



DUPONT SUMMIT 2013

..... Pressing Issues, Economic Realities

December 6, 2013 * Historic Whittemore House, Washington, DC

The Policy Studies Organization

Speaker

Joseph N. Pelton – *George Washington University*

“The Leadership Challenge of Cosmic Hazards and Planetary Defense in Modern Technological World”

The dramatic surge in global population headed toward 9 billion, the increasing rapid of urbanization now headed to true historic highs, the growth in global dependency on modern technological infrastructure, and emerging challenges such as climate change, all combine to raise world-wide vulnerabilities to cosmic hazards. Threat levels to human survival and our modern way of life are now raised to unprecedented levels because of these global megatrends. Political leadership around the world has no clear metrics to understand the many different types of cosmic threats that could materialize. There is a lack of a rational synoptic overview with regard to apportioning limited resources to protect most effectively against a diverse range of space hazards, nor coordinate a decision-making process in this regard globally. These threats include natural space phenomena (e.g. potentially hazardous near earth objects, solar flares, coronal mass ejections, reduced planetary shielding from a changing geomagnetosphere, fluctuations in cosmic radiation, anti-matter events, etc.) and man-made space threats (e.g. electro-magnet pulses (EMP), orbital space debris, etc.). These various threats involve diverse technology, academic disciplines, scientific measurement tools, and also involve a wide range of potentially protective systems. This paper seeks to create new analytic processes and useful metrics that would hopefully allow political leadership to chart a more sophisticated way forward. These techniques could help both with regard to identifying, quantifying and assess relative magnitude and probability of various space threats as well as evaluating where and how to invest in new forms of protective or mitigating systems. These new techniques could also hopefully help identify new strategies for planetary defense and an improved and more objective assessment process for evaluating these mitigation strategies.



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Biography

Dr. Joseph N. Pelton is Director Emeritus of the Space and Advanced Communications Research Institute (SACRI) at George Washington University. He also previously directed the Accelerated Masters Program in Telecommunications and Computers at the George Washington University's Virginia Campus. Dr. Pelton has also served as Chairman of the Board of Trustees of the International Space University of Strasbourg, France (1992-95) and in 1995 and 1996 as its Vice President of Academic Affairs and Dean. From 1988 to 1996 Dr. Pelton served as Director of the Interdisciplinary Telecommunications Program at the University of Colorado Boulder.

Dr. Pelton is the author of some 35 books and some 300 articles in the field of space, communications and the impact of technology on society. He has won a Pulitzer Prize nomination and the AIAA Literature Award. He is currently lead editor for the *Handbook of Cosmic Hazards and Planetary Defense*, a project of the International Space University, the International Association for the Advancement of Space Safety, and the Arthur C. Clarke Foundation.

Dr. Pelton is a Fellow of the International Association for the Advancement of Space Safety (IAASS), a member of its Executive Board and Chairman of its Academic Committee. He is the Executive Editor of the IAASS publication series on space safety.

Dr. Pelton served in 1983 as the founder of the Arthur C. Clarke Foundation and remains as the Vice Chairman of its Board of Directors. This Foundation honors Sir Arthur Clarke, who first conceived of the Communications Satellite (as of 1945). He is also the founding President of the Society of Satellite Professionals International and Chairman of their awards committee. He was inducted into the SSPI Hall of Fame in 2001. He has also won the Arthur C. Clarke lifetime achievement award and has been elected to the International Academy of Astronautics. He has also been elected an Associate Fellow of the American Institute of Aeronautics and Astronautics. In July 2013 he was awarded the "Arthur" Award-International by the UK Space Conference in Glasgow, Scotland



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Biography (Continued)

From 1969 to 1989 Dr. Pelton held a number of positions at the COMSAT Corporation and the INTELSAT global satellite organization. These positions included Manager of INTELSAT Affairs at Comsat, Executive Assistant to the Director General of INTELSAT and Director of Strategic Policy for INTELSAT. He has worked as a consultant to the U.S. Congress, the United Nations, NASA, the FAA, the Aerospace Corporation, AT&T, Intelsat, U.S. West, and many other organizations.

He has appeared on national television and radio shows as an expert on space, telecommunications, and futurism for NPR International, The Jim Lehrer News Hour, the BBC, ABC and CBS Nightly News. He is on the editorial boards of The Journal of Space Communications, Earth Space Review and Space Policy. He has lectured at over 40 universities and international conferences around the world.

