

Dr. Liping Di

Professional Preparation

Zhejiang University (China)	Remote Sensing	B.S.	1982
Chinese Academy of Sciences	Computer Applications	M.S.	1985
University of Nebraska-Lincoln	Remote Sensing and GIS	Ph.D.	1991

Citizenship: USA

Appointments

- 2000-present, *Professor and Director*, Laboratory for Advanced Information Technology and Standards (LAITS, <http://laits.gmu.edu>), School of Computational Sciences, George Mason University.
- 2002-present, *Co-chair*, Data Standardization and Distribution Subcommittee, IEEE Geoscience and Remote Sensing Society (IGRASS).
- 2001-present, *Chair*, International Organization for Standardization (ISO) 19130 “Sensor and Data Models for Imagery and Gridded Data”
- 2001-present, *Co-chair*, International Society for Photogrammetric Engineering and Remote Sensing (ISPRS) Working Group II/4—Imagery Data Standards.
- 2001-present, *Principal member*, U.S. International and National Committee on Information Technology Standards (INCITS) Technical Committee L1.
- 1997-present, *U.S. expert* to ISO TC 211 standard development projects: ISO 19115, ISO 19118, ISO 19121, ISO 19123, ISO 19124, ISO 19128, ISO 19129, and ISO 19132.
- 1995-present, *NASA technical representative* to Committee on Earth Observation Satellites (CEOS) Working Group on Information Systems and Services (WGISS) Data Subgroup and Access Subgroup.
- 1995-present, *NASA alternative representative* to U.S. Federal Geographic Data Committee's Standard Working Group and Imagery Subgroup.
- 1997-2000, *Chief Scientist*, Raytheon Information Technology and Science Services (ITSS), Lanham, MD.
- 1994-1997, *Principal Scientist*, Raytheon Information Technology and Science Services (ITSS), Lanham, MD.
- 1991-1994, *Research Scientist*, NOAA Geophysical Data Center, Boulder, CO
- 1987-1991, *Research Assistant*, Center for Advanced Land Management Information Technologies (CALMIT), University of Nebraska-Lincoln.
- 1984-1986, *Researcher*, Space Science and Technology Center, Chinese Academy of Sciences, Beijing, China.
- 1982-1983, *Associate Engineer*, The Southwestern Exploration Corporation of Metallurgical Geology, China

Selected Publications

Closely related publications

- Di, L., 2004. “The Geospatial Grid.” In S. Rana and J. Sharma eds, *Frontiers of Geographic Information Technology*, Springer-Verlag.
- Di, L., 2004. “The Open GIS Web Service Specifications for Interoperable Access and Services of NASA EOS Data.” In Qu, J. etc eds, *Earth Science Satellite Remote Sensing Volume II: Data, Computational Processing and Tools*. Springer-Verlag.
- Di, L., 2004. “The NASA HDF-EOS Web GIS Software Suite (NWGISS).” In Qu, J. etc eds, *Earth Science Satellite Remote Sensing, Volume II: Data, Computational Processing and Tools*. Springer-Verlag. (Invited, in press).
- FGDC, 2002. *The FGDC Content Standard for Digital Geospatial Metadata: Extensions for Remote Sensing Metadata, FGDC-STD-012-2002*. U.S. Federal Geographic Data Committee. Reston, VA (144 pp) (Di, L., project chair).
- Di, L., R.Suresh, K. Doan, D. Ilg, and K. McDonald, 1999. "DIAL-an Interoperable Web-based Scientific Data Server". In M. Goodchild, M. Egenhofer, R. Fegeas, and C. Kottman eds, *Interoperating Geographic Information Systems*, Section 4. System Experiences. Kluwer Academic Publishers, Norwell, MA. p 301-312.

Other important publications

- ISO, 2004. *ISO 19130-Geographic Information-Sensor and Data Models for Imagery and Gridded Data*. International Organization for Standardization (ISO), Technical Committee 211. ISO/TC 211 / SC N 1571, 100p. (Di, L., project chair).
- Di, L., 2003. “Recent Progress on Remote Sensing Monitoring of Desertification.” *Annals of Arid Zone*. Vol. 42, No. 3, 2003 (Invited).

- Di, L., 2003. "Landuse Pattern and Landuse Change", In C. Hsieh and M. Lu eds, *Changing China: A Geographical Appraisal*. Section I, Chapter 2. Westview Press, Boston, MA, pp 17-31.
- FGDC 1999. *The FGDC Content Standard for Remote Sensing Swath Data, FGDC-STD-009-1999*. United States Federal Geographic Data Committee, Reston, VA (27 pp)(Di, L, Project chair and editor).
- Di, L., and K. McDonald, 1999 "Next Generation Data and Information Systems for Earth Sciences Research", in *Proceedings of the First International Symposium on Digital Earth*, Vol I. Science Press, Beijing, China. pp. 92-101.

Synergistic Activities

Dr. Di has engaged in geoinformatics and remote sensing research for more than twenty years and has published over 100 papers in professional journals and refereed conference proceedings. He has served as PI for more than \$17 million research grants and as Co-PI for more than \$8 million research grants/contracts. He is the founder of the Laboratory for Advanced Information Technology and Standards (LAITS) at George Mason University. Currently the Lab has six full-time research faculty, five post-doctoral research fellows, and seven Ph.D. students. Dr. Di's current research activities are mainly in the following two areas: geographic information standards and the development of web-based distributed data, information, and knowledge systems for Earth science. He is internationally known for the development of the geographic information standards, especially those for Earth observation (EO) and remote sensing. He was one of the core members who developed the NASA EOSDIS data standards. He led the development of two FGDC remote sensing standards: The FGDC Content Standard for Remote Sensing Swath Data and The FGDC Content Standard for Digital Geospatial Metadata: Extensions for Remote Sensing Metadata. Currently, he is leading the development of ISO 19130: Sensor and Data Models for Imagery and Gridded Data and is actively participating in the development of other ISO standards. He is also one of the major contributors to OGC Web Service Specifications, especially Web Coverage Services and Web Map Services. Those standards and specifications form the foundation for interoperability of geographic data, information, systems, and services. With his positions at ISPRS, CEOS, and IGARSS, he is ensuring the adoption of those national and international standards consistently across those professional organizations. Dr. Di is also a leading figure in the development of web-based advanced, distributed data, information, and knowledge systems and tools for geospatial data. He led the development of the Data and Information Access Link (*DIAL*), one of the earliest web-based systems in the world for distributing EO data to users through web browsers. More than 1,000 copies of the software have been requested by data providers in more than forty countries. Currently, he is leading the development of the NASA Web GIS Software Suite (*NWGISS*), a web-based, multiple-OGC-standard compliant, data access and service system for multi-source EO data. This system has demonstrated the power of standards in the information system development. Although NWGISS is still in development, it already has been used by NASA, DOD, OGC, and several CEOS member agencies for providing the interoperable access to and services for EO data. He is also leading the development of a geospatial modeling and knowledge building system called *GeoBrain*. Based upon his research experience and results, Dr. Di developed a new graduate-level course on the theory, standards, and practices of GIS interoperability, called "The interoperability of Geographic Information systems." It is the first graduate course at GMU on such a topic.