



Shoreline Community College
16101 Greenwood Avenue North
Shoreline, WA 98133

Biotech Advisory Meeting Minutes

Monday, June 20, 2016, 3:30-5:00 PM

Board Room, 1000 bldg.

Meeting Attendees:

Shoreline Community College: Dina Kovarik, Chair and note-taker, Guy Hamilton, Louise Petruzzella, Jan Chalupny, Ad Legesse (also of Seattle Genetics); Sandra Porter (also of Digital World Biology) and Tiffany Lamoreaux.

James Trager; Dendreon; Sandra Porter, Digital World Biology; Jason Frasier, Presage Biosciences; Jan Beck: Novo Nordisk; Roy Musil, Juno Therapeutics; Mark Parrish, Covance; April Lewis, Bio Scientific; Sean Maden, Fred Hutch; Dmitry Serbzhinskiy, Seattle Genetics.

Approve Minutes from November 9, 2015 meeting

Minutes approved.

Introductions of New Board Members

Roy Musil, Sr. Director, Quality, Juno Manufacturing Plant

Mark Parrish, Associate Scientific Director/Genomic Solutions, Covance Genomics Laboratory

April Lewis, Bioinformatician, Bio Scientific

Sean Maden, Research Data Analyst Assistant, Fred Hutch

Tiffany Lamoreaux, Career Navigator, Shoreline Community College

Updates

a. Amgen Grant

Welcome new Biotechnology Outreach Manager, Dr. N. Jan Chalupny. Formerly of Amgen; cancer biology research. Extensive experience in science outreach, including many years with NWABR's Student BioExpo.

b. Project Biotech camps

Camps 1 and 2 are full (N=24 each). Camp 3 = 16/24 registrants. Partnerships include Edmonds School District (N=20 \$200 scholarships), Northshore School District (N=10 \$200 scholarships), and corporate sponsorships (\$12,800) collectively provide funding for 44 students with financial need.

c. Partner Participation

Northwest Association for Biomedical Research (NWABR) hosts the Student Bio Expo on the Shoreline campus each May. Shoreline hosted again this year. Many classes and individual students / student groups toured the Biotech lab.

d. 2014-2015 Cohort Update

Of the 16 biotech students in this cohort (see summary provided and posted at end of minutes):

- 5 are still taking courses (4 in the biotech program) and are looking for internships
- 10 are working in full-time positions
- 2 are looking for full-time positions

e. 2015-2016 Cohort

Two students have temporarily left the program due to family issues. One left the program at the fall-to-winter break. 2 students are currently looking for internships

f. 2016-2017 Cohort

9 registered as of today

g. 2017-2018 Cohort

5 registered as of today, including one Project Biotech camp alumnus

Review of Curriculum & Program Changes: Summary & Discussion of March, 2016 Curriculum Retreat (*Presentation & Discussion*)

- a. Inaugural Biotech Student Poster Symposium (June 7, 2016). Well attended, including 8 current students, 2 program alumni, 2 board members, 3 program faculty, 6 prospective students (2016-2017 cohort)
- b. Proposed new courses, updating current courses & course order changes (see item 5 below)
- c. Tours & Mentorship.

Tours:

- 1. Dmitry suggested that Bart could provide a tour of CIDR
- 2. Sean said that he could help with a tour of Fred Hutch
- 3. Jason said that he could help with a tour of Presage
- 4. James said that he could help with a tour of Dendreon
- 5. Board members suggested tours run from approximately 3:00-4:30 PM, with a goal of one tour per quarter with the understanding that not all students can attend every tour, and that some facilities may only be able to accommodate a limited number of students.

Mentorships:

- 6. Students could conduct informational interviews and present information at seminars
 - 7. It was suggested that the program make a database of interested Board members and other scientists where they could sign up for their level of interest and engagement
 - 8. It was also suggested that an outline of what mentorship might look like be provided, including expectations. A similar resource exists on the Shoreline Biotech Volunteer Opportunities webpage:
<http://www.shoreline.edu/biotechnology/volunteer.aspx>
- d. New Biotech Student Orientation & Mini-Retreat (September, 2016). An invitation was extended to Board members to join students and program faculty to welcome the new 2016-2017 cohort and provide an overview of Biotech job opportunities in the area.

