



Palaeo-Internship Training Programme

Sponsored by **NEO JURASSICA**

Introduction

The Yorkshire Natural History Museum Palaeo-Internship has been designed to give students training and experience in commercial palaeontology practices (fossil preparation, conservation, digitisation, and replication) in a working environment and the behind the scenes running of a natural history museum.

Neo Jurassica (the ‘sponsor’) recognises the value in providing an improved model of training and development for field and laboratory palaeontologists in a commercial work environment, and in extending the intake demographic of the profession. Whilst this placement is not directed at securing a deep or specialist understanding in any particular area, the training will develop skills which broadly support several of the common skills gaps in palaeontology training and will teach the placement holder to adhere to high standards of ethical and responsible behaviour in the conduct of palaeontological affairs.

Duration: 6 weeks

Start date: Monday 15th July

Application Deadline: Friday 12th April (23:59 p.m.)

Aims and Scope of the Internship

The training in commercial palaeontology will provide the internship holder with key skills relevant to the obtaining and excavating of fossils and environmental samples, and the post-excavation processing, digitisation and archiving of such finds. These skills will be broad based, encompassing the entire process from extracting specimens from the ground through every step towards making them ready for the museum display or research, skills not often taught in traditional academic palaeontology training.



Skills will include laboratory work (fossil preparation and conservation), imaging (surface and CT scanning), field work (stratigraphy and excavation) and museum work (tour guiding and curation).

Eligibility

All interns must demonstrate competency in English Language. Interns who do not already possess an acceptable English Language qualification will need to take a recognised test and attain the required English Language score:

- i. IELTS: At least 6.5 overall with no less than 6.0 in each component.
- ii. TOEFL iBT: At least 90 overall with no less than 20 in each component. We do not accept 'MyBestScore'.
- iii. Pearson Test of English (PTE): At least 70 overall with no less than 59 in each component.

All interns must have an accepted offer, be enrolled in, or graduated from an Earth or Life Science Program or another relevant discipline (eg: Palaeobiology, Geology, Zoology etc) from an accredited University or equivalent institution.

All interns who are not British or Irish citizens must prove they have the right to work in the UK. More details can be found at: <https://www.gov.uk/prove-right-to-work>.

The Host Institution

The internship will be based at the Yorkshire Natural History Museum and coordinated by Neo Jurassica. which is embedded within the laboratories of the museum located at 149 Holme Lane, Hillsborough, Sheffield, S6 4JR.

Neo Jurassica is a leading commercial palaeontology unit that undertakes contracts in the UK and is a member of the Natural Sciences Collections Organisation, Geological Curator's Group, Association of Applied Palaeontological Sciences, Institute of Conservation and more. The unit provides high quality palaeontology services, including excavation, preparation, conservation, digitisation, publication, replication, and public outreach. A team of specialists offers a comprehensive service in all areas of palaeontology with a proven track record.

The unit also provides supervisory staff for the museum's volunteers and regularly offers opportunities for students to get practical palaeontology experience. This puts it in a unique position to offer work placements offering a broad-based training in palaeontology.



Supporting Staff

All palaeontological work carried out by the internship holder will be supervised to ensure that professional standards are met. The ratio of experienced staff to trainees will take into account the nature and complexity of the work but typically operates at a minimum ratio of 1 supervisor to 5 students.

Staff members and roles in relation to internship holders:

Oliver Weeks (Curator): Manager/Supervisor
Issy Walker (Palaeo-Technician): Supervisor
James Hogg (Chairman): Supervisor
Jake Kean (Palaeo-Radiologist): Mentor
Maddy Widdowson (Secretary): Mentor
Alison Park (Preparator): Mentor
Han Chua (Additive Manufacturing Technician): Mentor

Training Programme

The internship holder will be provided with a programme of practical training in multiple aspects of palaeontology. Taken as a whole, the programme will provide skills enabling the internship holder to:

- Work safely as a member of the team within a laboratory setting
- Carry out routine palaeontological preparation and conservation, including usage of pneumatic tools and chemical procedures.
- Carry out routine palaeontological fieldwork, including excavation and recording.
- Carry out basic museum curatorial roles with supervision, to submit to relevant specialists and support archive completion.
- Gain a broad understanding of how these processes contribute to the overall project results and what makes a successful commercial palaeontological project.

Training progress will be monitored internally within the Yorkshire Natural History Museum.

A key opportunity during the internship is participation on our field excavation to Cerney Wick, Wiltshire. The excavation will focus on the extraction of Pleistocene fossils from the superficial deposits and Jurassic fossils from the underlying Kellaways Sands and Oxford Clay rock units from a disused gravel quarry.

