

Chen-Chieh Feng

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POSITION

- 2015 – present **Director**, Master of Science in Applied Geographic Information Systems, Department of Geography, National University of Singapore
- 2014 – present **Associate Professor**, Department of Geography, National University of Singapore
- 2008 – 2014 **Assistant Professor**, Department of Geography, National University of Singapore
- 2006 – 2008 **Visiting Fellow**, Department of Geography, National University of Singapore
- 2004 – 2006 **Assistant Professor**, Department of Geography, University of Wisconsin-Parkside, USA

EDUCATION

- 2004 **Ph.D.**, Department of Geography, University at Buffalo, The State University of New York, USA. Thesis title: *Probing Barriers to the Integration of Geographic Information Systems and Hydrologic Models*. Advisor: Dr. Douglas M Flewelling. Committee members: Dr. Hugh Calkins and Dr. David M Mark
- 1996 **M.Sc.**, Department of Geography, National Taiwan University, Taiwan. Thesis title: *Remote Sensing Classification Error Measurement*. Advisor: Dr. Tzu-How Chu. Committee members: Dr. Kuo-Chen Chang and Dr. Hsieh-Chien Chiou
- 1994 **B.Sc.**, Department of Geography, National Taiwan University, Taiwan.

HONOURS

- Outstanding Poster Presentation**, GIS analysis of physical geographical parameters of *Opisthorchis viverrini* in Northeastern Thailand. *The 96 Years of Opisthorchiasis: Past, Present and Future, International Congress of Liver Flukes*, 2011, Khon Kaen, Thailand (With Wang Y-C, Sithithaworn P, and Feng Y)
- Best paper award**, Ontology-based data exchange and integration: An experience in cyberinfrastructure of sensor network based monitoring system. *The Fourth International Conference on Advances in Semantic Processing*, 2010, Florence, Italy (With Yu L)

Finalist in GIS Specialty Group Student Paper Competition, Enhancement of hydrologic semantic checking capability for interoperable GIS and hydrologic models. *Annual Meeting of the Association of American Geographers*, 2002, Los Angeles, CA, USA

Second prize in the Student Paper Competition, Remote sensing classification error measurement. *Second Conference of the Chinese Geographic Information Society*, 1996, Taipei, Taiwan

FELLOWSHIP

FASS Writing Semester Scheme, attached to Center of Social Media Innovation for Communities (COSMIC), Interactive Digital Media Institute, NUS, Jul-Dec 2012

PUBLICATIONS (†Student)

International Refereed Journal Articles Guo Z and **Feng C-C** (accepted) Using multi-scale and hierarchical deep convolution features for 3D semantic classification of TLS point clouds. *International Journal of Geographic Information Science*

Feng C-C, Lin S, Sidaway J, Hawkins H, Jefferson B, Lin W, O’Sullivan D, Pavlovskaya M, Shelton T, Sui D, Tsou M-H, Wilson M (accepted) Author meet critics on New Lines: Critical GIS and the trouble of the map. *Transactions in GIS*

Kim, I-K, Pow C P, Wang Y-C, and **Feng C-C** 2018 Competing space and place identity with landscape change analysis using Web GIS through Singapore historical maps (1828-2015). *Singapore Journal of Tropical Geography*. doi:10.1111/sjtg.1226

Cui N, **Feng C-C**, Wang D, Li J, and Guo L 2018 The effects of rapid urbanization on forest landscape connectivity in Zhuhai City, China. *Sustainability*, 10(10), 3381, <http://www.mdpi.com/2071-1050/10/10/3381>

Wang Y-C, Hu B K H, Myint S W, **Feng C-C**, Chow W T L, Passy P F 2018 Patterns of land change and their potential impacts on land surface temperature change in Yangon, Myanmar. *Science of The Total Environment* 643, 738-750

Sng T-H, Chia P Z, **Feng C-C**, and Wang Y-C 2018 Are China’s provincial boundaries misaligned? *Applied Geography*, 98, 52-65

