

Dr. Yaxing Wei

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EDUCATION

Ph.D. in Safety Technology and Engineering, December 2007

University of Science and Technology of China (USTC), Hefei, Anhui, China

Cooperative Research at George Mason University (GMU), Fairfax, VA, USA

Dissertation: *Research on Data Grid-based Geospatial Information Collaborative Sharing System*

Advisors: Dr. Liping Di and Dr. Guangxuan Liao

B.S. in Electronic Engineering and Information Science, July 2001

Special Class for Gifted Young (SCGY), USTC, Hefei, Anhui, China

RESEARCH INTERESTS

- Geospatial information interoperability and standardization
- Advanced geospatial data management, discovery, visualization, analysis, and distribution
- Data management and geospatial information systems for environmental and climate research
- Scientific workflows and data provenance
- Web Services and Service-oriented Architecture (SOA) technologies, Grid and collaborative computing

PROFESSIONAL EXPERIENCE

Geospatial Information Scientist, Oak Ridge National Laboratory

5/2011 – present

- **Modeling and Synthesis Thematic Data Center (MAST-DC)**, *funded by NASA*

Achievements:

- Created a collection of environmental driver data sets as standard inputs for TBMs.
- Defined a standard data model to store terrestrial biosphere model (TBM) outputs.
- Data standardization and management for NASA-funded Multi-scale Synthesis and Terrestrial Model Intercomparison Project (MsTMIP).
- Co-organized the Data Management Practices for Early Career Scientists Workshop and presented the “Preparing Spatial Data to Archive” session at both the NACP 2013 All Investigators Meeting and the 2013 NASA Terrestrial Ecology Science Team Meeting.

- **Oak Ridge National Laboratory Distributed Active Archive Center (ORNL DAAC)**, *funded by NASA*

Achievements:

- Proposed research proposal, “Toward Connected NASA Earth Sciences Data: Enhance Discovery of Model and Observational Data for Carbon Cycle Model-data Intercomparison through Knowledge Mining”, to NASA.

- Developed an advanced Web-based GIS system to visualize, analyze, and distribute environmental science data based on the latest technologies: Open Geospatial Consortium (OGC) standards, ESRI ArcGIS Server, Google Maps, Ajax, etc.
- Published 3 North American Carbon Program (NACP) carbon cycle model output and benchmark data sets.
- Developed the ORNL DAAC THREDDS Data Server (TDS) and a tool to automate the publication of ORNL DAAC data sets through TDS.
- Researched preservation and management of Earth science data provenance using digital content repository technology.
- Co-organized the Environmental Data Management Best Practices Webinar, part of the NASA EarthData Webinar Series, and presented the “Part 2: Geospatial data” presentation.
- **National Hydropower Assets & Resources Assessment Project (NHAAP)**, *funded by DOE*
Achievements:
 - Created an advanced GIS-based method and performed the analysis to assess potentials for new small hydropower sites development and their environmental impacts in the contiguous U.S.
 - Main contributor to the research on impacts of climate change on federal hydropower generation.
 - Led the development of the Hydro Data Infrastructure (HDI) and tools to manage, present, and deliver U.S. national hydropower assets and resources for strategic planning and decision making to assess the current value of the nation’s hydroelectric infrastructure, quantify the amounts of energy that could be feasibly extracted, and provide an environmental attribution resource for the DOE Water Power Program.
 - Co-authored three technical reports to DOE: 1) *Assessment of the Effects of Climate Change on Federal Hydropower*, 2) *An Assessment of Energy Potential at Non-Powered Dams in the United States*, and 3) *An assessment of energy potential from new stream-reach development in the United States: initial methodology report*.
- **Data Observation Network for Earth (DataONE)**, *funded by NSF*
Achievements:
 - Proposed the concept of Integrated Model Intercomparison Framework (IMIF) – a scientific workflow-based infrastructure to facilitate collaborative online TBM intercomparison and evaluation.
 - Proposed and mentored the 2013 DataONE Summer Intern Project: *Build Fundamental Components for Provenance-aware Model Exploration, Evaluation, and Benchmarking Cyber-infrastructure Prototype*.
 - Developed new visualization techniques and tools to explore similarity/difference of multi-dimensional data for climate research.
 - Co-authored a DataONE report: *Value Proposition for Provenance in DataONE*.
 - Actively participated the DataONE Exploration, Visualization and Analysis (EVA) and Provenance working groups.

