**Export permits**

Please note an export permit must be linked to an object or site that has to be created on SAHRIS! If the object/site you want to work on has not been created yet, you would need to do so. Thanks!

The proposal should include (you can fill these in below):

* a list of participants (name, affiliation, phone no, email addresses) and how they are involved;
* the name and address of the facility, including address, it is being scanned at;
* name and address of the museum/university department that currently hosts the object;
* names of the responsible person(s) during transport and while the fossil is at the facility;
* the period/time frame during which the fossil(s) will be outside the country;
* detailed information on the fossil(s), especially as it is a "unique" specimen;
* detailed information on the research project behind it & methodology including expected outcomes (i.e., the reason for export);
* the written confirmation of the institution that currently hosts the object that the object may be used as proposed and be returned in good condition;
* should there be any damage/destructive analysis (e.g., coating for higher resolution) undertaken, this needs to be stated in detail;
* Statement why this study cannot be done in South Africa.

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

Dr Bernhard Zipfel, University Curator of Collections, Evolutionary Studies Institute, University of the Witwatersrand

**Applied for (principal researcher):** Dr Natasha Barbolini, Department of Ecosystem & Landscape Dynamics (ELD), Institute for Biodiversity & Ecosystem Dynamics (IBED), University of Amsterdam, The Netherlands. +31 658 814 852, [n.barbolini@uva.nl](mailto:n.barbolini@uva.nl)

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

1) Prof. Cynthia Looy, Department of Integrative Biology and Museum of Paleontology, University of California, Berkeley. +1 510 779 8704, looy@berkeley.edu

Role: Collaborator: palynology and palaeocology of the Permian Karoo

2)

Role:

3)

Role:

The material will be **hand-carried** to \_\_\_ **University of Amsterdam, Institute for Biodiversity & Ecosystem Dynamics (IBED)** \_\_\_\_\_ (facility/institution) in \_\_**December 2017**\_\_\_ (month, year) by \_\_**Dr Ashley Kruger, Evolutionary Studies Institute, University of the Witwatersrand**\_\_\_\_\_\_ (name of person responsible for transport) and brought back by \_\_\_\_\_\_\_\_\_\_\_\_\_ (leave blank if same person as above).

\_\_**Dr Natasha Barbolini**\_\_\_\_\_\_\_\_\_\_\_\_ (name) will be involved with the \_\_**counting and photography**\_\_\_\_\_ (e.g., transport/scanning) of objects and **\_\_\_\_(no other experiments to be carried out)**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (whatever else).

**Institution incl. address that currently hosts the object:**

Evolutionary Studies Institute, University of the Witwatersrand

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

Department of Ecosystem & Landscape Dynamics (ELD), Institute for Biodiversity & Ecosystem Dynamics (IBED), University of Amsterdam, Science Park 904, 1098 XH, Amsterdam, The Netherlands

**Table of objects or upload file:**

**4 x slide boxes of F414 BETHAL and PA106 LINDLEY palynological slides**

**Time frame:**

Transport to \_ University of Amsterdam \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (facility): \_\_\_\_December 2017\_\_\_\_\_\_\_(date)

Return date: \_\_\_\_December 2018\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (date)

**Aim/rationale:** To analyse palaeoecological patterns and extinction events in Permo-Triassic palynofloras of the main Karoo Basin, South Africa by means of pollen and spores, and publish the results in the international peer-reviewed journals *PNAS*, *Review of Palaeobotany and Palynology*, and *Palaeoecology, Palaeoclimatology, Palaeogeography*.

**Methodology (short):** Slides will be counted and photographed using an Olympus BX51 light microscope, and stored horizontally in their slide boxes in a temperature-controlled laboratory when not in use. Immersion oil will be used for 100x photography to examine fine detail and slides cleaned at the end of each day. Counts will be used to construct pollen diagrams and images will comprise plates for the manuscripts.

**Confirmation/permit by museum (**Attached?): Yes

**Damage/destructive analysis? (if yes, explain in detail)** No

**Statement why this study cannot be done in South Africa:** The project **c**entres on palynological material from two borehole cores, F414 (Bethal) and PA106, Lindley, Free State originally prepared by Dr Grigor Aitken for his PhD thesis. Much information was never published on when Dr Aitken wrote his thesis, and he has since left the field. In order to prepare new publications, the slides have to be completely re-counted and photographed. Each slide can take up to two weeks to count and photograph, depending on richness of the material. Accordingly, the project is so time-consuming that it will require approximately 9 months to complete, along with other research commitments.

Dr Barbolini’s postdoc at the ESI came to an end in April 2017 while she was still busy counting the material. She is now based at the University of Amsterdam but wants to complete the project so that the manuscripts can be written up. It is not possible to complete this analysis on a research visit as the work is too time-consuming. Furthermore, as the material has already been used for a PhD thesis, no other Masters or PhD student would be able to use these slides for their own project.

All necessary microscope and camera equipment is available at the University of Amsterdam to

photograph the specimens. The slides themselves are in good condition and sealed so that

oxygen cannot penetrate the mounting medium, and stored in sturdy slide boxes that can be latched shut. No destructive sampling of any kind will be engaged in and the slides will be returned to the ESI collections after completion of the project in the same condition.