Feng C-C and Guo Z 2018 Automating Parameter Learning for Classifying Terrestrial LiDAR Point Cloud Using 2D Land Cover Maps. *Remote Sensing*, 10(8), 1192, <http://www.mdpi.com/2072-4292/10/8/1192>

Yan Y, Kuo C-L, **Feng C-C**, Huang W, Fan H, Zipf A 2018 Coupling maximum entropy modeling with geotagged social media data to determine the geographic distribution of tourists. *International Journal of Geographical Information Science*, 1-38

Wang X, Du S, **Feng C-C**, Zhang X, and Zhang X, 2018, Interpreting the fuzzy semantics of natural-language spatial relation terms with the fuzzy random forest algorithm. *International Journal of GeoInformation*, 7(2), 58, <http://www.mdpi.com/2220-9964/7/2/58>

- Feng C-C** and Mark D M, 2017, Cross-linguistic research on landscape categories using GEOnet Names Server data: A case study for Indonesia and Malaysia. *Professional Geographers*, 69(4), 567-578
- Kim I-K, **Feng C-C**, Wang Y-C, Spitzberg B H, and Tsou, M-H, 2017, Exploratory spatiotemporal analysis in risk communication during the MER outbreak in South Korea. *Professional Geographers*, 69(4), 629-643
- Yan, Y, **Feng C-C**, and Chang, K T-T, 2017, Toward enhancing integrated pest management based on volunteered geographic information. *International Journal of Geo-Information*, 6(7), 224, <http://www.mdpi.com/2220-9964/6/7/224/htm>
- Wang Y-C, Yuen R, **Feng C-C**, Sithithaworn P, and Kim I-K, 2017, Assessing the role of landscape connectivity on *Opisthorchis viverrini* transmission dynamics. *Parasitology International*, 66(4), 402-412
- †Yan Y, **Feng C-C**, Wang Y-C, 2017, Utilizing fuzzy set theory to assure the quality of volunteered geographic information. *GeoJournal*
- †Yan Y, Wang Y-C, **Feng C-C**, Wan P-H M, and Chang K T-T, 2017, Potential distributional changes of invasive crop pest species associated with global climate change. *Applied Geography*, 82, 83-92
- Kim I-K, **Feng C-C**, and Wang Y-C, 2017, A simplified linear feature matching method using decision tree analysis, weighted linear directional mean, and topological relationships. *International Journal of Geographic Information Science*, 31(5), 1042-1060
- Du S, †Wang X, **Feng C-C**, and †Zhang X, 2017, Classifying natural-language spatial relation terms with random forest algorithm. *International Journal of Geographic Information Science*, 31(3), 542-568
- Kim I-K, Huang J, Wang Y-C, **Feng C-C**, and Taylor D, 2016, Developing geoportals and applications for Singapore Historical GIS. *Journal of Asian Network of GIS-Based Historical Analysis*, 4, 11-19
- †Song S, Diao M, and **Feng C-C**, 2016, Individual transport emissions and the built environment: A structural equation modelling approach. *Transportation Research Part A: Policy and Practice*, 92, 206-219
- †Xie J and **Feng C-C**, 2016, An integrated simplification approach for 3D buildings with sloped and flat roofs. *International Journal of Geo-Information*, 5, 128
- Du S, Su M, and **Feng C-C**, 2016, Representation and discovery of building patterns: a three-level relational approach. *International Journal of Geographic Information Science*, 30(6), 1161-1186
- Du S, **Feng C-C**, and Luo G, 2015, Integrative Representation and inference of qualitative locations about points, lines, and polygons. *International Journal of Geographic Information Science*, 29(6), 980-1006
- Wang Y-C, Ho R C Y, **Feng C-C**, †Namsanor J, and Sithithaworn P 2015, An Ecological Study of *Bithynia* snails, the first intermediate host of *Opisthorchis viverrini* in northeast Thailand. *Acta Tropica*, 141 Part B, 244-252
- Kim I-H, Tsou M, and **Feng C-C**, 2015, Design and implementation strategy of a parallel agent-based Schelling model. *Computers, Environment, and Urban Systems*, 49, 30-41