Post-doctoral Research Associate, Oak Ridge Associated Universities

7/2008 – 5/2011

- **The Oak Ridge National Laboratory Distributed Active Archive Center (ORNL DAAC)**, *funded by NASA*
Achievements:
 - Created the Spatial Data Access Tool (SDAT) to provide an interoperable mechanism for effective visualization and on-demand distribution of diverse Earth science geospatial data, including land cover, biogeochemistry, elevation, ecosystem, climate, soil, climate model outputs, etc. SDAT is a Web-based application that leverages OGC standards, Web 2.0, and digital Earth (e.g. Google Earth) technologies.
 - Was invited by Google and presented the *Spatial Data Access Tool: Enable Visualization and Access of*

Geospatial Data Using OGC services and Google Earth as an official Google Tech Talk, part of the AtGoogleTalks series. Link to talk: <http://www.youtube.com/watch?v=GxhcX7-vcy8>.

- Developed the ORNL DAAC Web Map Service (WMS) and Web Coverage Service (WCS) based on OGC standards.
- Developed WebGIS systems for geospatial data visualization, analysis, and distribution based on ESRI GIS software, including ArcSDE and ArcIMS.
- **Modeling and Synthesis Thematic Data Center (MAST-DC), funded by NASA**
Achievements:
 - Created a data set that estimates the current rate of atmospheric carbon dioxide sequestration over North America at sub-national scales and across different sectors, such as forest, crop, and other lands.
 - Provided data management support to NACP investigators and agencies performing modeling and synthesis activities.
 - Performed geospatial data analysis, including pixel-based spatial/temporal statistics, regional analysis, and conservative remapping, to support NACP interim synthesis activities.
- **National Hydropower Assets & Resources Assessment Project (NHAAP), funded by DOE**
Achievements:
 - Developed Web-based HydroGIS system to provide visualization, analysis, and access capabilities to the NHAAP geospatial database, which contains the current hydro infrastructure in the U.S., National Hydrography Dataset (NHD), Watershed Boundary Dataset (WBD), USGS Stream gauge observations, environmental data, etc.
 - Developed a method and performed the analysis to synthesize monthly mean stream flow time-series for ungauged streams with hydropower interest in the contiguous U.S. Based on the synthesized stream flows, estimated the potential added hydropower capacity by turning existing non-powered dams into hydropower facilities.
 - Proposed a technical solution and drafted the work plan for research on increasing the hydraulic head of non-powered dams through pipe flow diversion.
- **Wind Energy Data & Information (WENDI) Gateway, funded by DOE**
Achievements:
 - Developed the Web-based WindGIS and contributed to the Wind Energy Metadata Clearinghouse. These two major components of the WENDI Gateway provided an easy one-stop shop for users, from experts to the general public, to find authoritative answers to wind energy-related questions.

Research Assistant, Center for Spatial Information Science and Systems (CSISS), GMU 2004 – 7/2008

- **Integration of OGC and Grid Technologies for Earth Science Modeling and Applications, funded by NASA**
Achievements:
 - Designed and developed the Grid-enabled OGC Catalog Service for Web (CSW) that supported 3 different metadata information models: ebRIM, ISO 19115/19119, and FGDC.
 - Developed the Grid-enabled OGC Web Coverage Service (WCS) and Web Map Service (WMS).
 - Created an effective geospatial data access mechanism based on the concept of virtual geospatial data, Grid-enable OGC services, and data replication.
 - Main contributor for the building of a Globus Toolkit-based Data Grid system across 4 geographically dispersed sites (GMU, NASA GSFC, NASA Ames, LLNL) via Giga network. The Grid system contains 11 servers and shares more than 10TB of geospatial data.