Potential Funding Opportunity to Program Revisions and High School Outreach: NSF Advanced Technological Education (ATE), due October 6, 2016 (*Presentation & Discussion*)

The Board engaged in a productive discussion to assist program staff in the development of the proposed ATE grant. A draft of program goals, objectives and a timeline were provided as a starting point. The overall focus is around immuno-biotechnology, potentially as a foundation to the development of an immuno-biotechnology certificate or concentration. This would be contingent upon a larger overall Biotech Program cohort, as not all students would want an immuno-biotechnology concentration / certificate.

Ideas including modeling the Shoreline Biotech Program after a Contract Services Organization as has been done successfully by Salt Lake City Community College. If this avenue is pursued, it was suggested that the Salt Lake CC team be consulted as advisors.

Austin Community College functions as an 'incubator' for biotech start-ups, which is another potential approach.

Questions raised included:

- Do students get paid for their work?
- How is intellectual property (IP) and tech transfer handled? It was suggested that the program consult the Washington Research Foundation, and that most CC's don't ask for IP

Jason of Presage noted that some projects lack affordable space for proof-of-concept experiments, making Shoreline Biotech an attractive option, especially if Shoreline would not pursue IP claims.

James of Dendreon suggested choosing carefully which technologies the program focuses on, including things that are not very competitive because they are inexpensive. Consider: antibodies, reagents / protein, cell lines, analytical development.

Tiffany asked if this work would / could count as the external internship requirement. Jenna noted that her internship was completed at Shoreline with the company Xactagen, and she noted that perception is the key – that an internship is perceived as an actual job, with the accompanying skills, responsibilities and expectations.

The topic of "specializations" was also raised, such as in biochemistry or immuno-biotechnology (as opposed to a formal separate certificate). This could be achieved via choice of electives. James suggested not to slice the concentration categories too finely, as the diversity of skills that Shoreline Biotech students develop is one of the program strengths.

The development of the new Quality Assurance (QA) / Quality Control (QC) course / program / concentration was also discussed.

Revisions to courses identified during the March, 2016 Curriculum Retreat were also discussed, including BIOL 265/266 "Media & Solutions" [combined into one quarter Fall term]; BIOL 286 "Molecular Diagnostics," updated with more current techniques and content, including high-throughput methods and integration of multiple data types; and BIOL 275 "Recombinant DNA Techniques" moved to Spring

term and redesigned to be a “Special Projects” course in which students can engage in longer-term, student-driven research projects. These changes will also be incorporated into the ATE proposal.

Action Items

1. Sandy will look into other CC’s that offer QA / QC as a starting point for Shoreline
2. Advisory Board members are asked to consider how they would like to engage with the program in the coming year, including
 - a. Letters of Commitment to support the ATE proposal
 - b. Mentorship
 - c. Tours
 - d. Information interviews
 - e. Recruitment of other interested scientists at their respective companies / institutions
 - f. Guest lecturers
3. Dina, Guy and Louise will follow up with Roy and others for the development of the QA/QC course
4. Dina and Louise will look into a database of engagement opportunities and contacts

Next Meeting

The next regular Board meeting will take place in October or November, 2016. A meeting for the ATE proposal may be held in August, 2016.

Adjourned at 5:00 PM

Minutes taken by Dina Kovarik

Attachments:

2014-2015 Biotech Cohort Status as of 06/15/2016

	Name	Status
1	IRINA BOGUSLAVSKI	Research Cell Bank at Fred Hutch
2	REINO G CARLSON	Job seeking
3	SAVANNA S CARMACK	Summer Intern at Fred Hutch, transferring to UW
4	AURORA D CAUTHERS-KNOX	CMC Biologics
5	EVAN S HENRICH	Research Assistant at Matrix Genetics
6	MICHELLE HSUEH	Research Associate (Contractor) at Gilead Sciences, Inc
7	MITCHELL T KANE	Lab Manager at Celgene
8	ALYSSA N KING	SNBL
9	BERGENS EVE KRISTINA	Still completing courses
10	IRINA S KRUTIK	QC Associate 1 at CMC Biologics
11	SEAN K MADEN	Research Data Analyst Assistant, Fred Hutch
12	ERIN F MCCARTY	UW [attended classes, no certificate]
13	RICHARD A MORAN	Part-time at Shoreline, job seeking
14	CSILLA PAIZS-KIS	CMC Biologics
15	LAURA M STARKEY	Looking for summer internship
16	TANIA L ZAPATA-GARCIA	Seattle Children's
17	RACHAEL M ZIGWEID	Looking for summer internship

Legend

Seeking Full-Time Employment
Employed
Education In Progress