- Feng C-C** and Sorokine A, 2014, Comparing English, Mandarin, and Russian hydrographic and terrain categories. *International Journal of Geographic Information Science*, 28(6), 1294-1315
- Du S, **Feng C-C**, Wang Q, and Guo L, 2014, Multi-scale qualitative location: A topology-based model. *Transactions in GIS*, 18(4), 604-631
- Feng C-C**, Wang Y-C, and Chen C-Y, 2014, Combining Geo-SOM and hierarchical clustering to explore geospatial data. *Transactions in GIS*, 18(1), 125-146
- Wang Y-C, **Feng C-C**, and Sithithaworn P, 2013, Environmental determinants of *Opisthorchis viverrini* prevalence in northeast Thailand. *Geospatial Health*, 8(1), 111-123
- Du S, **Feng C-C**, and Wang Q, 2013, Multi-scale qualitative location: A direction-based model. *Computer, Environment, and Urban Systems*, 41, 151-166
- Feng C-C**, 2013, Mapping geospatial metadata to the Open Provenance Model. *IEEE Transactions on Geoscience and Remote Sensing*, 51(11), 5073-5081
- Wang Y-C, †Srivathsan, A, **Feng C-C**, Salim A, and Shekelle M, 2013, Asian primate species richness correlates with rainfall. *PLoS ONE*, 8(1), e54995
- Wu J, **Feng C-C**, and Chen C-Y, 2012, A flexible data integration framework using ontology similarity. *Journal of Computational Information Systems*, 8(21), 8819-8826
- Wang Y-C, **Feng C-C**, and Vu Duc H, 2012, Integrating multi-sensor remote sensing data for land use/cover mapping in a tropical mountainous area in northern Thailand. *Geographical Research*, 50(3), 320-331
- Chang T-Y, Wang Y-C, **Feng C-C**, Ziegler A D, Giambelluca T W, and Liou Y-A, 2012, Estimation of root zone soil moisture using apparent thermal inertia with MODIS imagery over a tropical catchment in northern Thailand. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 5(3), 752-761
- Feng C-C** and Wang Y-C, 2011, Application challenges for geographic information science: Implications for emergency management in Southeast Asia. *Natural Hazards*, 59(1), 597-616
- Wang Y-C and **Feng C-C**, 2011, Patterns and trends in land use land cover change research explored using self-organizing map. *International Journal of Remote Sensing*, 32(13), 3765-3790
- Feng C-C** and Bittner T, 2010, Ontology-based qualitative feature analysis: Bay as a case study. *Transactions in GIS*, 14(4), 547-568
- Terry J P and **Feng C-C**, 2010, On quantifying the sinuosity of typhoon tracks in the western North Pacific. *Applied Geography*, 30, 678-686
- Mushinzimana E, Munga S, Minakawa N, Li L, **Feng C-C**, Bian L, Kitron U, Schmidt C, Beck L, Zhou G, Githeko A, and Yan G, 2006, Landscape determinants and remote sensing of Anopheline mosquito larval habitats in the western Kenya highlands. *Malaria Journal*, 5(13), DOI: 10.1186/1475-2875-5-13
- Feng C-C** and Flewelling D M, 2004, Assessment of semantic similarity between- land use/land cover classification systems. *Computer, Environment, and Urban Systems*, 28(3), 229-246