- Main contributor for the development of Grid-enabled Business Process Execution Language (BPEL) workflow system to automate and facilitate geospatial data processing through Grid services orchestration.
- **GeoBrain (Mobilization of NASA EOS Data and Information through Web Services and Knowledge Management Technologies for Higher-education Teaching and Research), funded by NASA**
Achievements:
 - Designed and developed the GeoDataDownload Web application, which provided geospatial data search from both local and EOS Clearinghouse (ECHO) catalogs and customized geospatial data download through OGC WCS.
 - Designed and developed the Virtual Data Product designer, an online tool for users to build recipes to create high-level geospatial data using certain types of processing services.
 - Main contributor for the Web-based virtual geospatial data product system, which automated and facilitated geospatial data processing through Web services orchestration.
 - Main contributor for the GeoBrain Online Analysis System (GeOnAS), which provides an online workspace for users to search, visualize, and analyze geospatial data.
- **Maintenance and Enhancement of the GEOSS Registry for Earth Observation, funded by GEO**
Achievements:
 - Designed and developed the first version of GEOSS Component & Service Registry (CSR) system.

2006 IEEE International Services Computing Contest,

Chicago, IL, 2006

- Team leader, cooperated with 5 collaborators.
- Designed and developed a Grid-based SOA system for effective and customized acquisition of geospatial data products.
- Led the development for the technical report and the peer-reviewed paper: *Effective Acquisition of Geospatial Data Products in a Collaborative Grid Environment*.

AWARDS

- Oak Ridge National Laboratory Supplemental Performance Award, 2012.
- 3rd place prize in the IEEE International Services Computing Contest, 2006.
- Winner of International Carbon Cup Open Geospatial Design Competition, 2004.
- Guanghua Educational Foundation Scholarship, 2001. USTC, China.
- Outstanding Student Scholarship, 1996, 1997, 1999, and 2000. USTC, China.

SOFTWARE DEVELOPED

- Spatial Data Access Tool (SDAT): <http://webmap.ornl.gov/wcsdown/>
- Hydro WebGIS: <http://hydro.ornl.gov/webgis/hydro>
- GeoBrain Online Analysis System (GeOnAS): <http://geobrain.laits.gmu.edu/OnAS/>
- GeoDataDownload: <http://geobrain.laits.gmu.edu/GeoDataDownload/>
- GEOSS Component and Service Registry (CSR): <https://geossregistries.info/geosspub/>

WORKSHOPS ORGANIZED

- Environmental Data Management Best Practices Webinar. NASA EarthData Webinar Series. September 10, 11, and 12, 2013. (Co-organizer)
- Data Management Practices for Early Career Scientists Workshop. NASA Terrestrial Ecology Science Team

Meeting. Scripps Seaside Forum, La Jolla, CA, May 2, 2013. (*Co-organizer*)

- Data Management Practices for Early Career Scientists Workshop. NACP All Investigators Meeting. February 3, 2013. (*Co-organizer*)

PROFESSIONAL MEMBERSHIP AND SERVICE

- **Editorial Board Member**, The Scientific World Journal – Computer Science, 2012 – present
- **Member**, American Geophysical Union, 2009 – present
- **Member**, Chinese Professionals in Geographic Information Sciences (CPGIS), 2008 – 2009
- **Chair**, Chinese Professionals in Geographic Information Sciences (CPGIS) Website Committee, 2009 – 2010
- **Reviewer**
 - Journal of Climate
 - Annals of GIS
 - Transactions of the American Society of Agricultural and Biological Engineers
 - Computers & Geosciences
 - Future Internet
 - IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
 - IEEE Transactions on Geoscience and Remote Sensing
 - International Journal of Geo-Information
 - The Scientific World Journal
 - The 1st and 2nd International Conference on Agro-Geoinformatics (in 2012 and 2013)
 - Earth Science Informatics

PROPOSALS

- Toward Connected NASA Earth Sciences Data: Enhance Discovery of Model and Observational Data for Carbon Cycle Model-data Intercomparison through Knowledge Mining. **Yaxing Wei (PI)**. **Submitted** to NASA ROSES ACCESS in 2013. **\$700K**.
- Multi-scale Synthesis and Terrestrial Model Intercomparison Project (MsTMIP) Phase II. **Yaxing Wei (Co-I)** with Deborah Huntzinger (PI). **Submitted** to NASA ROSES Carbon Cycle in 2013. **\$1.6M**.
- Full accounting of the greenhouse gas budget in North America's terrestrial ecosystems: Synthesis through integration of satellite, aircraft and ground-based observations with models. **Yaxing Wei (Co-I)** with Hanqin Tian (PI). **Submitted** to NASA ROSES Carbon Cycle in 2013. **\$1.18M**.

