

The Genomics Education Partnership (GEP): A community of practice that enhances research opportunities

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Abstract:

Since 2006, the Genomics Education Partnership (GEP; <http://gеп.wustl.edu>) has incorporated authentic genomics research experiences into the undergraduate curriculum, introducing thousands of students to eukaryotic gene structure, comparative genomics, and the evolution of *Drosophila*. Our 100+ participating institutions include community colleges, primarily undergraduate institutions, minority-serving institutions (MSIs), historically black colleges and universities, and research-intensive PhD-granting institutions. For many faculty and their students, the accessible, immersive curriculum, and custom bioinformatics tools represent a unique opportunity to participate in genomics research. GEP faculty benefit from membership in a national network of like-minded colleagues and professional development opportunities that include training, research, and publication in peer-reviewed journals.

The GEP provides a wide array of materials for faculty to implement with students at any level.

This workshop will utilize the GEP "Understanding Eukaryotic Genes" modules (available on CourseSource at <https://doi.org/10.24918/cs.2017.13>) to show how they can be applied in a high school or introductory college classroom or lab to help students master difficult biological concepts, such as eukaryotic genome structure and alternative splicing. Furthermore, we will discuss how faculty can engage undergraduate students in GEP research projects that can lead to co-authorship on scientific publications: resolving sequencing/assembly problems and generating high-quality gene models for GEP analyses.

The GEP is actively recruiting additional faculty members, especially from community colleges and MSIs, to participate in regional and national (in person or online) professional development to use the GEP curriculum in their classrooms. Further, the GEP is seeking science partners to collaborate with GEP members on funding and development of additional projects, and science education partners to collaborate on curriculum development and assessments. Please contact us through the contact forms at http://gеп.wustl.edu/contact_us. Supported by NSF IUSE-1431407 to SCRE, NSF IUSE-1915544 to LKR, and NIH IPERT-1R25GM130517-01 to LKR.

Notes:

Goals of the proposed workshop:

1. Familiarize audience with the Genomics Education Partnership (GEP) network of faculty and colleges throughout the United States, Puerto Ricco and Canada.
2. Attendees bringing laptops with internet access will have hands-on introduction to the Genome Browser using GEP Curriculum tools (Module 1 of a GEP Curriculum package):
http://gep.wustl.edu/curriculum/introducing_genes
3. Invite attendees to Regional Node 1-2 day events held throughout the USA and/or the Centralize training session held annually at Washington University in St. Louis, MO

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