

# **PERSONAL DEVELOPMENT**

## OPPORTUNITIES FOR TEACHERS IN THE PHILADELPHIA AREA



I G N I T E  
**S T E M**

**Hello from igniteSTEM!** The University of Pennsylvania is offering free personal development opportunities through the Penn Graduate School of Education. We have given a brief description of each opportunity below, with details on the program's timeline and outcomes. Links for more information and to apply are also provided. We hope that you'll consider taking advantage of these programs!

## 1. Bioinformatics and Mobile Learning Project

The Bioinformatics and Mobile Learning Project at the University of Pennsylvania is a paid two-year curriculum and implementation project. It includes summer professional development to collaboratively design and build a problem-based learning unit on bioinformatics. Bioinformatics is an interdisciplinary field that combines biology, computer science, and statistics, and involves the analysis of big data and the application of this analysis. The overarching goal of the project is to help create an engaged population of informatics-informed students who are capable of critically analyzing information and able to solve local problems related to their health and well-being. Project partners include the University of Pennsylvania Graduate School of Education and the Institute for Biomedical Informatics at the Perelman School of Medicine.

Through this project, teachers will:

- Work with cutting edge science and pedagogy
- Create curricular activities anchored in educational tools that will engage students.
- Have access to experts in the fields of bioinformatics, science education, and mobile learning.

The teacher participation timeline is as follows:

- Jan - March 2019 – Bioinformatics teacher application process open
- April 2019 - Applicants notified of acceptance
- May-June 2019 - Pre-survey and interview completion
- July 8th - 26th 2019 – Bioinformatics and Mobile Learning Teacher Summer Institute Year 1
- Academic Year 2019-2020 – Ongoing PD and implementation of bioinformatics unit and research instruments in classrooms
- Summer 2020 - Bioinformatics and Mobile Learning Teacher Summer Institute Year 2
- Academic Year 2020-2021 - Ongoing PD and implementation of revised bioinformatics unit and research in classrooms

To learn more and apply: <https://tinyurl.com/PennBioinformatics>

## 2. App Inventor Academy Teacher Application

Using the mobile phone and freely available software, teachers will collaborate with each other and the workshop facilitators to develop curricular content that combines learning about programming an app and socioscientific issues, such as recycling or the impact of carbon footprints. Teachers and students will join a growing body of local and global citizens all building apps to make a difference in their communities.

By participating, teachers will:

- Develop pedagogical and technical skills in integrating computational literacy and science content using a cutting-edge programming tool that enables students to create mobile applications
- Create curricular activities anchored in innovative educational materials that will engage students
- Help students to take action and to participate as a local and global citizen

Teachers may participate in all or some of the following:

- *April and June 2019* - Professional Development on Penn's campus (12 hours in total)
- *May and June 2019* - Implementation of App Inventor Academy activities and research instruments in classrooms
- *Summer 2019* - Additional App Inventor Academy Professional Development opportunity

To learn more and apply: <https://tinyurl.com/ApplyAppInventorPD2019>

### **3. edX Course Enrollment: Learning to Teach High School Biology Through Systems, Models, and Argumentation**

Using the mobile phone and freely available software called App Inventor, teachers collaborate to develop curricular content that combines learning about programming an app and socio-scientific issues, such as recycling or the impact of carbon footprints. Teachers and students will join a growing body of local and global citizens all building apps to make a difference in their communities. Implementation can take place in an afterschool program or anywhere students may want to learn computer programming and science.

This is a six-week, interactive, collaborative, professional development course that you can access anywhere and anytime. You will learn how to use online simulations to develop core biology content and practices, aligned with the Next Generation Science Standards. The student facing materials consist of six modules designed for implementation over several class periods, serving as a replacement for an existing lab or activity. The online simulations include optional entry-level coding and the course provides support for learning to teach this with students.

The teacher participation timeline is as follows:

- June 2019 : Link to edX course will be emailed to teachers who applied so that they can enroll
- July 3rd, 2019 : Welcome synchronous meet up via video call
- July 3rd - August 14th : Participate in weekly course content
- 2019/2020 School Year : Implement curriculum while maintaining access to all course materials

To learn more and apply: <https://tinyurl.com/Penn-BioSystemsCourse>