PUBLICATIONS

Scientific Data Sets

1. **Y. Wei**, D.J. Hayes, M.M. Thornton, W.M. Post, R.B. Cook, P.E. Thornton, A. Jacobson, D.N. Huntzinger, T.O. West, L.S. Heath, B. McConkey, G. Stinson, W. Kurz, B. de Jong, I. Baker, J. Chen, F. Chevallier, F. Hoffman, A. Jain, R. Lokupitiya, D.A. McGuire, A. Michalak, G.G. Moisen, R.P. Neilson, P. Peylin, C. Potter, B. Poulter, D. Price, J. Randerson, C. Rodenbeck, H. Tian, E. Tomelleri, G. van der Werf, N. Viovy, J. Xiao, N. Zeng, and M. Zhao. 2013. NACP Regional: National Greenhouse Gas Inventories and Aggregated Gridded Model Data. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, TN, USA. <http://dx.doi.org/10.3334/ORNLDAAAC/1179>.
2. **Y. Wei**, W.M. Post, R.B. Cook, D.N. Huntzinger, P.E. Thornton, A. Jacobson, I. Baker, J. Chen, F. Chevallier, F.

- Hoffman, A. Jain, S. Liu, R. Lokupitiya, D.A. McGuire, A. Michalak, G.G. Moisen, R.P. Neilson, P. Peylin, C. Potter, B. Poulter, D. Price, J. Randerson, C. Rodenbeck, H. Tian, E. Tomelleri, G. van der Werf, N. Viovy, T.O. West, J. Xiao, N. Zeng, and M. Zhao. 2013. NACP Regional: Gridded 1-deg Observation Data and Biosphere and Inverse Model Outputs. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, TN, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1157>.
3. **Y. Wei**, W.M. Post, R.B. Cook, P.E. Thornton, A. Jacobson, D.N. Huntzinger, F. Hoffman, G.G. Moisen, A. Schuh, C. Schwalm, and N. Viovy. 2013. NACP Regional: Supplemental Gridded Observations, Biosphere and Inverse Model Outputs. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, TN, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1158>.
 4. P.E. Thornton, M.M. Thornton, B.W. Mayer, N. Wilhelmi, **Y. Wei**, R.B. Cook. 2012. Daymet: Daily Surface Weather on a 1-km Grid for North America, 1980-2012. Data set. Available on-line [<http://daymet.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, TN, USA. http://doi:10.3334/ORNLDAAC/Daymet_V2.

Peer-reviewed Journal Paper

1. **Y. Wei**, S. Liu, D.N. Huntzinger, A.M. Michalak, N. Viovy, W.M. Post, C. Schwalm, K. Schaefer, A.R. Jacobson, C. Lu, H. Tian, D.M. Ricciuto, R.B. Cook, J. Mao, and X. Shi. 2013. The North American Carbon Program Multi-scale Synthesis and Terrestrial Model Intercomparison Project: Part 2 - Environmental Driver Data. *Geoscientific Model Development Discussions (accepted)*.
2. D.N. Huntzinger, C. Schwalm, A.M. Michalak, K. Schaefer, A.W. King, **Y. Wei**, A.R. Jacobson, S. Liu, R.B. Cook, W.M. Post, G. Berthier, D. Hayes, M. Huang, A. Ito, H. Lei, C. Lu, J. Mao, C.H. Peng, S. Peng, B. Poulter, D. Ricciuto, X. Shi, H. Tian, W. Wang, N. Zeng, F. Zhao, and Q. Zhu. 2013. The North American Carbon Program Multi-scale synthesis and Terrestrial Model Intercomparison Project—Part 1: Overview and experimental design. *Geoscientific Model Development Discussions*, 6, 3977-4008, 2013. doi: 10.5194/gmdd-6-3977-2013.
3. S. Liu, **Y. Wei**, W.M. Post, R.B. Cook, K. Schaefer, and M.M. Thornton. 2013. The Unified North American Soil Map and Its Implication on the Soil Organic Carbon Stock in North America. *Biogeosciences*, 10 (5), 2915-2930, 2013. doi: 10.5194/bg-10-2915-2013.
4. M. F. K. Pasha, D. Yeasmin, S. Kao, B. Hadjerioua, **Y. Wei**, and B.T. Smith, 2013. Stream-reach Identification for New Hydropower Development through a Merit Matrix-based Geospatial Algorithm. *Journal of Water Resources Planning and Management. (Under review)*.
5. P. Yue, L. Di, **Y. Wei**, and W. Han. 2013. Intelligent Services for Discovery of Complex Geospatial Features from Remote Sensing Imagery. *ISPRS Journal of Photogrammetry and Remote Sensing*, 83, 151-164, 2013. doi: 10.1016/j.isprsjprs.2013.02.015.
6. S. Kang, S.S. Nair, K.L. Kline, J.A. Nichols, D. Wang, W.M. Post, C.C. Brandt, S.D. Wullschleger, N. Singh, and **Y. Wei**. 2013. Global Simulation of Bioenergy Crop Productivity: Analytical Framework and Case Study for Switchgrass. *Global Change Biology Bioenergy*, 2013. doi: 10.1111/gcbb.12047.
7. Z. Liu, R. Bambha, J. Pinto, J. Boylan, M. Huang, H. Lei, C. Zhao, S. Liu, J. Mao, C.R. Schwalm, X. Shi, **Y. Wei**, and H.A. Michelsen. 2013. Toward Verifying Fossil Fuel CO₂ Emissions with the Community Multi-Scale Air Quality (CMAQ) Model: Motivation Model Description and Initial Simulation. *Journal of the Air & Waste Management Association*, 2013. doi: 10.1080/10962247.2013.816642.
8. E. Santos, J. Poco, **Y. Wei**, S. Liu, B. Cook, D.N. Williams, and C. Silva. 2013. UV-CDAT: Analyzing Climate Datasets from a User's Perspective. *Computing in Science & Engineering*. 15 (1), 94-103, 2013. doi:

