Bay Area,
  - Solano College offering BA with manufacturing emphasis
  - Other colleges offer Bioinformatics classes (Berkeley City College, Ohlone)
  - Many students come from industry
  - Coordinate with other colleges
- **Jill Carbone**, Pasadena had a program; how would program be marketed?
- **Josie Sette**, Pasadena's program has diminished since the director retired – the school is trying to resurrect the program
  - Understand what the audience needs
  - Mira Costa and Solano Colleges offering degrees
- **Nick Heredia**, Statistics/biotech bent
- **Diana Maar**, Can add course to use software like Jump
- **Camille Troup**, Biotech literacy necessary to understand biotech impact on general public's life
- **Jill, Nick, Vicki**; offer a non-credit class in biotech literacy
- **Victoria VanderNoot**, Ethics class about biotech (GMO's, recombinant, etc.); biofuels, bioenergy benefits in society
- **Monica Borucki, Camille Troup**; biotech for non-scientists, non-majors; healthcare and pharmacogenetics; biotech in medicine or biotech in health
- **Vicki Shipman**, Community service classes, non-credit, no charge (adult ed) – funded by the state
- **Josie Sette**, offer bioinformatics, other classes for the community; can help market and get program funded
- **Vicki Shipman**, work with Josie to develop programs/courses, take advantage of resources
- **Diana Maar**, Precision medicine
- **Vicki Shipman**, people need knowledge to understand the drugs they take
- **Camille Troup**, biotech and medicine; survey and introduction to principals, survey course about what's going on in industry
- **Michael Thelen**, conversation broadened from bioinformatics to biotech in general; focus on bioinformatics a good place to start; Joint Genome Institute in Walnut Creek (managed by LBL) great local resource (sequence production, genomes); education outreach person, help with development of program,
  - Why did biotech class fail?
- **Vicki Shipman**, standalone class? Not a draw; do need a focus. Focus on Computational First; LPC can offer pilot programs (BA/BS) in programs that are impacted or not offered at CSU/UC; when leadership at LPC stabilizes may consider development of a BA/BS program
- **Victoria VanderNoot**, might be less expensive to focus on Computational
- **Jill Carbone, Gerry Gire**, no standalone biotech degree, but classes exist

- **Vicki Shipman**, providing biotech skills with bioscience degree, use bioscience top code not biotech top code. Transfer oriented at LPC
- **Monica Borucki**, Offer companion or paired classes; have to have a computational course to make class relevant, so it's not just coding
- **Jill Carbone**, would have to have a need for paired classes
- **Gerry Gire, Diana Maar**, Project based?
- **Michael Thelen**, some students take just bio some take bio and bioinformatics
- **Monica Borucki**, trying to figure out how to use massive amounts of data
- **Diana Maar**, high school students; have class start with a murder and have class figure out what happened. **Monica Borucki**, study an incidence of rabies to find the host to track origin
- **Vicki Shipman**, timeline for development?
- **Jill Carbone**, probably not ready for proposal by early December, Fall, 2018 to offer classes
- **Recommendation**: Add Topics in Biotech to LLNL/LPC Seminar Series. Series covers all topics (Bio, Chem, Physics)
- **Monica Borucki**, contact the coordinator of Science on Saturday (Janna Alballa) and Liz Lopez at GHS
- **Vicki Shipman**, Biotech bootcamp this summer: First Session for Freshmen and Sophomores, Second session for Juniors and Seniors (Regina Brinker, Liz Lopez and Joanna Alballa); not for science majors, use for recruiting; 20 students per session, no cost

#### D. Industry Updates

- **Nick Heredia and Victoria VanderNoot**: CRISPR, gene editing; ground breaking, precise, cheap, fast; classes need CRISPR and synthetic biology

##### **Discussion:**

- **Josie Sette**, other colleges already incorporating CRISPR; instructors already being trained; there is a Fall conference with training, get the faculty to attend
  - **Vicki Shipman**, get LPC faculty on List Serve for CRISPR development, bioinformatics
  - **Jill Carbone**, Bio 1C might use CRISPR (cell/molecular/zoology) – new faculty, hopefully in the fall.
  - **Josie Sette**, send posting for faculty to her

#### E. Faculty Report

- **Jill Carbone, Gerry Gire** is retiring , LPC needs a new lab tech, Vicki posting on 4/27 – advertise
- **Gerry Gire**, Biology needs more space, hopefully the bond will bring more facility space (add classes on Saturday?)

#### F. Next Steps

Next meeting Thursday, December 7, 2017 at 5:00 in Room 1687

Meeting adjourned at 6:12 by Vicki Shipman

Biological Sciences Advisory Board Minutes, June 9, 2017 submitted by Jean O'Neil-Opipari, Work Based Learning Specialist on June