

## Seminar Announcement

**Dr. John Sommerer**  
**Principal**  
**Talitha Ventures**



Thursday, April 7, 2016  
Green Hall, Room 0120  
4:30 PM

### Exploring Pluto; the Spaceflight was the Easy Part

**Abstract:** On July 14, 2015 NASA's New Horizons spacecraft flew past Pluto, revealing in detail for the first time what was once the ninth planet in our Solar System, and which is now recognized as the largest known of a much more numerous class of celestial body, the Kuiper Belt objects. The Pluto system turns out to be remarkably complicated and scientifically interesting, a "double planet" system with four additional satellites, active geology, and some of the coolest (provisional) feature names in the Solar System. Despite the extraordinary length of the mission, the engineering challenges associated with operating a spacecraft so far from the Sun, the technical difficulties in returning data from the far reaches of the Solar system, and the excitement surrounding the encounter, the really interesting part of the story is the political and personal struggles that surrounded the mission. The New Horizons "back story" reveals the deeply troubled management and politicized way in which NASA operates, (and which has had such negative impact on many of its programs); the combat within and assistance provided by the US Congress; and the way a few fortuitously placed key individuals overcame these difficulties to complete the initial reconnaissance of our Solar System. John C. Sommerer, past Director of Science and Technology and Space Sector Head at the Johns Hopkins Applied Physics Laboratory, which built and operated the New Horizons spacecraft, will tell the story, in all its gory details, illustrating one of the key principles of system engineering: "it would all be easy if it weren't for the people...". Sommerer, a graduate of the Washington University School of Engineering and Applied Science (Systems Science and Mathematics), recently was invited to testify before Congress summarizing the results of the Congressionally-mandated National Academies Committee on Human Spaceflight, of which he chaired the Technical Panel.

**Bio:** Dr. John C. Sommerer (BS SSM, MSc SSM, 1979) is a technologist with over 35 years of professional experience and over 20 years of executive experience. He is the Principal of Talitha Ventures, which he founded to provide broad-spectrum technology consulting, including unique, transformational investment opportunities. He previously served in a number of senior executive positions at the Johns Hopkins Applied Physics Laboratory (APL), the largest of the Department of Defense University Affiliated Research Centers. In 2011, Dr. Sommerer was designated by Hopkins as one of the inaugural Daniel Coit Gilman Scholars, "exemplifying the highest ideals of the University," and was elected a full (life) member of the International Academy of Astronautics. Until January 1, 2014, he led the APL Space Sector, with responsibility for all APL contributions to military, intelligence community, and civil space programs, including the New Horizons mission to Pluto, the MESSENGER mission to Mercury, the Van Allen Probes operating in the Earth's radiation belts, Solar Probe Plus, the MDA Precision Tracking Space System, ORSTech 1 and 2 as well as numerous other missions in progress. Prior to 2010, he served JHU/APL as Director of Science & Technology, Chief Technology Officer, Director of the Milton S. Eisenhower Research Center, and he led a number of enterprise-level task forces, strategic plans, and other initiatives. Dr. Sommerer received B.S. and M.S. degrees in systems science and mathematics from Washington University in St. Louis, an M.S. in applied physics from Johns Hopkins University, and a Ph.D. in physics from the University of Maryland. Dr. Sommerer has served on a number of advisory bodies for the U.S. government, including terms as chair and vice chair of the Naval Research Advisory Committee, senior technical advisory committee to the Secretary of the Navy, Chief of Naval Operations, and Commandant of the Marine Corps. He has also served on numerous NRC boards and committees, most recently as a member of the Committee on the Assessment of the Governance Structure of the NNSA National Security Laboratories; as a member of the Committee on Human Spaceflight and chair of the study's Technical Panel. He was appointed as a National Associate of the NRC in 2008.