**The George Washington University**

***University Seminar on Reflexive Systems***

**Tuesday, October 30, 2018, 10 a.m. to noon**

**Funger Hall 320**

**2201 G Street NW**

**The Need for Systems Literacy**

**Peter Tuddenham**

Systems Literacy is a coordinated ongoing action to create a greater awareness and understanding about “Systems” in our lives, in the world, nature, society, science and art, schools and universities and engineering and beyond and with that awareness and understanding an ability to make informed decisions and communicate using systems approaches. This Systems Literacy initiative builds on previous “literacy” work facilitated and/or contributed to by the College of Exploration and by many other Literacy projects combined with the many “systems” education programs around the world. These range across many disciplines and many related topics, including cybernetics, complexity, complex adaptive systems, systems thinking, network literacy and network thinking, pattern literacy, developments in neurosciences and many others.

The College of Exploration has specifically worked to varying degrees on Geography, Ocean, Earth Science, Atmospheric Science, and Energy literacy actions, guides, websites and projects since 1998. The foundation of this work and initial condition are these natural systems of water, earth, air, and energy and biological life, including us! These geoscience and energy literacy publications have been created since 2002. The College of Exploration efforts and the associated guides are possible models for systems literacy. A collection of worldwide literacy efforts that we can consider is collected at <http://www.coexploration.org/literacy> In 1997 a guide to Biological Literacy was published. Climate Literacy will also be considered. <https://www.climate.gov/teaching/essential-principles-climate-literacy/essential-principles-climate-literacy> Another important literacy consideration is Forest Literacy from Oregon Forest Research Institute. Network Literacy was modelled on the work of Ocean Literacy and has been translated into 19 different languages. The USA Next Generation Science and Engineering Standards Cross Cutting Concepts will inform this work. Also an important consideration is the recent work of the USA National Academies on Science Literacy. See <http://www.systemsliteracy.net>

**Peter D. Tuddenham** is the President of the International Society for the Systems Sciences 2018-2019. In 1991 he co-founded the College of Exploration, an online learning platform focused on bringing cutting-edge discoveries to education at all levels, which has reached over 15,000 students globally. He was co-organizer of the U.S.A. Ocean Literacy and Earth Science Literacy projects. As Managing Director of CoExploration Limited in the United Kingdom he was a participant in a pan-European multi-partner Horizon 2020 project on Ocean Literacy in Europe.

Previously he was Chief Learning Officer for Metasystems Design Group. He was adjunct faculty at George Mason University for Distance Learning. As a Senior Systems Research Scientist at the Allen Corporation, later CAE-Link, he researched cognitive and affective development for executive development in the U.S. Army and as part of that work served as guest faculty at the U.S. Army War College for Creative Problem Solving. He was Strategic Issues Manager for Arizona Public Service, Corporate Communications Systems Manager for Coors Brewing Company, and before moving to the USA in 1980 he was an Engineer Officer in the British Army’s Royal Corps of Engineers where he served in Germany, USA, and Northern Ireland.

He studied Systems Design towards a Ph.D with Bela Banathy at the Saybrook Institute and Systems Behaviour at the Open University. He has a BSc in Business Administration from Regis University in Denver.