At the end of the training programme, an evaluation of the internship holder and the training programme will be carried out internally within the Yorkshire Natural History Museum via a Work Placement Performance Appraisal and a Training



Evaluation Form to ensure the ongoing quality of the training programme and that learning outcomes are being met.

Timetable

The internship will run for 6 weeks, 5 days per week, 10am-4pm each day. This will total 150 hours after allowing for bank holidays, Museum closure days, one hour lunch breaks, leave and sickness.

The suggested time spent in each training area will be:

Introduction: 1 day

Lab work: 9 days

Imaging work: 3 days

Field work: 6 days

Museum work: 11 days

Time spent on lab work are interchangeable as to the needs of the intern – some students may, for example, prefer to specialise in curating collections over fossil preparation.

Outcomes

As a result of the training programme, the internship holder will have gained sufficient understanding of palaeontological techniques associated with commercial development to assist with career progression along any of the following routes:

- Continued academic study
- Working towards entry-level employment within any commercial palaeontological unit
- Many types of trainee and assistant roles within the earth science sector

The conservation training will also start developing the internship holder to ICON accreditation.

Neo Jurassica will further develop its understanding of how to integrate staff from a wider range of academic and socioeconomic backgrounds into the organisation.



Detailed Schedule of Learning Outcomes

Lab work

LB01

Lab conduct

The first day in the lab will consist of an overview of rules to be followed in a hazardous environment with a health & safety briefing.

LB02

Pneumatic preparation

Interns will learn to use pneumatic scribes (air pens) and develop their techniques to a commercial standard.

LB03

Air abrasive preparation

Use of abrasive powders will be taught to interns who will then firsthand apply them to prepare museum specimens including how to identify which abrasive powder should be used in specific circumstances.

LB04

Adhesives and consolidants

Interns will learn how and when to correctly apply adhesives and consolidants to fossils.

LB05

Conservation and archive stability

Interns will be taught how to ensure procedures are reversible in line with ICON conservation standards and how to maintain stability in Earth Science collections.

Imaging

IM01

Surface scanning

Training on 3D surface scanning with HandySCAN Black ELITE.

IM02

CT Scanning

Interns will be shown how to initialise and run a scan on our CT scanner.

IM03

CT Segmentation

Interns will be trained on segmenting a CT scan.

IM04

3D Printing

Demonstration of the 3D printing facilities, turning scans into 3D models.



Field Work

FD01

Fundamental geology

Interns will be given a crash course on the geology of the UK and basic principles. This will prepare them in site identification and potential analysis.

FD02

Field safety

Interns will learn how to appropriately approach hazards in the field and basic first aid.

FD03

Recording basics

Interns will learn how to record the stratigraphy of sites learnt in FD01 and how to prepare field reports and site maps.

FD04

Inland collecting

A trip will be taken to the Peak District where interns will be able to apply the practices learnt in FD01, FD02 & FD03.

FD05

Excavation

Field training will culminate in a weeklong field excavation at the Cerney Wick site applying the field skills learnt in FD01, FD02 and FD03, and including archaeological slot excavation, plaster jacketing of tusks and sediment sieving.

Museum Work

MS01

Museum guide principles

Learn how to interact and engage with the public in a museum environment. Interns will develop science communication skills and practice them real-time

MS02

Presentation skills

Interns will produce a presentation to be given as part of the Anning lecture series.

MS02

Collection curation basics

Interns will learn the basics of the role of a curator and how collections are maintained.

MS03

Introduction to Spectrum

The supporting staff will explain the Spectrum 5.0 Primary Procedures as recommended by the Collections Trust.



MS04 Object entry/exit/movement	Interns will get to firsthand manage the Entry, Movement and Exit of Objects in the Earth Science Department's collection.
MS05 Accessioning collections	Interns will learn how to correctly add recently acquired objects into the official accession registers and public records of the museum.

To apply send your CV and cover letter to oliver.weeks@ynhm.org

References

Carter, S. & Robertson, A., 2002, Project to define professional functions and standards in archaeological practice: Final Report. The Archaeology Training Forum.

Hendry, L., How to Become a Palaeontologist,
<https://www.nhm.ac.uk/discover/how-to-become-a-palaeontologist.html>.

Whybrow, P., 1985, A History of Fossil Collecting and Preparation Techniques, Curator 28/1.

Rixon, A. E., 1976, Fossil Animal Remains: Their Preparation and Conservation, London: A.

External Links

Yorkshire Natural History Museum www.ynhm.org

Neo Jurassic www.neojurassica.org

IQ Accommodation
<https://www.iqstudentaccommodation.com/summer/sheffield>

Travel South Yorkshire <https://www.travelsouthyorkshire.com/>