Yi Qiang

Assistant Professor

Department of Geography, University of Hawai‘i at Mānoa

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Education

2012 **Ph.D. in Geography**, Department of Geography, Ghent University, Belgium

2007 **M.Sc. in Geographical Information Science**, University of Edinburgh, the United Kingdom

2006 **B.Sc. in Geographical Information Systems** and **B.A. in Law** (Secondary degree), Beijing Normal University, China

Work Experience

Assistant Professor, Department of Geography**,** University of Hawai'i – Mānoa, Jan. 2017 - now

Research Associate, the Earth Lab, University of Colorado-Boulder, July 2016 – Dec. 2016

Post-doctoral Researcher, Dept. of Environmental Sciences, Louisiana State University, 2012 –July 2016

Doctoral Researcher, Department of Geography, Ghent University, Belgium, 2008-2012

Research Assistant, UK National e-Science Institute, University of Edinburgh, 2007

Publications

Journals

Qiang, Y., Lam, N., Zou, L. and Cai, H., (2017) 'Changes in Exposure to Flood Hazards in the United States', *Annals of the American Association of Geographers*, vol. 107, no. 6.

Li, X., Lam, N., **Qiang, Y.**, Li, K., Yin, L., Liu, S., and Zheng, W., (2016) 'Measuring County Resilience after the 2008 Wenchuan Earthquake', *International Journal of Disaster Risk Science*, Vol. 7, No. 4, pp 393–412

Qiang, Y. and Lam, N., (2016) 'The Impact of Hurricane Katrina on Urban Growth in Louisiana: An Analysis Using Data Mining and Simulation Approaches', *International Journal of Geographical Information Science*, vol. 30, no. 9.

Bianchette, T., Liu, K., **Qiang, Y.**, and Lam, N., (2015) 'Wetland accretion rates along coastal Louisiana: Spatial and temporal variability in light of Hurricane Isaac's impacts', *Water*, vol.8, no.1

Cai, H., Lam, N., Zou, L., **Qiang, Y.**, Li, K., (2015) 'Assessing Community Resilience to Coastal Hazards in the Lower Mississippi River Basin', *Water*, vol.8, no.1

Zou, L., Kent, J., Lam, N., Cai, H., **Qiang Y.**, Li, K., (2015) 'Evaluating Land Subsidence Rates and their Implications for Land Loss in the Lower Mississippi River Basin', *Water*, vol.8, no.1

Lam, N., **Qiang, Y.**, Arenas, H., Brito, P. and Liu, K., (2015) 'Mapping and Assessing Coastal Resilience in the Caribbean Countries', *Cartography and Geographic Information Science*, vol. 42, no. 4

Qiang, Y. and Lam, N., (2015) 'Modeling Land Use and Land Cover Changes in a Vulnerable Coastal Region Using Artificial Neural Networks and Cellular Automata', *Environmental Monitoring and Assessment*, vol.187, no.3

Li, K., Lam, N., **Qiang, Y.**, Zou, L. and Cai H., (2015) 'A Cyberinfrastructure for Community Resilience Assessment and Visualization', *Cartography and Geographic Information Science*, vol. 42, no. s1, pp 34-39

Chavoshi, S. H., De Beats, B., **Qiang, Y.,** De Tré, G., Neutens, T. and Van de Weghe, N., (2015) 'A Qualitative Approach to the Identification, Visualisation and Interpretation of Repetitive Motion Patterns in Groups of Moving Point Objects', *International Arab Journal of Information Technology*, vol. 12, no. 5, pp 415-423

Van de Weghe, N., De Roo, B., **Qiang, Y.**, Neutens, T. and De Maeyer, P., (2014) 'The Continuous Spatio-Temporal Model (CSTM) as an Exhaustive Framework for Multi-Scale Spatio-Temporal Analysis', *International Journal of Geographical Information Science*, vol. 28, no. 5, pp 1047-1060.

Qiang, Y., Valcke, M., and Van de Weghe, N., (2014) 'Representing Time Intervals in a Two-Dimensional Space: An Empirical Exploratory Study'. *Journal of Visual Languages and Computing*, vol. 25, no. 4, pp 466-480.

Qiang, Y., Chavoshi, S.H., Logghe, S., De Maeyer, P., and Van de Weghe, N. (2014) 'Multi-scale Analysis of Linear Data in a Two-Dimensional Space', *Information Visualization*, vol. 13, no. 3, pp 248-265.

Qiang, Y., Delafontaine, M., Versichele, M., De Maeyer, P., and Van de Weghe, N., (2012) 'Interactive Analysis of Time Intervals in a Two-Dimensional Space', *Information Visualization*, vol. 49, no. 3, pp 265-280

Qiang, Y., Delafontaine, M., Neutens, T., Stichelbaut, B., De Maeyer, P., and Van de Weghe, N., (2012) 'Analysing imperfect temporal information in GIS using the Triangular Model', *The Cartographic Journal*, vol. 11, no. 4, pp. 255-272.

Qiang, Y., Delafontaine, M., Asmussen, K., Stichelbaut, B., De Tré, G., De Maeyer, P. and Van de Weghe, N. (2010) 'Modelling Imperfect Time Intervals in a Two-Dimensional Space', *Journal of Control and Cybernetics*, vol. 39, no. 4, pp. 983-1010.

