**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** | IntroductionsThe Curriculum FrameworkSubmitting the Course AuditThe AP Biology ExamLab: Natural SelectionStarting the year | Preview of Big Idea 1HHMI Skin Color OR Rock Pocket MouseLab: Hardy-Weinberg (2 ways)Overview of the Student Lab Manual 13 labsLab: Bioinformatics (BLAST)Wrap up Big Idea 1 |
| **2** | Equity and AccessThe AP Biology ExamPreview of Big Idea 2Getting ready for lab workAssessing lab workLab: pGLO Day 1 | Lab: Surface Area/VolumeLab: Diffusion and OsmosisLab: Photosynthesis - Leaf Disk AssayOnline lab simulation: Cellular RespirationLab: Cellular Respiration (set up only) |
| **3** | The Free-Response section of the examLab: Photosynthesis and Respiration Immune/Blood Type ActivitiesWrap up Big Idea 2Lab: pGLO Day 2Preview Big Idea 3Activity: Quorum Sensing | Lab: Electrophoresis of precut Lambda DNAHHMI Data PointsDevelopment LessonsHHMI Stickleback activityNervous System activitiesLab: Chemoreception - TasteWrap Up Big Idea 3 |
| **4** | Problem-Based Learning in AP BiologyLab: pGLO Day 3Preview of Big Idea 4Activity: Pattern Matching – Organic Molecules | Lab: Enzymes – Yeast SpheresPOGIL: Enzyme Activity and Cellular Regulation Ecology UnitWrap Up Big Idea 4Evaluations and Give-Aways |