

## RMS-SEPM Talk, February 26th, 2013

### Professor Gail M. Ashley

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### "The Paleoclimatic Framework of Human Evolution"

There is a growing consensus that climate variability (i.e. magnitude and frequency of climate change) was an important factor in natural selection. Reconstruction of the environment requires multidisciplinary interaction of geologists, soil scientists, paleoanthropologists and paleoecologists. The study of a Plio-Pleistocene "time slice" in Olduvai Gorge, Tanzania provides a successful example of a reconstructed paleolandscape that is rich in detail and adds a small piece to the puzzle of hominin evolution in Africa. Lake Olduvai in the Olduvai basin expanded and contracted on Milankovitch time scales (~20 Ka). Groundwater-fed wetlands provided a source of food and safety in an otherwise harsh setting. New research using plant biomarkers allows reconstruction of an ancient landscape and yields information for paleoanthropologists studying food sources including hunting or scavenging for meat. The importance of springs and wetlands to the ecology of hominins at Olduvai had not been appreciated before and the linkage was noted only because of the interdisciplinary approach of the research.

#### Biography

Dr. Ashley is a geoscientist of international stature. She is Professor II of Geological Sciences at Rutgers University (New Brunswick, NJ) and Director of the Quaternary Studies Graduate Program there. She has been at Rutgers for 30 years and supervised 38 graduate students (~50% were women). Her current research focuses on the paleoclimate record of East Africa during the time of early human evolution.

She teaches sedimentology to both undergraduate and graduate students; and co-teaches Mars: The Next Frontier (a course for non science majors); and geomorphology, Quaternary Period for geology majors); She directs a Workshop at Rutgers for Junior Faculty.

She received her BS and Ms from UMass and PhD from Univ. of British Columbia. She has served as the president of Eastern Section SEPM, Geological Society of America (GSA), President of Society for Sedimentary Geologists (SEPM), President of AGI and was Vice-President of the International Association of Sedimentologists (IAS). Her publication list includes over 90 peer reviewed articles and editorship of 6 books. She has also served as Editor-in Chief of the international publication, "Journal of Sedimentary Research (1996-2000) and on numerous National Research Council and National Science Foundation boards, committees and panels.

She has received: the *New Jersey Women of Achievement Award*; the Association of Women Geoscientists "*Outstanding Teacher Award*"; the *Distinguished Service Award* from SEPM; *Honorary Membership* in SEPM; and the *2012 Laurence L. Sloss Award* from the Sedimentological Division of GSA.

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