

## **Metabolomics Society standards initiative Biology Context Working Group road map**

<http://www.metabolomicssociety.org/mstandards.html>

*This document describes the purpose and the working strategy of the Metabolomics Society Biology Context Working Group (BCWG) in an effort to reach a broad consensus in the community on the semantics required to report metabolomics experiments.*

### **The Metabolomics Society standards initiative**

The Metabolomics Society has appointed an Oversight Committee to monitor, coordinate and review the efforts of working groups (WGs) in specialist areas that will examine standardization and make recommendations. The five WGs, some of which are divided into further subgroups are listed here:

- Biological context metadata (BCWG)
- Chemical analysis WG
- Data processing WG
- Ontology WG
- Data exchange WG

The structure of the WGs thus follows the general workflow model in metabolomics: from a description of the study design to sample workup, data acquisition, processing and export, bound together by controlled vocabularies and relationships between the terms used.

### **BCWG statement of purpose**

The BCWG seeks to define the minimal biology-based metadata that is necessary to enable the broader scientific community to understand, interpret and incorporate into their efforts metabolomics-derived data. These recommendations will seek to cross scientific disciplines and user groups (academic, industrial, regulatory) as much as feasible use existing frameworks, definitions and descriptions wherever possible.

### **BCWG Sub-Groups**

The BCWG will be comprised of chairs of subgroups representing the various scientific disciplines comprising the metabolomics-user community. These groups are currently defined as:

- Mammalian Biology (In Vivo)
- In Vitro Biology and Microbiology
- Botany
- Environmental Applications

Additional groups may be added or subgroups split or combined as determined by the BCWG.

### **Operating Principles**

The BCWG will seek to represent the diverse community of metabolomics users in an unbiased and open fashion. The group will integrate and harmonize with other working groups within the

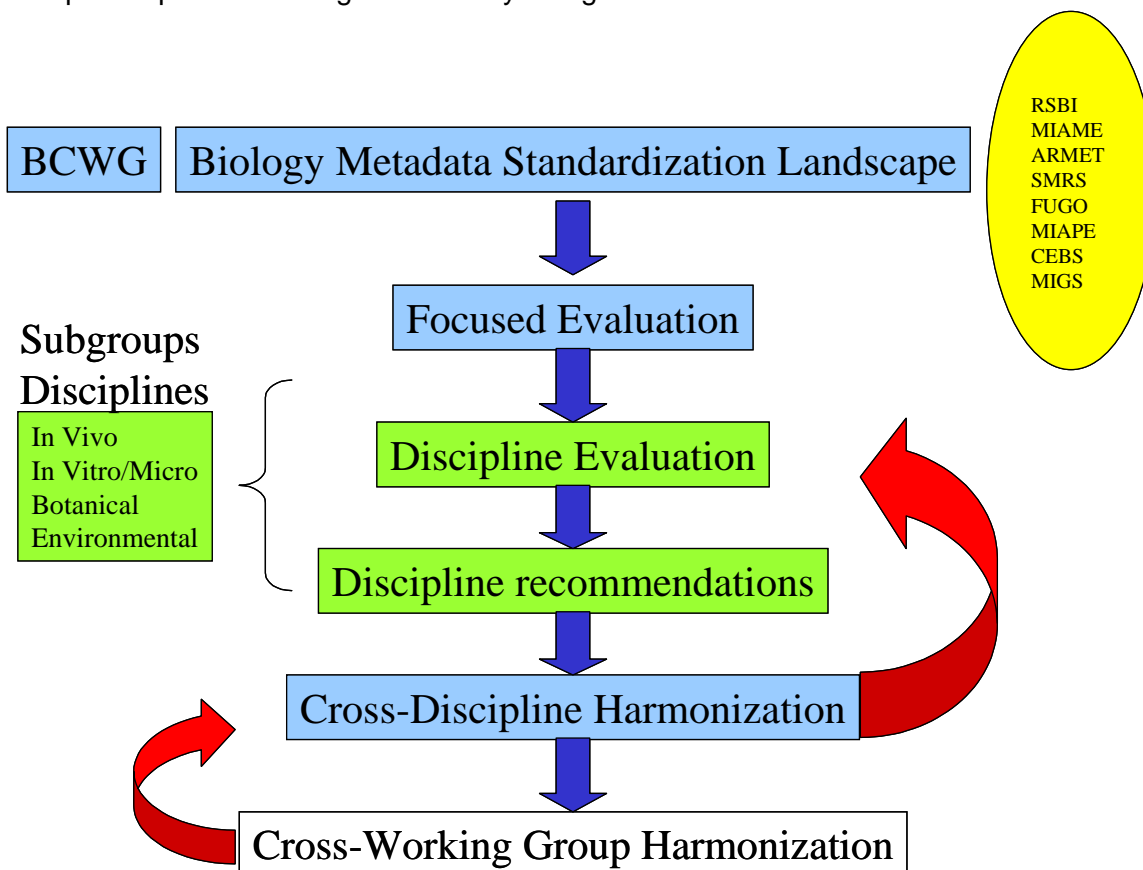
standardization initiative to achieve a harmonized set of recommendations. Communications will be frequent, respectful but candid and widely distributed. Every effort will be made to meet group goals in a timely fashion.

### Operating Plan

The BCWG will approach this effort by:

1. Identifying existing frameworks for biological metadata definitions and descriptions that are suitable for emulation (at least in part).
2. Prioritization of the existing landscape.
3. Evaluation of scientific discipline-specific issues and concerns with identified frameworks and recommend fixes or workarounds if possible or new criteria if necessary.
4. Harmonize standards across scientific disciplines within the BCWG
5. Develop metabolomics-specific biology metadata framework
6. Return to step 2 if necessary
7. Harmonize standards across other WGs within the standardization initiative

The plan is presented diagrammatically in Figure 1.



To achieve this the BCWG will:

- Work cooperatively, maintain mailing lists and a website with names of participating members to remain approachable, inclusive and transparent while the size of the group and the complexity of the tasks both increase.
- Produce and maintain a set of documents - which are either community practice descriptions, or recommendations- to ensure that the statements from this group are clear, accurate and accessible.
- Leverage on previous and relevant work in the proteomics studies, and recent metabolomics standardization efforts.
- Represent the metabolomics domain within the larger and international effort developing biology metadata reporting standards.