**Workshop: Data Management For Materials Researchers**

***Friday 14th January 2022***

**Audience:**

Materials science researchers who collect, store, analyse and share experimental data associated with their samples. E.g., optical images, SEM images, EBSD maps, property measurements, etc.

**Chairs:** Chris Race, João Fonseca

**Moderators:** Kathy Christofidou, Ed Pickering, Doyin Mansell

**Aims of the workshop:**

* To bring together the wider community to discuss the importance of data acquisition, storage, analysis and sharing in materials science context, and examine the associated challenges and obstacles.
* To promote the sharing of examples of good practice between attendees, such that researchers gain an appreciation for current initiatives in the area.
* To begin to formulate a list of requirements/actions for the community to enable better data management practices.

**Outputs:**

* A summary of the key discussion points, to be shared amongst attendees. This will include links to examples of current practice shared by attendees.
* A list of actions for the community to consider in order to improve our data management practices. This may include actions for researchers, academic supervisors, institutions, and funding bodies. To be shared amongst attendees.
* 2-page perspective?

**Workshop Structure:**

The emphasis will be on facilitating and encouraging discussion of practices and challenges.

* Speakers will be invited to discuss their thoughts on a particular question, before opening up for general discussion.
* Comments and questions will be invited in parallel with the talks as well as afterwards.
* There will also be one panel discussion.
* 5-minute presentations will be used to share examples of good practice.
* Summaries will be provided by the Chairs at the end of each question, and also at the end of the session.
* **The workshop will be recorded.**

**Agenda**

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| 09:30 – 09:45 | **Introduction** | *[15 mins]**Ed Pickering:* ***Brief general intro****Chris Race:* ***Current state of affairs****João Fonseca:* ***Motivation and structure*** |
| 09:45 – 10:25 | **Why should data management be important to materials science researchers?** | *Speaker 1 [10 mins]: Andrew Stewart* *Speaker 2 [10 mins]: Richard Broadbent**Discussion [20 mins]*  |
| 10:25-10:40 | **Break** |  |
| 10:40-11:20 | **What data should materials scientists capture, and how should they be stored?** | *Speaker 1 [10 mins]: Ben Thomas*Speaker 2 [10 mins]: *Joe Kelleher**Discussion [20 mins]*  |
| 11:20 – 12:00 | **How should data processing and analysis considerations influence our data** **management practices (capture, storage, sharing)?** | *Speaker 1 [10 mins]: Adam Plowman**Speaker 2 [10 mins]: Tim Dodwell* *Discussion [20 mins]*  |
| 12:00 – 13:00 | **Lunch** |  |
| 13:00 – 13:40 | **Sharing examples of good practice** | *Speaker 1: Chris Race,* ***Ampletracks*** *[10 mins]**Speaker 2: James Kermode,* ***NOMAD*** *[10 mins]**Speaker 3: Alice Pyne,* ***TopoStats*** *[10 mins]**Discussion [10 mins]* |
| 13:40 – 14:20 | **How should we store our research data, and when should we delete them?** | *Speaker 1 [10 mins]: Bill Ayres**Speaker 2 [10 mins]: Norman Paton**Discussion [20 mins]* |
| 14:20-14:30 | **Short break** |  |
| 14:30 – 15:10 | **Should all data be shared, and if so, when and where?** | *Open discussion [40 mins]****Our responsibility with respect to data sharing.*** ***Conflicting concerns about data security? IP?******Spin-off issues?******UK plc suffers if data goes outside UK?******Export control issues?*** |
| 15:10 – 15:25 | **Break** |  |
| 15:25 – 16:05 | **What cultural changes are needed to facilitate our data management ambitions?** | *Discussion [40 mins, starting with* $\~$*20 mins panel]**Invited:** *Sandra Korte-Kerzel*
* *Alice Pyne*
* *Tom Hancocks*
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| 16:05 – 16:25 | **Opportunity for final discussion** | *[30 mins]* |
| 16:25 -16:30 | **Summary and wrap-up** | *[5 mins] João/Chris* |