

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

Applied for (principal researcher): Fernando Abdala

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

1) Dr Vincent Fernandez ; vincent.fernandez@esrf.fr; Phone: 33(0)476882856

Role: Main leader of the project; will produce the scanning images using the synchrotron and analyze data

2) Prof Fernando Abdala; nestor.abdala@wits.ac.za; Phone 011 7176687

Role: Analyze data

3) Prof Bruce Rubidge; bruce.rubidge@wits.ac.za; Phone 011 7176685

Role: Analyze data

The material will be **hand-carried** to _ European Synchrotron Radiation Facility _____
(facility/institution) in _June 2015_ (month, year) by Fernando Abdala_____ (name of person
responsible for transport) and brought back by _____ (leave blank if same person as above).
Fernando Abdala____ (name) will be involved with the _transport_ (e.g., transport/scanning) of objects
and

(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:

European Synchrotron Radiation Facility

Table of objects or upload file: BP/1/4597, skull and lower jaw of the cynodont *Galesaurus planiceps*. The fossil was found in Fairydale, Bethulie, Free State and the age is Early Triassic, more or less 250 million years ago.

Time frame:

Transport to _ European Synchrotron Radiation Facility (facility): ____22 June 2015____(date)

Return date: _5 July 2015__ (date)

Aim/rationale: Scanning specimen in order to study teeth microstructure.

Methodology (short): X-ray synchrotron propagation phase contrast microtomography. The specimen does not need any sort of special preparation; it will be placed on a slow rotating sample stage (about 10 minutes for 360 degrees rotation). Synchrotron as a source of X-ray is needed to provide enough signals for the submicronic resolution required and also to make use of the specific properties of the synchrotron beam (coherence) to use phase contrast imaging.

Confirmation/permit by museum (Attached?):

Damage/destructive analysis? (if yes, explain in detail): no

Statement why this study cannot be done in South Africa: This technology is unavailable in South Africa.