

Curriculum Vitae

JOHN W. LYVER, IV

Ph.D., C.S.P.-Retired, LCDR, USN-Retired

Dr. John W. Lyver, IV, is an Associate Professor (Adjunct) at George Mason University (GMU) teaching courses in Computational Data Systems and in Ethics. Additionally, he has served as an Assistant Professor of Physics (Adjunct) for Northern Virginia Community College teaching Physics, Meteorology, and Astronomy. He has taught 100 credit hours over 6 years in both face-to-face and on-line formats. In 2020, Dr. Lyver was recognized with Distinction for the GMU Online Teaching Excellence Award.

For 22 years, Dr. Lyver was employed by the National Aeronautics and Space Administration (NASA) Headquarters Office of Safety and Mission Assurance as NASA's Nuclear Flight Safety Assurance Manager until his retirement in 2012. He was responsible for the nuclear safety reviews of all NASA space missions which contain radioactive materials. In addition to his nuclear safety assignment, Dr. Lyver served as the Manager for NASA's Micrometeoroid and Orbital Debris Program and managed the Agency-Level requirements for NASA's Safety and Mission Assurance Technical Authority.

Previous assignments at NASA's Office of Safety and Mission Assurance have included manager of radiological emergency preparedness for launches of NASA's radiological mission, manager of the Process Verification work to review the implementation of all of NASA's safety and mission assurance requirements; manager for implementation of the ISO 9001 Quality Standard across NASA; and quality conformance manager for NASA's Space Station Freedom Program (predecessor program to the International Space Station). Dr. Lyver has served as NASA's member and Chair of the Interagency Nuclear Safety Review Panel (INSRP) Coordinator (joint panel with Department of Defense, Department of Energy, Nuclear Regulatory Commission and the Environmental Protection Agency supporting the Executive Office of the President's Office of Science and Technology Policy), the senior member of the INSRPs' for NASA's Pluto-New Horizons Mission, and Mars Exploration Rover 2003 missions, and member of the INSRPs for the Mars Pathfinder Mission and the Cassini Mission (Saturn).

Before being hired by NASA, Dr. Lyver was a contractor to the NASA Space Station Freedom Program Office providing support for Freedom's assembly sequence, operations, and safety requirements development.

Prior to NASA, Dr. Lyver was a development test engineer working on designs, upgrades, and associated testing of various U.S. Navy Systems including over the horizon electronic warfare systems and the Harpoon, Penguin, and Tomahawk cruise missile systems. While on Active duty with the US Navy, LCDR Lyver earned the designation as a Naval Surface Warfare Officer and served as a nuclear test engineer, gunnery officer, and ship's navigator. Dr. Lyver retired from the U.S. Naval Reserve as an Engineering Duty Officer in 1996. His final US Naval Reserve Assignment was as a Unit Commanding Officer. In 2016, Dr. Lyver retired from the US Navy as a Lieutenant Commander.

Dr. Lyver holds a Bachelor of Science degree from the U.S. Naval Academy in Engineering-Physics in 1978, a Master of Science degree in Computers and Electronic Engineering from George Mason University in 1988, a Master of Science degree in Computational Science in 2008 and a Ph.D. in Computational Science and Informatics at George Mason University in 2010. Additionally, Dr. Lyver graduated from the U.S. Naval Nuclear Power School and Prototype in 1979, and in 1990, Dr. Lyver earned the designation as a licensed Certified Safety Professional (C.S.P.) in Systems Safety which he currently holds in a Retired status.

Selected Published Papers

Ph.D. Dissertation, George Mason University, *Thermal Conductivity at the Nanoscale: A Molecular Dynamics Study*, 2010

Lyver J, and Blaisten E, J. of Computational and Theoretical Nanoscience, *Lattice Thermal Conductivity in SiC Nanotubes, Nanowires and Nanofilaments: a Molecular Dynamics Study*, in press (2010).

Lyver J, and Blaisten E, J. Phys: Condensed Matter, *Effects of Interface Between Two Lennard-Jones Crystals on the Lattice Vibrations: A Molecular Dynamics Study*, 21 (2009) p345402

Lyver J and Blaisten E, Acta Materialia, *Computational Study of Heat Transport in Compositionally Disordered Binary Crystals*, 54 (2006) p4633.

Lewis A, Berlin J, Meyer T, Kruglikov S, Miller S, Lyver J, and Gharavi S, Maneuver Warfare Science 2001, *An Information System for Distillation Data Farming*, (2001) p131.

Selected Conference Publications

Lyver J and Prassinis P, International Mechanical Engineering Conference and Exposition, *Designing in Safety Through Early Safety Requirements*, November 2011

Prassinis P and Lyver J, International Mechanical Engineering Conference and Exposition, *Risk Assessment Overview*, November 2011

Prassinis P and Lyver J, International Mechanical Engineering Conference and Exposition, *An Overview of the Space Nuclear Risk Assessment and Review Process*, November 2007

Lyver J and Blaisten E, 234th American Chemical Society National Meeting, *Thermal Boundary Resistance: A Non-equilibrium Molecular Dynamics Study*, August 2007

Lyver J and Blaisten E, American Physical Society March 2007 Meeting, *Parametric Study of the Thermal Conductivity in Binary Solids*, 2007.

Lyver J and Blaisten E, Virginia Nanotech 2006, *Computational Study of Heat Transport in Disordered Binary Crystals*, June 2006

Lyver J and Blaisten E, 230th American Chemical Society National Meeting, *Parametric Study of the Thermal Conductivity in Binary Solids*, August 2005

Lyver J and Blaisten E, American Physical Society March 2005 Meeting, *Parametric Study of the Thermal Conductivity in Binary Solids*, March 2005.

Lewis A, Berlin J, Meyer T, Kruglikov S, Miller S, Lyver J, and Gharavi T, Proceedings of the 13th International Conference on Scientific and Statistical Database Management, *An Information System for Distillation Data Farming*, April 2001, p274.

Frank M, Pyatt D, and Lyver J, International Conference on Probabilistic Safety Assessment and Management, *An Overview of the Space Nuclear Risk Assessment and Review Process of the Interagency Nuclear Safety Review Panel*, June 1996.

Selected Published U.S. Government Documents

NASA Procedural Requirements 8715.6, Procedures for Limiting Orbital Debris Generation, 2006.

Interagency Nuclear Safety Review Panel, Pluto New Horizons Mission, 2006.

Interagency Nuclear Safety Review Panel, Mars Exploration Rover Mission, 2002.

Interagency Nuclear Safety Review Panel, Cassini Mission, 1997.

Interagency Nuclear Safety Review Panel, Mars Pathfinder Mission, 1996.