

2013 Spring AIM-UP! Seminar

Harvard University, Occidental College, University of New Mexico

Evolutionary Genomics: Enhancing insight into evolutionary processes using museum collections

Course theme: *Through discussion, presentations and video conferencing we will explore diverse ways to enhance evolutionary studies via online databases for genomics and museum collections. Some lectures will be held remotely and given by video by scientists at institutions participating in AIM-UP!, a NSF-funded multi-institution research network aimed at enhancing undergraduate education through museum collections.*

Draft Syllabus: (Schedule of some speakers is tentative)

1/29 Prof. Joe Cook (University of New Mexico): The AIM-UP Project: History and goals

2/5 Prof. Scott Edwards – (Organismic and Evolutionary Biology (OEB), Museum of Comparative Zoology (MCZ), Harvard): The intersection between genomics and museum collections: research examples

2/12 Prof. John McCormack – (Occidental University, CA): Combing niche modeling and next-generation sequencing of DNA from museum specimens to explore Mexican bird phylogeography

2/19 Dr. Kasia Bryc – (Harvard Medical School): Neanderthal genomics: Patterns of population structure and admixture among human populations

2/26 Prof. Noreen Tuross – (Human Evolutionary Biology (HEB), Peabody Museum, Harvard University) Ancient DNA and other rare elements in museum research

3/5 Dr. Mansi Srivastava – (MIT) Evolution of animal complexity: Insights from genomes of early evolving animals

3/12 – Spring Break (UNM & Occidental)

3/19 Spring Break (Harvard) – UNM & Occidental student projects

3/26 Allison Shultz – (OEB/MCZ Harvard) From colorful morphology to colorless population genomics: collections and genomics in avian evolutionary biology

4/2 Sarah Kocher – (OEB/MCZ Harvard) Ecological genomics of social behavior

4/9 Mary O'Connell – (OEB/MCZ Harvard): Mammal phylogenomics and molecular adaptation using online molecular databases

4/16 Dr. Kim Cooper (Department of Genetics, Harvard Medical School): Genes, bones and development: forging an interface between museum collections and evo-devo.

4/23 Dr. Breda Zimkus – (OEB/MCZ Harvard): Growth of museum tissue collections and use of loans in genetic research: a case study using speciation in African amphibians

4/30 Student presentations

5/2 - 5/9 Student presentations