

## **Center for Archaeological Materials/Center for Materials Research in Archaeology and Ethnology**

The mission of the [Center for Materials Research in Archaeology and Ethnology](#) (CMRAE), a consortium of eight Boston-area educational and cultural institutions, is to advance our understanding of prehistoric and nonindustrial societies through analysis of the structure and properties of materials associated with human activity. Plant and animal food remains and human skeletal material, as well as metal, ceramic, stone, bone, and fiber artifacts, are the objects of study, along with the environments within which these materials were produced and used. At the Center for Archaeological Materials (CAM) at MIT, investigators concentrate on the materials-processing technologies that transform natural materials into cultural objects. CAM is administered by the Office of the Provost.

In AY1999, the Department of Materials Science and Engineering (DMSE) established a new undergraduate major in archaeology and materials, Course 3-C, as well as an interdisciplinary doctoral degree program in archaeological materials. These are the only academic degree programs of their kind in the United States. The graduate students enrolled in the PhD program, as well as the undergraduate Course 3-C majors who participate in the Undergraduate Research Opportunities Program, all carry out their dissertation and senior thesis research in the CMRAE laboratory facilities.

Archaeological Science, the CMRAE/CAM undergraduate subject offered jointly by DMSE, the Department of Chemistry, and the Department of Earth, Atmospheric, and Planetary Sciences, continues to enjoy high popularity among students from CMRAE institutions. This year 136 of the 142 enrolled students were from MIT, the others were from Boston University, Brandeis University, Harvard University, and the University of Massachusetts, Boston. Ten faculty members from four CMRAE institutions lectured in the subject.

During the spring term, 40 first-year undergraduate students in the subject 3.094 Materials in Human Experience were engaged in lecture and laboratory sessions that explored the development of metallurgy among ancient Andean societies, and the processing and use of lime plaster and natural pigments by the ancient Maya peoples of Mesoamerica for mural architectural enhancement. The laboratory project assigned for the Maya murals unit focused on the reproduction of scenes from a ritual dance depicted on some of the best-preserved Maya murals in Room 3 at the Temple of the Murals, Bonampak, Chiapas, Mexico. Students processed the lime, prepared a suitable wall backing for the plaster, and gridded the plaster ground to produce a scaled charcoal drawing of the mural image. They then painted the image using the same pigments that the Maya had used. One of the CMRAE consortium analytical laboratories participated in identifying Maya mural pigments. The 3.094 students carried out both the Andean metallurgy and the Maya mural activities in the DMSE Merton C. Flemings Material Processing Laboratory.

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