Work by Cal Poly Physics Professor Published This Week in Nature

SAN LUIS OBISPO – Cal Poly Physics Professor Kenneth Hoffman, a pioneer in the study of reversals of Earth’s magnetic field, has co-authored an article in the Sept. 30 issue of Nature. It is the ninth time his work has been published in the prestigious weekly science magazine.

Hoffman, who has taught physics at Cal Poly for 30 years, co-wrote the article, “New evidence on the earliest human presence at high northern latitudes in northeast Asia,” with Rixiang Zhu of the Institute of Geology and Geophysics at the Chinese Academy of Sciences in Beijing, Rick Potts from the Smithsonian Institution and scientists from the Hebei Province Institute of Cultural Relics in Shijiazhuang.

Their research, as reported in Nature, dates the northern migration of early humans from equatorial Africa to Asia back nearly 1.7 million years. “This is the earliest find anywhere near this area,” Hoffman said. “It helps us understand the migration of people over time.”

Hoffman and the other researchers studied primitive tools made from rock and bone found in four sediment layers in an uplifted area that was once a lake near Beijing in northern China. “Using what we know about the record over time of reversals in polarity of Earth’s magnetic fields,” Hoffman said, “we were able to determine the age of the sedimentary artifacts. With that information, we know when these early humans migrated to that part of the world.”

In addition to ongoing studies and publications, Hoffman has published several papers with Chinese paleomagnetists. The Institute of Geophysics in Beijing has made him an honorary professor.

At Cal Poly, Hoffman works both as a researcher and professor. He has received research grants from the National Science Foundation since 1979. “I enjoy being on the cutting edge,” he said.
He also takes students along on trips to sample lava flow sequences at other locations around the world in order to study the process by which Earth’s magnetic field manages to reverse its polarity. Richard Frankel, chair of Cal Poly’s Physics Department, praised Hoffman as a “big believer” in the role of undergraduate research.

“He has shown all of us that it is possible to be a good teacher and a good researcher,” Frankel said. “There’s a big difference between a lab course and real-life experience. The possibilities are open-ended.”

Hoffman earned a Bachelor of Arts degree in physics in 1966, a Master of Arts degree in geophysics in 1969 and a doctorate in geophysics in 1973, all from UC Berkeley.

Kenneth Hoffman is a resident of San Luis Obispo.

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**Cal Poly Public Affairs**
California Polytechnic State University
San Luis Obispo, CA 93407
805.756.7266
polynews@calpoly.edu