

S. V. Nghiem



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Dr. S. V. Nghiem received the Ph.D. degree from the Massachusetts Institute of Technology. In 1991, he joined the Jet Propulsion Laboratory (JPL), California Institute of Technology (CalTech), where he is currently a Senior Research Scientist, the Science Applications Development Lead of the Radar Science and Engineering Section, and the JPL Hydrology Discipline Program Manager of the Hydrology Office in the Earth Science and Technology Directorate. He has been appointed by the National Aeronautics and Space Administration (NASA) Headquarters as the Deputy Program Application Lead from JPL for the Soil Moisture Active Passive satellite mission.

His research encompasses active and passive remote sensing, development of advanced satellite radars and radiometers, electromagnetic scattering and emission modeling, and Earth sciences and applications. He has been the principal investigator and co-investigator of numerous projects encompassing multiple research fields: Polarimetric interferometry theory, polarimetric emission theory, group theory in remote sensing, sea ice and lake ice, Arctic atmospheric chemistry, ocean and lake wind, snow cover and ice sheet, soil moisture and vegetation, stream flow/river discharge, wetland and flood, drought and wildfire, and urban development and population distribution. He has a patent pending, filed by CalTech, for his invention on high-resolution wind measurements with satellite data for offshore wind energy development. He has published 70 peer-reviewed articles and over 230 conference articles.

He received the *1999 Lew Allen Award for Excellence* in recognition of his pioneering research in the areas of polarimetric scatterometry for Earth science remote sensing and contributions to future advanced satellite instrument concepts, the *2006 NASA Exceptional Achievement Medal* for developing scientific applications of scatterometry in land, ice, and snow processes, the *2008 NASA Exceptional Scientific Achievement Medal* for his contributions to understanding the melt state of Greenland and Antarctica ice sheets, its significance in Earth science missions, and its implications in climate change, and the *2010 NASA Exceptional Technology Achievement Medal* for his contributions in developing a new technology using NASA satellite scatterometer data to measure high-resolution global wind for off-shore wind energy development. His research results were reported worldwide by major news networks (NBC, ABC, CBS, CNN, BBC, The

Weather Chanel, National Geographic, Reuters, Associated Press, UPI, etc., and many radio stations).

Dr. Nghiem is a Senior Member of the IEEE, and a member of the American Geophysical Union (AGU), the Scientific Research Society of Sigma Xi, and the Honor Society of Phi Kappa Phi. He was an Executive Committee member of the AGU Cryosphere Focus Group and represented the Cryosphere Focus in the AGU Hydrology Section. His paper on “New Method to Measure High-Resolution Wind from a Decade of NASA Satellite Scatterometer Data for Offshore Wind Energy Development” in the First International Conference on Advances in Renewable and Sustainable Energies received the Best Paper Award from the International Academy, Research, and Industry Association (IARIA) in 2010. He delivered a keynote speech on offshore wind measurement in the IARIA Biogreen 2010, and another keynote speech on the global biosphere in the IARIA Bionature 2011. He served as an Advisory Chair and a member of the Technical Program Committee for the Bionature 2011. He was also the Moderator for the Panel on Sustainable Energy in the IARIA Second International Conference on Bioenvironment, Biodiversity and Renewable Energies in 2011.