INTEGRATING SYSTEMS SCIENCE PERSPECTIVE ACROSS VARIOUS STEM LITERACIES

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Over the last decade various science literacy frameworks have been developed, including the Ocean Literacy Framework, The Essential Principles of Climate Literacy, or Energy Literacy: Essential Principles and Fundamental Concepts for Energy Education. Common amongst these frameworks is an implicit or explicit focus on systems; conversely, without a systems perspective, the complex issues around ocean health, or the linked technology, society, nature issues that underlie climate change or energy use cannot be understood fully. Yet, systems thinking per se is difficult to convey, teach or communicate, and while included in new US science education standards, there is little indication that student indeed learn systems thinking as a cross-cutting practice. Complicating the matter is the issue of what reasonably can or should be expected of children around systems literacy, and in extension, what expectation we ought to have about appropriate systems literacy in adults. Martin Storksdieck will reflect on opportunities and challenges in creating a systems literacy framework that might serve as guide to formal and informal education.