EUROPEAN SYNCHROTRON RADIATION FACILITY

INSTALLATION EUROPEENNE DE RAYONNEMENT SYNCHROTRON

ESRF

Experiment Report Form

The double page inside this form is to be filled in by all users or groups of users who have had access to beam time for measurements at the ESRF.

Once completed, the report should be submitted electronically to the User Office via the User Portal:

https://wwws.esrf.fr/misapps/SMISWebClient/protected/welcome.do

Reports supporting requests for additional beam time

Reports can be submitted independently of new proposals – it is necessary simply to indicate the number of the report(s) supporting a new proposal on the proposal form.

The Review Committees reserve the right to reject new proposals from groups who have not reported on the use of beam time allocated previously.

Reports on experiments relating to long term projects

Proposers awarded beam time for a long term project are required to submit an interim report at the end of each year, irrespective of the number of shifts of beam time they have used.

Published papers

All users must give proper credit to ESRF staff members and proper mention to ESRF facilities which were essential for the results described in any ensuing publication. Further, they are obliged to send to the Joint ESRF/ ILL library the complete reference and the abstract of all papers appearing in print, and resulting from the use of the ESRF.

Should you wish to make more general comments on the experiment, please note them on the User Evaluation Form, and send both the Report and the Evaluation Form to the User Office.

Deadlines for submission of Experimental Reports

- 1st March for experiments carried out up until June of the previous year;
- 1st September for experiments carried out up until January of the same year.

Instructions for preparing your Report

- fill in a separate form for each project or series of measurements.
- type your report, in English.
- include the reference number of the proposal to which the report refers.
- make sure that the text, tables and figures fit into the space available.
- if your work is published or is in press, you may prefer to paste in the abstract, and add full reference details. If the abstract is in a language other than English, please include an English translation.

ESRF	**Experiment title:** **Reconstructing joint ranges of motion in early tetrapods**	**Experiment number**: EC-685
Beamline: ID19	**Date of experiment**: from: 01 Sept 2010 to: 03 Sept 2010 22 April 2011 24 April 2011	**Date of report**: 15 March 2012
Shifts: 12	**Local contact(s)**: Dr Sophie Sanchez and Dr Paul Tafforeau	*Received at ESRF:*

Names and affiliations of applicants (* indicates experimentalists):

Professor Jennifer A Clack, University of Cambridge

Dr Stephanie E Pierce, University of Cambridge

Professor John R Hutchinson, Royal Veterinary College

Professor Per E Ahlberg, University of Uppsala

Report:

We had two sessions (6 shifts each) to scan our fossil samples. To date we have received complete data sets from 4 primary specimens, which consists of about 30% of the specimens scanned. The slow pace of raw data reconstruction at the ESRF in Grenoble has been a major limiting factor with respect to data analysis and publication of results; our hope is to receive the rest of our data in a timely fashion. Based on the data that we have received, our research team has recently completed segmenting out the 3D morphology of 3 of the 4 specimens (see Fig. 1 below). This data will be used in an upcoming paper (in prep) that will examine new skeletal anatomy of the early tetrapod *Ichthyostega* and how it compares to other tetrapodomorphs. We are unsure of what information the remaining data holds and thus cannot give any indication of other future publications at this time.

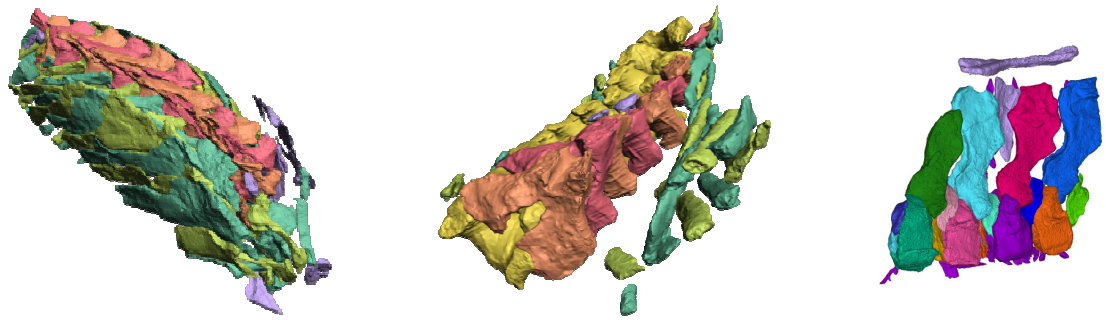

Figure 1. 3D reconstruction of 3/4 specimens in which data has been processed and received. The material will be incorporated into a paper (in prep) that will examine new morphological details of basal tetrapods.