Brodaric, B., Reitsma, F. and **Qiang, Y.** 2007, SKIing with DOLCE: toward an e-Science Knowledge Infrastructure, in *Formal ontology in information systems*, C Eschenbach, M Gruninger (ed.), Amsterdam, The Netherlands. pp. 208-219. ISBN: 978-1-58603-923-3

Conference proceedings

Buttenfield, B., Ghandehari, M., Leyk, S., Stanislawski, L., Brantley, M. and **Qiang, Y.**, (2016) Measuring Distance "As the Horse Runs": Cross-Scale Comparison of Terrain-Based Metrics, In *proceedings of GIScience 2016*, Montreal, Canada, pp.41-44

De Tré, G., Bronselaer, A., Billiet, C., **Qiang, Y.,** Van de Weghe, N., De Maeyer, P., Enrique Pons, J., and Pons, O. (2012) Visualising and handling uncertain time intervals in a two-dimensional triangular space, In *proceedings of the 2nd world conference on soft computing*, Baku, Azerbaijan, pp.585-592

Asmussen,K., **Qiang, Y.**, De Maeyer, P., Van de Weghe, N. (2009). Triangular Model for Studying and Memorising Temporal Knowledge, In *proceedings of International Conference of Education, Research and Innovation*, Madrid, Spain. pp. 1849-1859.

Qiang, Y., Reitsma, F. & Van de Weghe, N. (2009) Towards a General Temporal Ontology for Knowledge Integration, In *proceedings of the International Conference on Knowledge Engineering and Ontology Development*, Funchal. Portugal. pp. 275-280.

Qiang, Y., Asmussen, K., Delafontaine, M., De Tré, G., Stichelbaut, B., De Maeyer, P. & Van de Weghe, N. (2009) Visualising rough time intervals in a two-dimensional space, In *proceedings of 2009 IFSA World Congress / EUSFLAT Conference*, Lisbon, Portugal. pp. 1480-1485

Conference Presentations

'A Systematic Evaluation of Surface-Adjusted Distance Measurements using a HPC-enabled Monte Carlo Simulation', in *2017 AAG CyberGIS Workshop*, Boston, Massachusetts, April 2017.

'Modeling Long-Term Human Dynamics in Response to Natural Hazard Using Remote Sensing Data', in *2016 AAG CyberGIS Workshop*, San Francisco, California, March 2016.

'High Performance Computing with Python for Geocomputation', in *2015 AAG CyberGIS Workshop,* Chicago, Illinois, April 2015.

'Modeling the Coupled-Natural and Human Dynamics in a Vulnerable Coastal System Using CyberInfrastructure', in *2015 annual meeting of the Association of American geographers*, Chicago, Illinois, April 2015.

'Modeling Land Use And Land Cover Changes In A Vulnerable Coastal Region Using Artificial Neural Network', in *2014 annual meeting of the Association of American geographers*, Tampa, Florida, April 2014.

'Comparing the Land Use Land Cover Change between the South and North Louisiana Using Data Mining', in *the 29th RSGIS workshop in Louisiana*, Lafayette, Louisiana, April 2013

'Multi-Scale Analysis of Linear Data in a Two-Dimensional Space', in *workshop on space-time cube*, Enschede, the Netherlands, June 2012

'Visualising and analysing time series data in GIS', in *Workshop of Geospatial Visual Analytics: Focus on Time (GeoVa(t))*, Guimarães, Portugal, May 2010

'Triangular Model for Studying and Memorising Temporal Knowledge', in *the International Conference of Education, Research and Innovation*, Madrid, Spain, Nov. 2009

'Towards a General Temporal Ontology for Knowledge Integration', in *the International Conference on Knowledge Engineering and Ontology Development*, Funchal. Portugal, Oct. 2009

Grants and Awards

- 'Coupled extremes: Understanding & predicting how droughts, fires, floods, and landslides interact' submitted to *NSF PREEVENT program*, duration: 2017-2020, role: Senior Personnel.
- 'Who Own the Paradise: Using Supercomputer to Analyze Oceanview Inequality in Oahu', *Support of Undergraduate Research, College of Social Sciences at UH-Manoa*. $3,600, duration: 2017-2018, role: PI.
- 'Using Social Media Data to Using Social Media Data to Analyze Spatial Zoning, Connectivity and Social Disparities in Honolulu', *Research Support Award, College of Social Sciences at UH-Manoa.* $20,318 duration: 2017-2018, role: PI.
- 'Using CyberGIS to Model the Coupled Natural and Human Dynamics in a Vulnerable Coastal System', *CyberGIS Fellow Program*, duration: 2014-2015, $6400, duration: 2014-2015, role: PI.
- 'A Synthesis of Resilience Measurement Methods and Indices', *Louisiana Sea Grant Program*, duration 2014 -2016, $49,940, duration: 2014-2016, role: co-PI.
- 'Community Resilience Inference Measurement' is awarded as *Featured Apps* in *ESRI Climate Resilience App Challenge 2014* and *Top 10 Apps in ESRI Global Disaster Resilience App Challenge 2014*. http://www.rsgis.envs.lsu.edu/climateapp2014/, role: major developer

Teaching Experience

- Teaching assistant and lab instructor of course 'Spatial Modeling of Environmental Data' (graduate course) at Louisiana State University, 2013-now,

- Commitment in the CyberGIS fellow program to teach and develop teaching material on HPC in GIS and environmental modelling, 2014-2015
- Lab instructor of course ‘GIS Programming’ (graduate level) at Ghent University, Belgium, 2008-2012

Invited Reviews

Urban Planning and Landscape; International Journal of Geographical Information Science; Journal of Applied Geography; Journal of Spatial Science, Journal of Location Based Services, Geocarto International, Human and Ecological Risk Assessment: An International Journal, Environment Modeling & Assessment, IEEE Transactions on Fuzzy Systems; Agricultural Systems. Health Informatics Journal; Journal of Visual Languages and Computation; The Research Grant Council (RGC) of Hong Kong;