- International Refereed Short Letters/ Commentaries Wang Y-C, **Feng C-C**, Sithithaworn P, Feng Y, and Petney T N, 2011, How do snails meet fish? Landscape perspective needed to study parasite prevalence. *EcoHealth*, 8(3), 258-260
- Petney T N, Sithithaworn P, Satrawaha R, Grundy-Warr C, Andrews R, Wang Y-C, and **Feng C-C**, 2009, Potential malaria reemergence, Northeast Thailand. *Emerging Infectious Diseases*, 15(8), 1330-1331
- Refereed Book Chapters and Proceedings Sinha G, Mark D, Kolas D, Varanka D, Romero B, **Feng C-C**, Utery L, Liebermann J, and Sorokine A, 2014, An ontology pattern for surface water features. In M Duckham, E Pebesma, K Stewart, and A U Frank (eds.), *Lecture Note in Computer Science (LNCS) 8728: GIScience 2014*, Springer, Cham Germany, 187-203
- Feng C-C** and Terry J, 2012, Exploratory spatial analysis of typhoon characteristics in the North Pacific basin. In J Geoff and J Terry (eds.), *Natural Hazards in the Asia-Pacific Region: Recent Advances and Emerging Concepts*, Geological Society of London, London, 187-194
- Feng C-C** and Yu L, 2011, A generic attribute-improved RBAC model by using context-aware reasoning. *WorldComp'11*, CSREA Press, 398-404
- Feng C-C** and Yu L, 2010, Ontology-based data exchange and integration: An experience in cyber-infrastructure of sensor network based monitoring system. *The Fourth International Conference on Advances in Semantic Processing 2010*, 83-90
- Wang Y-C and **Feng C-C**, 2008, Visualizing research of land use land cover change. *The 16th International Conference on Geoinformatics and the Joint Conference on GIS and Built Environment*, SPIE Proceedings, doi:10.1117/12.812709
- Feng C-C** and Flewelling D M, 2005, Incorporating process in geographic information for enhancing semantic verification. In P Agouris and A Croitoru (eds.), *Next Generation Geospatial Information: from Digital Image Analysis to Spatiotemporal Databases*, Taylor and Francis, London, 169-178
- Feng C-C**, Bittner T, and Flewelling D M, 2004, Modeling surface hydrology concepts with endurance and perdurance. In M J Egenhofer, C Freksa, and H J Miller (eds.), *Lecture Notes in Computer Science (LNCS) 3234: Geographic Information Science*, Springer, Berlin, Heidelberg, 67-80
- Feng C-C** and Sorokine A, 2001, Incorporating hydrologic semantic information for interoperable GIS with hydrologic model. *Proceedings of the Ninth ACM International Symposium on Advances in Geographic Information Systems*, Atlanta, GA, 59-63
- Chu T-H, Chang C-L, **Feng C-C**, Lin C-Y, Hsu C-Y, and Chen L-W, 1997, Development of automatic mapping tools. Proceedings of the Third Conference of Chinese Geographic Information Society, Tainan, Taiwan (in Chinese)
- Feng C-C**, 1996, Measurement of remote sensing classification error. *Proceedings of the 2nd Conference of Chinese Geographic Information Society*, Taichung, Taiwan (in Chinese)
- Reports Yoo B, Wu J, Chen C-Y, Harward, J, **Feng C-C**, Bailey P, DeLong K, and Hardison J, 2012, The CENSAM cyberinfrastructure architecture,

Center for Environmental Sensing and Modeling (CENSAM),
Singapore-MIT Alliance of Research and Technology (SMART), 49pp

Feng C-C and †Chua, Justin, 2010, Evaluating disclosure risk of linked social-spatial data in Singapore, Singapore Land Authority and Ministry of Home Affairs, 32pp

Chu, T-H, Chou, H-C, and **Feng, C-C**, 1996, Developing and testing spatial data transfer standards, Research, Development, and Evaluation Commission, Executive Yuan of Taiwan (in Chinese)

Chu, T-H, Chou, H-C, and **Feng, C-C**, 1995, Research on the formats of spatial data transfer standards, Research, Development, and Evaluation Commission, Executive Yuan of Taiwan (in Chinese)

CONFERENCE PRESENTATIONS

Refereed

†Song S, **Feng C-C**, and Diao M, 2016, Planning versus pricing: the effect on re-directing travel behavior. *RGS-IBG Annual International Conference 2016*, 30 Aug – 2 Sep, London, UK

Kim I-H, Huang J, Wang Y-C, **Feng C-C**, and Taylor D, 2015, Developing geoportals and applications for Singapore historical GIS. *Asian Network for GIS-Based Studies (ANGIS)*, 4-6 Dec, Taipei, Taiwan

Feng C-C and Sorokine A, 2014, Comparing terrain categories in Wikipedia for spatial data integration in CyberGIS. In K Stewart, E Pebesma, G Navratil, P Fogliaroni, and M Duckham (eds.), *Extended Abstracts Proceedings of the GIScience 2014*, 279-281, 23-26 Sep, Vienna, Austria

