*Job description and person specification*

**Curator, Nanomaterials**

**Mineralogy Department**

**Nanosciences/Curation Section**

**Full time**

**Fixed term appointment until 31 March 2011**

**Band: Science level 2**

**£27,339 per annum**

**Closing Date: Wednesday 7th April 2010**

## Curator, Nanomaterials

The Natural History Museum (NHM) has developed strong expertise on nanomaterial synthesis and characterisation with the aim to understand the properties that contribute to their potential toxicity. The NHM Nano Team along with Curation is seeking a nanomaterials scientist to develop a reference collection of nanaomaterials, involving:

- investigating how a future nanocollection may be developed;
- synthesising a range of metal/metal oxide nanoparticles for the nanocolleciton
- investigating methodologies for the optimum storage of the above
- developing guidelines for collections management needs to ensure the nanocollection can be used for further research.

This will require investigation into similar holding material laboratories and bring together a set of standards and procedures for nanocollections.

The post holder requires an MSc/PhD in Materials, Chemistry or related science, must be a strong team player who is able to work independently and in an interdisciplinary environment. Experience in nanoparticle synthesis and characterisation is required and related experience in curatorial or collections management would be advantageous.

### Background

Nanotechnology exploits the unique properties materials acquire when their particle size falls below 100 nanometres and is now a major underpinning industry. Nanomaterials are already in use in a variety of consumer products from cosmetics and food products, to electronics and clothing. Nanotechnology further promises to provide solutions to many of modern society's problems from disease to climate change and the depletion of natural resources. However, the unique properties of nanomaterials have also prompted concerns about material safety and the possibility that the risks involved may outweigh any technological benefits.

The NHM Nano team (Mineralogy and Zoology) is at the forefront of nanomaterial safety research and has already received major national, European and international research grants. Although our research generates material that could be developed into a collection, in the same way as any other NHM research branch, storage and maintenance of these novel materials is not currently adequately researched and therefore cannot produce a collection of an appropriate standard. This is not a 'local'

issue; there is not, at present, any international facility that curates and preserves nanomaterials. However, there is currently a need for such collections to become established, particularly to address nanosafety related needs, where 'voucher' specimens may need to be preserved and revisited. The new post initially for one year will provide the background expertise to develop a well characterised and optimally preserved nanomaterials reference collection.

**Requirements *(person specification)***

*Applicants must demonstrate evidence of the detailed criteria outlined below to be considered for the post.*

**Academic and professional qualifications**

1. MSc in Materials, Chemistry, related field OR equivalent

**Knowledge and experience**

2. Knowledge and understanding of material/mineral properties.
3. Experience of working with nanomaterials and basic characterisation of suspensions or powders (one or more of: XRD, SEM, TEM, AFM, FTIR, ICP, DLS).
4. Relevant laboratory experience (including appreciation of relevant Health and Safety procedures and their application in the laboratory) with competence of working in a laboratory environment.
5. Experience and knowledge of general curatorial procedures and/OR collections management
6. Experience of writing scientific reports/papers (a proven publication record would be advantageous to the post holder)

**Skills and competences**

7. Excellent organisation skills with demonstrable evidence of planning and organising own time to manage multiple priorities and meet deadlines
8. Flexibility; competent of completing tasks independently using own initiative and can work well as part of a team whilst building good working relationships with others
9. The ability to communicate clearly and effectively both verbally and in writing in English at all levels, including the ability to produce sound manuscripts and abstracts
10. A systematic approach to problem solving to aid both personal and collaborative research with a willingness to work across Research and Curation
11. Can focus on tasks to completion, approaching tasks logically with due care and strong attention to detail
12. Excellent working knowledge of Microsoft Office (Outlook, Excel, Word and PowerPoint), particularly adept in the use of spreadsheets and databases and the ability to learn new software packages quickly and with ease

**Other essential requirements**

13. A willingness to travel and attend any national/international conferences where necessary

**Tasks and responsibilities *(job description)***

- Gain experience in NHM collections management, policy and procedure and apply this to the development of the NHM nanocollection
- Audit of the existing NHM nanomaterials and associated documentation. Build an inventory of nanomaterials at the NHM
- Investigate similar nanocollections holding facilities in how nanomaterials are managed and referenced. This will include producing a report on how the NHM nanocolleciton facility can be developed by investigating facilities with similar collection types, storage and their protocols
- Synthesise and characterise a range of metal/metal oxide nanoparticles
- Develop, under joint research/curation supervision, a set of protocols for the optimum storage, maintenance and retrial of these materials
- Create a reference document for the type of information requirements for an accessible and usable nanocollection for research
- Develop and harmonise a NHM nanocollection with the principles of collection management with other NHM collections
- In liaison with the curation team, investigate the development needs for the NHM Emu database for the nanocollections
- Put in place the initial requirements to create a prototype nanomaterials collection for the NHM
- Produce a report on how the nanocollection may be developed further for the NHM

**Other additional information**

**Department:** Mineralogy
**Contract:** Fixed term appointment until 31 March 2011
**Pay Band:** Science level 2
**Salary Range:** £27,339 per annum
**Location:** South Kensington
**Hours:** 41 hours per week, Monday-Friday

**Eligibility**

This post is being advertised internally and externally. All interested parties are eligible to apply. *At the Natural History Museum we value the diversity of our employees and the unique perspectives they bring to our business.*

**Application method**

Apply online before the closing date through the NHM website: Vacancies at the Natural History Museum (www.nhm.ac.uk/jobs). Complete the online application form and provide sufficient evidence to demonstrate how knowledge skills and experience meets the detailed criteria outlined in the job description. As part of the application form candidates need to complete the following questions;

*It is advisable that candidates prepare their answers to the questions in word document which can be transferred into the online application form.*

1. Provide specific examples from achievements, knowledge and experience or skills and competencies that demonstrate how you meet the requirements of the role which are enclosed and numbered above.
2. What attracted you to the role?
3. Is there anything else you wish to tell us, that you have not had the opportunity of doing elsewhere in this application form?

Candidates that wish to provide additional documents to support their application can email these to the named contact (general enquiries). Individual cover letters and CV's will not be considered but can be used to support completed online application forms.

**Closing date: Wednesday 7th April 2010**

**Selection and appointment**

Selection decisions are based on merit with candidates assessed against clear, objective criteria at each stage of the recruitment and selection process. All offers of employment made are conditional and subject to satisfactory completion of all pre-employment checks.

**Contact for general enquiries**

**HR general enquiries:** Emilie Tunstall, e.tunstall@nhm.ac.uk

18 March 2010