Oral Presentation \_\_\_X\_\_\_\_\_ Poster Presentation\_\_\_\_\_\_\_\_\_\_

**Preliminary diatom results from Chew Bahir, Ethiopia – a contribution to the Hominin Sites and Paleolakes Drilling Project.**

Davies, Sarah1; Robson, Patrick1; Lamb, Henry1; Asrat, Asfawossen2; Barker, Philip3; Cohen, Andrew4; Schaebitz, Frank5 Trauth, Martin6 & the HSPDP project team.

1Department of Geography and Earth Sciences, Aberystwyth University, Penglais, Aberystwyth, SY23 3DB, UK ([sjd@aber.ac.uk](mailto:sjd@aber.ac.uk); [pjr@aber.ac.uk](mailto:pjr@aber.ac.uk); [hfl@aber.ac.uk](mailto:hfl@aber.ac.uk) )

2School of Earth Sciences, Addis Ababa University ([asfawossena@gmail.com](mailto:asfawossena@gmail.com) )

3Lancaster Environment Centre, Bailrigg, Lancaster, LA1 4YQ, UK ([p.barker@lancaster.ac.uk](mailto:p.barker@lancaster.ac.uk) )

4Department of Geosciences, University of Arizona, 1040E 4th Street, Tucson, AZ 85721, USA ([cohen@email.arizona.edu](mailto:cohen@email.arizona.edu))

5Seminar of Geography and Education, University of Cologne, Gronewaldstr. 2,

50931 Cologne, Germany ([ape15@uni-koeln.de](mailto:ape15@uni-koeln.de) )

6Institute of Earth and Environmental Science, University of Potsdam, Karl-Liebknecht-Str. 24-25, 14476 Potsdam-Golm, Germany ([Martin.Trauth@geo.uni-potsdam.de](mailto:Martin.Trauth@geo.uni-potsdam.de) )

The Hominin Sites and Paleolakes Drilling Project (HSPDP) aims to test the numerous hypotheses linking climatic trends, events and variability to human origins and dispersal. Long continuous sediment cores spanning critical intervals of evolutionary history have been obtained from five lacustrine sites close to globally significant hominin sites in eastern Africa. Here we present preliminary results from Chew Bahir in Ethiopia, close to the Omo Valley and providing the environmental context to the oldest known *Homo sapiens* fossils dating back c. 200 ka.

Chew Bahir (4°40’N, 36°50’E; 600 m asl) is in southern Ethiopia between the Main Ethiopian and Kenyan rifts. Today the basin floor is a seasonally inundated playa, covering an area c. 30 km E-W and 70 km N-S. Chew Bahir is classified as an ‘amplifier’ lake, highly sensitive to climatic fluctuations and an ideal site for palaeoclimate reconstruction. Palaeo shorelines indicate a much larger lake once occupied the basin (Foerster et al., 2012). Chew Bahir straddles the boundary between a tropical equatorial and summer monsoonal climate, influenced by the Intertropical Convergence Zone (ITCZ) and the Congo Air Boundary (CAB). Shifts in the location of these key features of the large scale atmospheric circulation have a profound influence on precipitation and therefore hydrological balance of the basin.

Two parallel cores of 279m and 266m were obtained in December 2014. A team of UK, German and Ethiopian researchers is developing the multi-proxy record for Chew Bahir. A composite sequence has been established, with initial core descriptions completed and high-resolution XRF scanning underway. Preliminary assessment for diatom content indicates poor or no preservation in large sections of core. Diatom-rich zones have been identified within the top 80 m, around 2-4m, 30m, 67-70m depth and c. 80m depth. The chronology of these has not yet been established. Species of *Aulacoseira, Stephanodiscus* and *Cyclotella* are common in these zones, indicating open water conditions substantially different to today. Considerable variability within the diatom-rich zones, indicates potential for high-resolution reconstructions for specific time periods.