10.1109/MCSE.2013.15.

9. Y. Bai, L. Di, D.D. Nebert, A. Chen, **Y. Wei**, X. Cheng, Y. Shao, D. Shen, R. Shrestha, and H. Wang. 2012. GEOSS Component and Service Registry: Design, Implementation and Lessons Learned. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 5 (6), 1678-1686, 2012. doi: 10.1109/JSTARS.2012.2215914.
10. D.N. Huntzinger, W.M. Post, **Y. Wei**, A.M. Michalak, T.O. West, A.R. Jacobson, I.T. Baker, J.M. Chen, K.J. Davis, D.J. Hayes, F.M. Hoffman, A.K. Jain, S. Liu, A.D. McGuire, R.P. Neilson, C. Potter, B. Poulter, D. Price, B.M. Raczka, H.Q. Tian, P. Thornton, E. Tomelleri, N. Viovy, J. Xiao, W. Yuan, N. Zeng, M. Zhao, and R.B. Cook. 2012. North American Carbon Program (NACP) Regional Interim Synthesis: Terrestrial Biospheric Model Intercomparison. *Ecological Modelling*, 232, 144-157, 2012. doi: 10.1016/j.ecolmodel.2012.02.004.
11. D.J. Hayes, D.P. Turner, G. Stinson, A.D. McGuire, **Y. Wei**, T.O. West, L.S. Heath, B.de Jong, B.G. McConkey, R.A. Birdsey, W.A. Kurz, A.R. Jacobson, D.N. Huntzinger, Y. Pan, W.M. Post and R.B. Cook. 2012. Reconciling Estimates of the Contemporary North American Carbon Balance among Terrestrial Biosphere Models, Atmospheric Inversions, and a New Approach for Estimating Net Ecosystem Exchange from Inventory-Based Data. *Global Change Biology*. doi: 10.1111/j.1365-2486.2011.02627.x.
12. B. Hadjerioua, S. Kao, **Y. Wei**, H. Battey, and B.T. Smith. 2012. Non-powered Dams: an Untapped Source of Renewable Electricity in the USA. *International Journal on Hydropower & Dams*, 19(4), 45-49.
13. P. Yue, **Y. Wei**, L. Di, L. He, J. Gong, and L. Zhang. 2011. Sharing Geospatial Provenance in a Service-oriented Environment. *Computers, Environment and Urban Systems*, 35 (4), 333-343, 2011. doi: 10.1016/j.compenvurbsys.2011.02.006.
14. P. Yue, J. Gong, L. Di, L. He, and **Y. Wei**. 2011. Integrating Semantic Web Technologies and Geospatial Catalog Services for Geospatial Information Discovery and Processing in Cyberinfrastructure. *Geoinformatica*, 15 (2), 273-303, 2011. doi: 10.1007/s10707-009-0096-1.
15. A. Chen, L. Di, Y. Bai, **Y. Wei**, and Y. Liu. 2010. Grid Computing Enhances Standards-compatible Geospatial Catalogue Service. *Computers & Geosciences*, 36 (4), 411-421, 2010. doi: 10.1016/j.cageo.2009.09.006.