KIM I H and **Feng C-C**, 2013, Parallel strategy of peak identification algorithm based on region growing method. *Geocomputation*, 23-25 May, Wuhan, China

Feng C-C and Mark D M, 2012, Exploring NGA GEOnet names server data for cross-linguistic research on landscape categories: A case study of some toponyms in Malaysia and Indonesia. In N Xiao, M-P Kwan, and H Lin (eds.), *Seventh International Conference – GIScience 2012 Extended Abstract*, 18-21 Sep, Columbus OH, USA

Chen C-Y, **Feng C-C**, and Wu J, 2012, A provenance framework for managing geospatial web processing workflow. *Digital Earth Summit 2012*, 2-4 Sep, Wellington, New Zealand

Feng C-C and Terry J P, 2011, Clustering analysis of hot spots and cold spots of typhoon variables in the North Pacific Basin. *8th Annual Meeting of the AOGS*, 8-12 Aug, Taipei, Taiwan

Feng C-C and Yu L, 2010, Conceptualizing representational semantics: A multiple layered spatial data integration framework based on ontology. *Global Spatial Data Infrastructure (GSDI) 12 World Conference*, 19-22 Oct, Suntec City, Singapore

Feng C-C and Sorokine A, 2008, A comparison of Mandarin and Russian definitions of physical features. In T J Cova, H J Miller, K Beard, A U Frank, and M F Goodchild (eds.), *Fifth International Conference – GIScience 2008 Extended Abstract*, IfGI prints, 70-72, 23-26 Sep, Park City, UT, USA

Feng C-C and Bittner T, 2006, Class-based relations for hydrographic features. In M Raubal, H J Miller, A U Frank, and M F Goodchild

(eds.), *Fourth International Conference – GIScience 2006 Extended Abstract*, IfGI prints, Munster, 65-68, 20-23 Sep, Munster, Germany

Wang, Y-C and **Feng C-C**, 2006, Application challenges for Geographic Information Science: Implications for emergency management in South East Asia. *Southeast Asia Geographers Association (SEAGA) Conference: Sustainability and Southeast Asia*, 28-30 Nov, Singapore

Feng C-C, 2000, Open hydrologic model for facilitating GIS and hydrologic model interoperability, *Fourth international conference: Integrating GIS and Environmental Modeling: Problems, Prospects, and Research Needs*, 2-8 Sep, Banff, Canada

- Non-Refereed **Feng C-C** and Guo Z, 2018, Automating point cloud processing for smart campus through machine learning, *Annual Meeting of the American Association of Geographers*, 10 Apr, New Orleans, LA
- Feng C-C** and Wang Y-C, 2017, Evaluating the effectiveness of visualization tools for understanding relocation history of Singapore temples, *Annual Meeting of the American Association of Geographers*, 4-9 Apr, Boston, MA
- Feng C-C** and Sorokine A, 2016, Evaluating data sources for general ontology of terrain kinds, *Annual Meeting of the American Association of Geographers*, 29 Mar - 2 Apr, San Francisco, CA
- Feng C-C** and Sorokine A, 2015, Comparison of Terrain Categories in Wikipedia and in National Data Standards, *Annual Meeting of the American Association of Geographers*, 21-25 Apr, Chicago IL
- Feng C-C** and Sorokine A, 2014, Understanding semantic incompatibility of physical geographic features using VGI, *Annual Meeting of the American Association of Geographers*, 8-12 Apr, Tampa FL
- Feng C-C** and Mark D M, 2013, Exploring differences of terrain feature definitions in English and Malay, *Annual Meeting of the Association of American Geographers*, 9-13 Apr, Los Angeles CA
- Feng C-C** and Sorokine A, 2012, Ontological analysis of spatial data standards. *Annual Meeting of the Association of American Geographers*, 24-28 Feb, New York, NY
- †Ong X, Wang Y-C, †Ho C Y R, and **Feng C-C**, 2012, Uncovering relations between environmental determinants of Bithynia snail habitats and *Opisthorchis viverrini* infection. *NRCT-DFG International Workshop - A biological and geographical assessment of Opisthorchis viverrini*, 13-15 Mar, Khon Kaen, Thailand
- Feng C-C**, 2011, Event-based ontology for geoprocessing provenance. *Annual Meeting of the Association of American Geographers*, 12-16 Apr, Seattle, WA
- Feng C-C** and Yu L, 2010, Ontology-based scientific metadata infrastructure. *Annual Meeting of the Association of American Geographers*, 14-18 Apr, Washington, DC
- Feng C-C** and Sorokine A, 2009, Exploring meaning differences of Mandarin and Russian landscape categories. *Annual Meeting of the Association of American Geographers*, 22-27 Mar, Las Vegas, NV

