

## **NETWORKS AND DATA: ADVENTURES IN LITERACY AND LEARNING**

**Catherine Belle Cramer<sup>1</sup> & Stephen Miles Uzzo<sup>2</sup>**

<sup>1</sup>Woods Hole Institute, 50 Buzzards Bay Avenue, Woods Hole, MA 02543,  
catherine@woodsholeinstitute.org

<sup>2</sup>New York Hall of Science, 47-01 111th Street, Flushing Meadows Corona Park,  
NY 11368, suzzo@nysci.org

As the understanding of science increasingly requires thinking about complex interconnected systems and data-driven ideas (such as ocean science, genomics, ecosystems ecology and social, political and economic networks), there is a need for basic literacy in data and network science for all people. This talk will cover efforts to build consensus between the network and data science interdisciplinary communities of practice for developing essential concepts and core ideas related to both network and data literacy. The speakers will discuss the processes with which these literacies were developed and distributed, and important factors that contributed to their success.

Based on the success of the Ocean Literacy Principals, a series of workshops were held at UC Berkeley, Boston University and the New York Hall of Science with groups of network scientists, learning researchers, teaching and curriculum specialists and students, in order to devise a draft set of Network Literacy essential concepts that were then reviewed and edited by the global network science community of practice. This year-long process resulted in a published set of 7 Network Literacy Essential Concepts and Core Ideas. These have since been translated into over 20 languages and have been used for instruction across all grade bands and throughout the world.

This led to a similar movement in data science, which is still in process. The New York Hall of Science, in collaboration with the Northeast Big Data Innovation Hub of the Columbia University Data Science Institute, are collaborating with academia, researchers, non-profits, libraries and industry to develop a set of essential concepts needed to achieve data literacy for all people. Issues of equity and interdisciplinarity will be discussed along with barriers and opportunities in data science across sectors.