The Challenge

Informing students and instructors about the potential role of collections in undergraduate teaching & research at all universities represents a significant challenge.

- Many educators are unaware of the educational potential of collections and associated databases.
- Survey of ~100 UC Berkeley biology students: > 70% were unaware of the Museum of Vertebrate Zoology and < 10% had visited
- Survey of ~100 U. New Mexico biology students: 50% were unaware of UNM's Museum of Southwestern Biology; only ~15% had visited

Art + Biology in the Museum

Communication between fields is important within science, but also between biologists, artists, and historians as we build collective knowledge. Natural history collections emphasize spatial & temporal variation and are uniquely situated to bridge the gap between traditionally segregated disciplines, as they foster development of creativity, generative thinking, and rigorous inquiry. By incorporating art and history into biology, we begin to strengthen ties between the sciences and humanities within university curricula and research activities. A common interest in place-based research and inquiry-driven learning underpins integrated and experiential approaches to pedagogy. See more at unm-core.blogspot.com.

Assessment using Surveys

Students across the U.S. have a range of experiences with natural history collections, yet we know very little about the possible educational outcomes of interacting with collections and specimens. We are currently surveying undergraduate students to assess their knowledge of natural history collections at two different stages:

- At the start of their 1st biology course
- Science majors nearing graduation

These surveys will help us develop guidelines and recommendations for improving the student experience.

Funding

- AIM-UP! Museum-Based Approaches to Increasing Core Competencies in Undergraduate Education

Educational Modules

Online materials intended to introduce key concepts in biology & educate students about the vast resources available in natural history collections worldwide. These modules make use of online resources—including biological databases—and cover topics such as:

- Tree-thinking and phylogenetics
- Biodiversity assessment
- Coevolution (Art + Biology)
- Using GIS to analyze bat records
- Island biogeography
- Museum-based independent projects

Find out More

Visit the website – aimup.unm.edu – to learn more about AIM-UP, use our resources, or provide feedback. Check out our recent paper in Bioscience (64:725-734): Cook et al. (2014) “Natural History Collections as Emerging Resources for Innovative Education”. Find out about joining this effort by emailing: aim-up@aim-up.org

Participating Museums:
- Museum of Southwestern Biology (U. New Mexico)
- Museum of Comparative Zoology (Harvard)
- Museum of Vertebrate Zoology (UC Berkeley)
- Museum of Natural History at the University of Colorado, Boulder
- Florida Museum of Natural History (U. Florida)
- Museum of the North (U. Alaska, Fairbanks)
- University of Michigan Museum of Zoology
- U.S. National Parasite Collection
- Museum of the North (U. Alaska, Fairbanks)
- Texas Cooperative Wildlife Collection (Texas A&M)
- Moore Laboratory of Zoology (Occidental College)
- Tulsa University Biodiversity Research Institute
- Museum of Biological Diversity (Ohio State)
- Central Michigan University Herbarium
- Botanical Research Institute of Texas

Participating Networks:
- CollectionsWeb: Building a Community of Natural History Collections (RCN)
- InvertNet (invertnet.dyndns.org)
- Open Science Network in Ethnobiology (openscienconet
work.net)
- DigBio (digbio.org)
- Open Tree of Life (opentreeoflife.org)