- Higgitt D L, **Feng C-C**, and Wang Y-C, 2008, Promoting geospatial literacy and environmental awareness with participatory GIS. *International Conference of Learning and Teaching with Technology*, Singapore, 5-6 Aug, Suntec City, Singapore
- Higgitt, D. L., **Feng, C-C**, and Wang, Y-C, 2008, Promoting geospatial literacy with participatory GIS. *4th International Conference on Multimodality*, 30 July-1 Aug, Singapore Management University, Singapore
- Feng, C-C** and Wang Y-C, 2008, Visualizing research trend in land-use land-cover change studies. *Annual Meeting of the Association of American Geographers*, 15-19 Apr, Boston, MA
- Feng, C-C**, 2007, Class-based definition for hydrologic features for GIS interoperability. *Annual Meeting of the Association of American Geographers*, 17-21 Apr, San Francisco, CA
- Wang, Y-C and **Feng, C-C**, 2007, Land use land cover change and its environmental consequences: a review of the spatial analysis and modelling approach. *International Association of Geomorphologists (IAG) Regional Conference*, 25-29 Jun, Kota Kinabalu, Malaysia
- Feng, C-C**, 2006, A methodology for developing a data model for surface water flow. *Annual Meeting of the Association of American Geographers*, 7-11 Mar, Chicago, IL
- Feng, C-C**, 2005, Identification of semantic barriers between surface hydrology concepts and spatial concepts. *Annual Meeting of the Association of American Geographers*, 5-9 Apr, Denver, CO
- Feng, C-C**, 2004, Development of a formal data model for surface hydrology. *Annual Meeting of the Association of American Geographers*, 14-19 Mar, Philadelphia, PA
- Feng, C-C**, 2003, Probing semantic barriers in interoperating GIS and hydrologic models. *Annual Meeting of the Association of American Geographers*, 4-8 Mar, New Orleans, LA
- Feng, C-C**, 2002, Enhancement of hydrologic semantic checking capability for interoperable GIS and hydrologic models. *Annual Meeting of the Association of American Geographers*, 19-23 Mar, Los Angeles, CA
- Feng, C-C**, 2001, Incorporating hydrologic semantic information for interoperable GIS with hydrologic models. *Annual Meeting of the Association of American Geographers*, 27 Feb-3 Mar, New York, NY
- Bian L, **Feng C-C**, Mark D M, Egenhofer M J, and Vena J, 2000, A component-based simulation of individual and group movement in the environment landscape. *Epidemiology*, Buffalo, NY
- Feng C-C** and Bian L, 2000, Semantic interoperability in the use of vegetation classification systems. *Annual Meeting of the Association of American Geographers*, 4-8 Apr, Pittsburgh, PA
- Feng C-C** and Bian L 1999, Determining fitness of use of vegetation classification systems based on semantics. *National Center for Geographic Information and Analysis (NCGIA) Assembly*, Santa Barbara, CA

