Archeology Meets the Earth and Space Sciences

Time: Friday 9:30-11:20 AM
Location: POST 544

Contact: Eric Gaidos (gaidos@hawaii.edu)

Course prerequisites: Undergraduate background in geochemistry, geophysics, and/or remote sensing will be very helpful.

This is not an archeology seminar. It is a seminar about the application of technologies and techniques in Earth and space sciences to archeology. The field of archeology is the study of past human societies through the records they leave behind, whether their remains, the artifacts they produce, or their impact on the natural environment or each other. Although it is the study of the past, archeology employs cutting-edge technologies to examine artifacts, remains, and impacts, some of which will be introduced, discussed, and explored here.

The course consists of nine topical seminars, with a lecture and an introduction to a short take-home project involving analysis of data, a data search, or a literature search/report. By the week after spring break, i.e. by Mar 25, students will select a project, either from a list provided by the instructors, or a different project with the approval of the seminar coordinator. Students will give a presentation on their findings on the last Friday of the course. No final.

Schedule:

Jan 11 Course introduction (Gaidos)
Jan 18' Imaging from above (Gaidos)
Jan 25 Lidar (Quintis)
Feb 1 Stable isotopes of light elements (Popp)
Feb 8 Radiometric dating with C-14 (Beilman)
Feb 15 Exposure ages from spallation-produced radionuclides (Englert)
Feb 22 Provenance of objects by geochemistry (Sinton, Huss, McCoy)
Mar 1 TBD (Gaidos)
Mar 8 Subsurface imaging with geophysical methods (Grobbe)
Mar 15 Astroarchaeology (Hu)
Mar 22 Spring break (no seminar)
Mar 29, Apr 5, 12, 19 Work on student projects
Apr 26 Student presentations

Grading:
Letter grade only
Course participation: 30%
Take-home work: 30%
Final presentation: 40%
Student learning outcomes:

- Basic familiarity with some techniques and instruments as applied to sciences
- Explore a single topic more fully and become acquainted with characteristics of the data
- Improve scientific presentation skills

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