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Belmont Forum Endorses Curricula Framework for Data-Intensive Research

Paris, France - The Belmont Forum endorsed a Data Skills Curricula Framework to enhance information management skills for data-intensive science at its annual Plenary Meeting held in November. The Framework was developed by the Forum's e-Infrastructures and Data Management (e-I&DM) Project to improve data literacy, security and sharing in data-intensive, transdisciplinary global change research.

"For global change research to flourish, a range of skills are necessary, increasingly so in the broad area of data intensive digital skills," stated Maria Uhle, Co-Chair of the Belmont Forum. "The Belmont Forum has developed the Curricula Framework to help provide researchers with the skills to make scientific data more accessible to other scientists for re-use, and to make that data better understood by the public and policy makers as they consider "real world" decisions regarding global environmental change."

A skills gap survey undertaken by e-I&DM resulted in a Skills Gap Analysis which identified data complexity, lack of standards and exchange vocabulary, and data management as vital barriers to sharing and reusing data effectively. The recommended Curricula Framework core modules are designed to standardize skills of domain scientists specifically to make data handling more efficient, research more reproducible and data more shareable – including visualisations for end-users. The five core skills emphasized include programming, particulars of environmental data, visualisation, data management and interdisciplinary data exchange.

A number of optional modules are suggested for more established researchers which would be useful introductions to widen their data skills and provide new options for examining and processing data, such as machine learning and object orientated programming. Two additional modules are briefings aimed at Principal Investigators, providing an overview of data management and skills. More information on the Curricula Framework and the full report can be found at www.bfe-inf.org

Developed through the Institute for Environmental Analytics for the Belmont Forum, the Framework incorporates principles adopted as best practices by global leaders in training and workforce development, including flexible options for time, duration, and location and context-based approaches to real-world, commonly encountered problems with an emphasis on

fundamentals. Colin McKinnon, CEO of the Institute for Environmental Analytics, adds, "The IEA is pleased to use our expertise in environmental data analytics to identify the global training needs of Belmont Forum-funded researchers."

About BELMONT FORUM
Formed in 2009, the Belmont Forum is a partnership of more than 25 of the world's main funders of environmental change research and international science councils. The Belmont Forum supports transdisciplinary, transnational collaborative research programs that provide solutions-oriented research to alleviate global challenges affecting sustainable development. The goals of the Belmont Forum are aligned with wider international organizations that leverage the national and local scientific resources which maximize the value of public funding and develop local solutions that can be expanded for impact on a global scale.

In 2015, the Belmont Forum adopted an Open Data Policy and Principles in recognition of the fact that effective sharing of information is a cornerstone of scientific collaboration. This Policy strives for research data generated and used by Belmont projects to be open and accessible to stakeholders and policymakers, findable and reusable by international researchers, and interoperable to the greatest extent possible. http://www.belmontforum.org/

About e-INFRASTRUCTURES AND DATA MANAGEMENT PROJECT
The e-I&DM Project is funded by Belmont Forum member countries to advise and provide recommendations to the Belmont Forum agencies regarding policies, programs and procedures to accelerate open data sharing, data reproducibility, data curation, and other aspects of long-term, full-path data management and access. This effort integrates four interrelated Action Themes and collaborations with related international initiatives being undertaken by CODATA, Future Earth, Group on Earth Observations, ICSU-World Data Systems, Research Data Alliance (RDA) and others. http://bfe-inf.org/

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