**AP Biology Institute**

**Pacific Lutheran University**

**July 9– July 12, 2018**

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Participants in the AP Biology Summer Institute will increase their knowledge of, and comfort with, the AP Biology Curriculum Framework. We will perform many of the labs in the Collegeboard Lab Manual and discuss how to modify labs currently used to make them more student-driven and inquiry-based. We will share best practices and hints on what works in the AP Biology classroom to improve student understanding and achievement. During the week we will also look at sample syllabi, textbooks, and online resources. In addition, we will spend time familiarizing ourselves with the format and grading of the AP Biology exam.

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| **Agenda** | | |
| **Day** | **Morning** | **Afternoon** |
| **1** | Introductions  The Curriculum Framework  Submitting the Course Audit  The AP Biology Exam  Lab: Natural Selection  Starting the year | Preview of Big Idea 1  HHMI Skin Color OR Rock Pocket Mouse  Lab: Hardy-Weinberg (2 ways)  Overview of the Student Lab Manual 13 labs  Lab: Bioinformatics (BLAST)  Wrap up Big Idea 1 |
| **2** | Equity and Access  The AP Biology Exam  Preview of Big Idea 2  Getting ready for lab work  Assessing lab work  Lab: pGLO Day 1 | Lab: Surface Area/Volume  Lab: Diffusion and Osmosis  Lab: Photosynthesis - Leaf Disk Assay  Online lab simulation: Cellular Respiration  Lab: Cellular Respiration (set up only) |
| **3** | The Free-Response section of the exam  Lab: Photosynthesis and Respiration  Immune/Blood Type Activities  Wrap up Big Idea 2  Lab: pGLO Day 2  Preview Big Idea 3  Activity: Quorum Sensing | Lab: Electrophoresis of precut Lambda DNA  HHMI Data Points  Development Lessons  HHMI Stickleback activity  Nervous System activities  Lab: Chemoreception - Taste  Wrap Up Big Idea 3 |
| **4** | Problem-Based Learning in AP Biology  Lab: pGLO Day 3  Preview of Big Idea 4  Activity: Pattern Matching – Organic Molecules | Lab: Enzymes – Yeast Spheres  POGIL: Enzyme Activity and Cellular Regulation Ecology Unit  Wrap Up Big Idea 4  Evaluations and Give-Aways |