

Working Group 1: MDCS, DSpace, MRR & MDF

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Significance of WG's Focus

- Facilitate generated materials data to be stored, registered, made discoverable, and made accessible to the materials community.
- Leverage existing efforts in the materials community so that we can work together.
- Facilitate interoperability between resources.
- Provide a framework for sub-groups in the materials community to develop customized schemas and start making use of them more broadly.

Summary of WG's Goals

- Have a common core or minimal set of metadata tags. Ex. Dublin Core
 - <http://wiki.nationaldataservice.org/ProtoMaterialsResourceMetadata>
- Allow for the common core to be extensible, adaptable, flexible enough for a domain such as materials science to use.
- Agree on granularity of metadata exchange.
- Allow for interoperability. Agree on a protocol for exchanging records.
- Provide a common authentication system.

Summary of WG's Goals

- Develop a model for community engagement.
 - Collaboration between users
 - How to engage the current generation and the next generation?
- Leverage what other folks are already doing in the materials domain
- Facilitate control over data access (Ex. publically available or login required)

Summary of WG's Goals

- Agree on a publication workflow.
 - Provide moderation?
 - Provide versioning of records
- Agree on policies for data management
 - How long to store the data?
- Provide for advanced search
 - Amazon-like facet search / refinement
- Make use of the RESTful APIs
- Push notification for updates

Technical Requirements/Needs

- Support for the OAI-PMH protocol
- Provide a RESTful API
- XML v.s. JSON
 - A metadata framework that can go between the two formats
- Common Metadata Schema as a Standard
 - Extensible, flexible, adaptable
- Common authentication system

Collaborations/Synergies

- Other Working Groups? Some potentials:
 - *WG 2 - Experimental Data (how to describe and store?)*
 - *Having a common broad metadata schema*
 - *Build on the base metadata schema*
 - *Storage, Discovery, and Access*
 - *WG 3 - Schemas for Polymer Nanocomposite Data?*
 - *WG 4 - Natural Language Processing?*
 - *WG 5 - DFT - Density Functional Theory*
 - *Distributed communities and efforts. Facilitate interconnection of all the various efforts.*
 - *WG 6 - Building CALPHAD proto-databases?*

Collaborations/Synergies

- *Materials Data Curation System*
- *Materials Resource Registry*
- *Prototype Materials Resource Description Schema*
- *Materials Data Facility*