

Applicant (name and affiliation): this is usually the museum curator!

Michael Chazan

Applied for (principal researcher):

Michael Chazan

Participants with affiliations, email addresses, phone numbers (& their role):

1) Selina Amaral, University of Toronto, selina.amaral@mail.utoronto.ca

Role: Graduate Student, Micromorphology

2) Jayde Herniak, Arizona State University, jaydehirniak@gmail.com

Role: Graduate Student, Cryptotephra

3) Naomi Porat, Israel Geological Survey, naomi.porat@gsi.gov.il

Role: OSL dating

4) Michaela Ecker, University of Kiel, mecker@ufg.uni-kiel.de

Role: Leaf Wax analysis

The material will be couriered to each facility upon receipt of permit under the responsibility of Michael Chazan.

Institution incl. address that currently hosts the object:

Department of Anthropology, University of Toronto, 19 Ursula Franklin Street, Toronto, Ontario (Micromorphology))

Institute of Human Origins, School of Human Evolution and Social Change, Institute of Human Origins, School of Human Evolution and Social Change, Arizona State University, PO Box 878404, Tempe AZ 85287-8404 (Cryptotephra)

The Geological Survey of Israel, Department of Geochemistry and Environmental Geology, 32 Yeshayahu Leibowitz Street, Jerusalem 9691200, Israel (OSL Dating)

Institut für Ur- und Frühgeschichte, Johanna-Mestorf-Str. 2-6, 24118 Kiel (Leaf Wax)

Facility incl. address at which the experiment will be done:

Same as above.

Table of objects or upload file:

Micromorphology: 6 blocks and 11 bulk sediment samples

Cryptotephra: 89 samples, 20-30 grams each

There are 89 samples and they are roughly 20-30 grams each.

10 leaf wax samples

5 OSL samples.

Site including age at which object was found:

Kathu Pan 6 from Fauersmith through Howiesons Poort contexts

Time frame:

Transport to Facilities listed above upon receipt of permit

Return date: Destructive analysis.

Aim/rationale:

Kathu Pan 6 provides a unique opportunity to explore the climate of human adaptation in the interior between the Fauresmith and the Howiesons Poort. The Leaf Wax samples are for a study of paleoclimate, Micromorphology is to understand site formation processes and OSL and cryptotephra aim to further the chronological control over the sequence.

Methodology (short):

Micromorphology: Microscopic study of sediments from archaeological samples in both bulk samples and consolidated blocks that preserve the stratigraphic integrity.

OSL Dating: Dating method that measures the amount of accumulated light energy to determine the time that has elapsed since the burial of the sediment.

Cryptotephra: A new method that identifies microscopic tephra fragments that can then be matched based on geochemistry to known eruptions.

Leaf Wax: Extraction of leaf wax lipids to identify signatures indicative of climate conditions in the past.

Confirmation/permit by museum (Attached?):

These are sediment samples that have not been accessioned by a museum.

Damage/destructive analysis? (if yes, explain in detail)

These are all destructive analysis of sediments recovered from archaeological contexts. No objects included in permit request.

Statement why this study cannot be done in South Africa:

Lack of facilities.