POSTER PRESENTATIONS

- Refereed **Feng C-C**, Wang Y-C, Sithithaworn P, and †Feng Y, 2011, GIS analysis of physical geographical parameters of *Opisthorchis viverrini* Northeastern Thailand. *The 96 Years of Opisthorchiasis: Past, Present and Future International Congress of Liver Flukes*, 7-8 Mar, Khon Kaen, Thailand
- Feng C-C** and Bian L, 1998, Representing uncertainty of remote sensing classification in an interoperable environment. *GIS/LIS '98*, 10-12 Nov, Fort Worth, TX
- Non-Refereed Wang Y-C and **Feng C-C**, 2012, Patterns and trends in land-use land-cover change research explored using self-organizing map. *Annual Meeting of the Association of American Geographers*, 24-28 Feb, New York, NY
- Feng C-C**, Harward, J., Bailey, P., Lim, H.-B., †Mudasser, I., Wolfgang, M-W, Voss, G., and Wang, W., 2009, A cyberinfrastructure for environmental data integration and management. *The Second CENSAM Workshop*, 19-20 Jan, National University of Singapore, Singapore

INVITED TALKS

- Preserving Bukit Brown Cemetery using GIS, Nov, 2012, National Library, Singapore
- Ontology-based qualitative feature analysis: Bays as examples, School of Earth and Space Sciences, Mar, 2012, Peking University, China (expenses fully funded)
- Ontology and spatial feature extraction, School of Life and Environmental Science, Mar, 2012, Minzhu University, China (expenses fully funded)
- Geospatial ontology and qualitative feature analysis, Apr, 2010, Academia Sinica, Taipei (expenses partially funded)
- GIS as an integrative platform for environmental issues, Nov, 2007, Singapore Botanical Gardens, Singapore

GRANTS (1 USD ≈ 1.37 SGD as of 11 November 2018)

Research Grants (†external)

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- PI **NUS Social Science Research Council Seed Fund**, SGD\$29,500, 2017-2018
- NUS Academic Research Fund**, Ontology-based analysis of bays and the comparison of bay variants, SGD\$ 32,000, 2011 – 2014
- †**Center for Environmental Sensing and Monitoring (CENSAM)**, NUS-MIT Alliance for Research and Technology, Enhancing data access and analysis functions in CENSAM Cyberinfrastructure, SGD\$ 278,760, 2011 – 2012
- FASS Faculty Research Support Scheme, NUS**, Spatiotemporal analysis of key environmental parameters affecting the prevalence of liver fluke infection, SGD\$ 5,000, 2011 – 2012
- †**Center for Environmental Sensing and Monitoring (CENSAM)**, NUS-MIT Alliance for Research and Technology, Developing a data

model for supporting data exchange in a cyberinfrastructure environment, SGD\$ 166,485, 2008 – 2011

FASS Faculty Research Support Scheme, NUS, SGD\$ 5,000, 2008 – 2009

FASS Faculty Research Support Scheme, NUS, SGD\$ 5,000, 2007 – 2008

Professional Development Fund, Graduate Student Employee Union, SUNY at Buffalo, USD\$ 961

Co-PI or
Collaborator

NUS Academic Research Fund, A Singapore historical GIS analysis: The transformations of Chinese institutions, SGD\$672,694.56, 2016-2019 (PI: Prof Kenneth Dean)

NUS Strategic Initiative Fund, Virtual NUS, SGD\$760,000, 2016-2018 (PI: Prof Lawrence Wong)

NUS Academic Research Fund, Unified China and divided Europe: the causes and consequences of political centralization and fragmentation in the premodern world, SGD\$89,968, 2015-2018 (PI: Dr Sng T-H)

NUS Strategic Initiative Fund, Developing and maintaining a state-of-the-art earth systems science research and teaching laboratory infrastructure in Geography." SGD\$1,053,600 for GIS development, 2013-2017 (PI: Prof David Taylor).