16. A. Chen, L. Di, **Y. Wei**, Y. Bai, and Y. Liu. 2009. Use of Grid Computing for Modeling Virtual Geospatial Products. *International Journal of Geographical Information Science*, 23 (5), 581-604, 2009. doi: 10.1080/13658810902733666.
17. P. Zhao, L. Di, G. Yu, P. Yue, **Y. Wei**, and W. Yang. 2009. Semantic Web-based Geospatial Knowledge Transformation. *Computers & Geosciences*, 35 (4), 798-808, 2009. doi: 10.1016/j.cageo.2008.03.013.
18. Y. Bai, L. Di, and **Y. Wei**. 2009. A Taxonomy of Geospatial Services for Global Service Discovery and Interoperability. *Computers & Geosciences*, 35 (4), 738-790, 2009. doi: 10.1016/j.cageo.2007.12.018.
19. N. Chen, L. Di, G. Yu, J. Gong, and **Y. Wei**. 2009. Use of ebRIM-based CSW with Sensor Observation Services for Registry and Discovery of Remote-sensing Observations. *Computers & Geosciences*, 35 (2), 360-372, 2009. doi: 10.1016/j.cageo.2008.08.003.
20. L. Di, A. Chen, W. Yang, Y. Liu, **Y. Wei**, P. Mehrotra, C. Hu, and D. Williams. 2008. The Development of a Geospatial Data Grid by Integrating OGC Web Services with Globus-based Grid Technology. *Journal of Concurrency: Practice and Experience*, 20 (14), 1617-1635, 2008. doi: 10.1002/cpe.1292.
21. **Y. Wei**, L. Di, B. Zhao, G. Liao, and A. Chen. 2007. Transformation of HDF-EOS Metadata from the ECS Model to ISO 19115-based XML. *Computers & Geosciences*, 33 (2), 238-247, 2007. doi: 10.1016/j.cageo.2006.06.006.
22. Y. Bai, L. Di, A. Chen, Y. Liu, and **Y. Wei**. 2007. Towards a Geospatial Catalogue Federation Service. *Photogrammetric Engineering & Remote Sensing*, 73 (6), 699-708, 2007.

23. X. Wang, X. Wu, G. Liao, and **Y. Wei**. 2003. Measurements of Full Field Velocity in a Water Mist based on Digital Particle Image. *Journal of Experimental Mechanics*. 18 (1), 2003. doi: 10.3969/j.issn.1001-4888.2003.01.002. (In Chinese with English Abstract)
24. B. Cong, G. Liao, and **Y. Wei**. 2003. Application of Computational Simulation in Fire Science and Engineering Research. *Journal of Disaster Prevention and Mitigation Engineering*. 23 (2), 63-69, 2003. doi: 10.3969/j.issn.1672-2132.2003.02.009. (In Chinese with English Abstract)
25. X. Wang, X. Wu, G. Liao, **Y. Wei**, and J. Qin. 2002. Characterization of a Water Mist based on Digital Particle Images, *Experiments in Fluids*, 33 (4), 587-593, 2002. doi: 10.1007/s00348-002-0509-5.

