

Bio:

Dr. H. K. “Rama” Ramapriyan is currently the Chief Science Research Advisor at Science Systems and Applications, Inc. (SSAI). In this role he continues some of his earlier work at NASA focusing on data stewardship, preservation and provenance. Before joining SSAI in September 2014, he served as the Assistant Project Manager of the Earth Science Data and Information System (ESDIS) Project at NASA’s Goddard Space Flight Center. He has extensive managerial and technical experience in science data systems development, image processing, remote sensing, parallel processing, algorithm development, science data processing, archiving and distribution. The ESDIS Project develops and operates one of the largest civilian science data systems in the world - the Earth Observing System (EOS) Data and Information System (EOSDIS) in support of NASA’s Science Mission Directorate. The ESDIS Project has been instrumental in establishing, as a part of EOSDIS, a set of Distributed Active Archive Centers (DAACs) around the US that manage NASA’s Earth science data and provide convenient access to several petabytes of data in various scientific disciplines such as land processes, oceanography, hydrology, atmospheric sciences, cryospheric studies, etc. The Project has also developed systems that facilitate “one-stop shopping” access to international data centers. Dr. Ramapriyan’s responsibilities in the Project ranged from supervising a group of technical professionals in the design and implementation of EOSDIS and managing the early development and operation of the DAACs to providing a customer focus by interfacing with the scientific customer community to understand their requirements and assuring that the system development accommodates their requirements. He was involved in the study of the evolution of EOSDIS for the future decade and its implementation. His most recent focus was on data preservation and stewardship. He developed NASA’s Earth Science Data Preservation Content Specification. He was an active member of Data Stewardship Committee within the U.S. Earth Science Information Partners’ (ESIP) Federation. He represented NASA on the U.S. Global Change Research Program’s (USGCRP) Global Change Information System (GCIS) Data Management Team. He also represented NASA on the Human Computer Interaction and Information Management (HCI&IM) Coordinating Group of the Subcommittee on Networks and Information Technology Research and Development (NITRD).

Dr. Ramapriyan is a member of the American Geophysical Union and a Senior Member of the IEEE. During 2005-2009 he was the Co-Chair of the Data Archive and Distribution Technical Committee (DAD TC) of the IEEE Geoscience and Remote Sensing Society. During 2009-2013, he chaired the DAD TC.

Dr. Ramapriyan holds a Ph. D. degree in Electrical Engineering from the University of Minnesota, M.E. and B.E. degrees in Electrical Engineering from the Indian Institute of Science, Bangalore, India, and a B.Sc. degree from University of Mysore, India. He has over 75 publications (refereed and non-refereed), has given many invited presentations, and has over 40 awards including an Exceptional Achievement Award from NASA Goddard Space Flight Center.

Title:

Earth Science Informatics: An Overview

Abstract:

Over the last 10-15 years, significant advances have been made in information management, there are an increasing number of individuals entering the field of information management as it applies to Geoscience and Remote Sensing data, and the field of “informatics” has come to its own. Informatics is the science and technology of applying computers and computational methods to the systematic analysis, management, interchange, and representation of science data, information, and knowledge. Informatics also includes the use of computers and computational methods to support decision making and applications. Earth Science Informatics (ESI, a.k.a. geoinformatics) is the application of informatics in the Earth science domain. ESI is a rapidly developing discipline integrating computer science, information science, and Earth science. Major national and international research and infrastructure projects in ESI have been carried out or are on-going. Notable among these are: the Global Earth Observation System of Systems (GEOSS), the European Commission’s INSPIRE, the U.S. NSDI and Geospatial One-Stop, the NASA EOSDIS, and the NSF DataONE, EarthCube and Cyberinfrastructure for Geoinformatics. More than 18 departments and agencies in the U.S. federal government have been active in Earth science informatics. All major space agencies in the world, have been involved in ESI research and application activities. In the United States, the Federation of Earth Science Information Partners (ESIP), whose membership includes over 160 organizations (government, academic and commercial) dedicated to managing, delivering and applying Earth science data, has been working on many ESI topics since 1998. The Committee on Earth Observation Satellites (CEOS)’s Working Group on Information Systems and Services (WGISS) has been actively coordinating the ESI activities among the space agencies.

The talk will present an overview of current efforts in ESI, the role members of IEEE GRSS play, and discuss recent developments in data preservation and provenance.

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