Peer-reviewed Conference Paper

1. D. Wang, Z. Zhao, S. Shaw, G. Raghianti, and **Y. Wei**. 2013. Building a High Performance ArcGIS Cluster and its Application to Climate Data Processing. *Proceedings of the 12th International Conference on GeoComputation*, May 2013. Wuhan, China.
2. P. Yue, L. Di, **Y. Wei**, and W. Han. 2012. Semantic Feature Catalogue Service. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2012*, pages: 2914-2917, doi: 10.1109/IGARSS.2012.6350716.
3. M.J. Sale, S. Kao, R. Martinez, and **Y. Wei**. 2011. Estimating the Effects of Climate Change on Federal Hydropower and Power Marketing. *HydroVision International 2011*, Jul. 17-20, 2011, Sacramento, CA.
4. P. Yue, J. Gong, L. Di, L. He, and **Y. Wei**. 2010. Semantic Provenance Registration and Discovery Using Geospatial Catalogue Service. *Proceedings of 2nd International Workshop on the Role of Semantic Web in Provenance Management*, Nov. 7, 2010, Shanghai, China.
5. **Y. Wei**, S.K. Santhana-Vannan, and R.B. Cook. 2009. Discover, Visualize, and Deliver Geospatial Data through OGC Standards-based WebGIS System, *2009 17th International Conference on Geoinformatics*, Aug. 12-14, 2009, Fairfax, VA. Pages: 1-6, doi: 10.1109/GEOINFORMATICS.2009.5293520.
6. C. Hu, L. Di, W. Yang, **Y. Wei**, Y. Bai, C. Lynnes, Y. Enloe, B. Domenico, and G. Rutledge. 2008. Interoperability Middleware between Geoscience and Geospatial Catalog Protocols. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2008*. Jul. 7-11, 2008, Boston, MA. 5, pages: 89-92, doi: 10.1109/IGARSS.2008.4780034.
7. W. Han, L. Di, P. Zhao, **Y. Wei**, and X. Li. 2008. Design and Implementation of GeoBrain Online Analysis System (GeOnAS). *W2GIS 2008*, 5373, pages 27-36, doi: 10.1007/978-3-540-89903-7_4.
8. D.G. Goodenough, H. Chen, L. Di, A. Guan, **Y. Wei**, A. Dyk, and G. Hobart. 2007. Grid-enabled OGC Environment for EO Data and Services in Support of Canada's Forest Applications. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2007*. Jul. 23-28, 2007, Barcelona, Spain. Pages: 4773-4776. doi: 10.1109/IGARSS.2007.4423927.
9. L. Di, P. Zhao, W. Han, **Y. Wei**, X. Li. 2007. Web service-based GeoBrain online analysis system (GeOnAS). *NASA Science Technology Conference*, June 19-21, 2007, Adelphi, USA
10. L. Di, P. Yue, W. Yang, G. Yu, P. Zhao, and **Y. Wei**. 2007. Ontology-supported Automatic Service Chaining for Geospatial Knowledge Discovery. *Proceedings of American Society of Photogrammetry and Remote Sensing*, May 7-11, 2007, Tampa, FL.
11. **Y. Wei**, P. Yue, U. Dadi, M. Min, C. Hu, and L. Di. 2006. Effective Acquisition of Geospatial Data Products in a Collaborative Grid Environment. *2006 IEEE International Conference on Services Computing (SCC2006)*, Sep. 18-22, 2006, Chicago, IL. Pages 455-462, doi: 10.1109/SCC.2006.46.
12. A. Chen, L. Di, **Y. Wei**, Y. Bai, and Y. Liu. 2006. Grid-enabled Standard-compliant Open Computing Environment

- for Earth Science Exploration and Applications. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2006*. Jul. 31- Aug. 4, 2006, Denver, CO. Pages: 237-240, doi: 10.1109/IGARSS.2006.65.
13. P. Yue, L. Di, P. Zhao, W. Yang, G. Yu, and **Y. Wei**. 2006. Semantic Augmentations for Geospatial Catalogue Service. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2006*. Jul. 31-Aug. 4, 2006, Denver, CO. Pages: 3486-3489, doi: 10.1109/IGARSS.2006.894.
 14. L. Di, A. Chen, Y. Bai, and **Y. Wei**. 2006. Implementation of Geospatial Product Virtualization in Grid Environment. *Proceedings of the Sixth Annual NASA Earth Science Technology Conference – ESTC2006*. Jun. 27-29, 2006. College Park, MD.
 15. A. Chen, L. Di, **Y. Wei**, Y. Bai, and Y. Liu. 2006. An Optimized Grid-based, OGC Standards-compliant Collaborative Software System for Serving NASA Geospatial Data. *Proceeding of 30th Annual IEEE/NASA Software Engineering Workshop, 2006. SEW'06*. Apr. 25-28, 2006, Columbia, MD. Pages: 159-166, doi: 10.1109/SEW.2006.11.
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