NUS Academic Research Fund, Effects of landscape on the habitat and liver fluke infection of *Bithynia* snails, SGD\$ 79,448, 2013 – 2016 (PI: A/P Yi-Chen Wang)

†National Research Foundation of Singapore, Promoting geospatial literacy and environmental awareness with participatory GIS, Collaborator (PI: David Higgitt, Collaborator: Yi-Chen Wang), SGD\$ 590,640, 2008 – 2012

Other Grants

Education **NUS Provost Office** for funds for GIS Lab hardware and software upgrade, SGD\$ 80,516.43, 2010 (prepared with A/P Yi-Chen Wang)

Service **NUS Strategic Initiative Fund, Virtual NUS of LOD 2.5 and beyond, SGD\$760,000, 2016-2018 (PI: Prof Wong Wai Choong Lawrence)**
NUS Strategic Initiative, Developing and maintaining a state-of-the-art Earth Systems Science research and teaching laboratory infrastructure in Geography, SGD\$ 1,569,000, 2013-2017 (prepared with Prof David Taylor (coordinator), A/P Yi-Chen Wang, and Prof Alan Ziegler; responsible for the GIS component of the Strategic Initiative (SGD\$ 1,053,600))

Travel Fund **FASS, NUS, SGD\$ 40,435 from 2006 – 2013**
Center for Environmental Sensing and Monitoring (CENSAM), NUS-MIT Alliance for Research and Technology, SGD\$ 20,000 from 2010 –2012
Committee of Research and Creative Activities, University of Wisconsin-Parkside, USD\$ 740, 2005
Student Travel Grant, National Center for Geographic Information and Analysis Assembly, Santa Barbara, CA, USD\$ 500, 1999

TEACHING

Modules

Geography, National University of Singapore	GE2215	Introduction to GIS (lectures and lab sessions)
	GE2227	Cartography and Visualization (lectures and lab sessions)
	GE3216	GIS and Remote Sensing Applications (lectures and lab sessions)
	GE3238	GIS Design and Practices (lectures and lab sessions)
	GE3550A	GIS Internship module (supervision)
	GE5217	Research Methods in Environmental Sciences (seminar and lab sessions)
	GE5226	GIS Applications
GE6660	Independent Study (supervision)	

Geography, University of Wisconsin-Parkside	GEOG100	Introduction to Physical Geography (lectures)
	GEOG250	Map Use and Analysis (lectures and lab sessions)
	GEOG350	Cartography (lectures and lab sessions)
	GEOG455	Remote Sensing Essentials (lectures and lab sessions)
	GEOG460	Advanced GIS (lectures and lab sessions)

Geography, University at Buffalo, The State University of New York	GEO481/ 506	Introduction to GIS (lectures)
	GEO483/ 553	Introduction to Remote Sensing (lectures)
	GEO106	Physical Environmental Geography 2: Global Warming (lab sessions)
	GEO597	Applied Geostatistics (lab sessions)

Graduate student advising

Geography, NUS	<i>Current PhD</i>
	Carlos Maorales (co-supervised with A/P Wang)
	<i>Completed (PhD)</i>
	YAN Yingwei, Volunteer geographic information and sense making for pest management (2016)
	XIE Jinghan, Framework construction of 3D building models with complex details and its application in building models retrieval (co-supervised with A/P Wang) (2017)
	SONG Siqi, Travel behavior and community planning study based on low carbon transportation (co-supervised with A/P Pow)
	<i>Completed (Master)</i>
	TAN Hua Hui Josef, Spatial thinking in geographic education: To what extent are teachers confident in developing spatial thinking among lower secondary students? (2017)

Landscape Architecture, University of Illinois Urbana-Champaign (UIUC)	<i>Completed (PhD)</i> ZHOU Xiaolu, Investigating effects of built environment characteristics on active travel behavior of young adult using location-based technology (co-supervised with Profs. Sullivan, Deal, and Zhu, at UIUC) (2014)
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Qualification examination committee

Wisa Wisesjindawat FINK	Public Participatory GIS approach for Fisheries Management on the Mekong River (on-going).
Emlyn HAGEN	Afghanistan Flood Hazard Mapping (conferred in 2010)

Honours student supervision

LEE Ningyi (2014-15); LEE Keylene (2014-15); NAH Min Er (2013-14); CHIA Pei Zhi (2012-13); LAU Kai Guan (2011-12); LIU Jiesheng Brian (2011-12); KOH Jia Wei Eric (2010-11); LEK Zhiwei Kenneth (2010-11); LOK Yan Ling (2010-11); LOK Mei Chen (2009-10); WONG Yong Jian (2009-10); ZHENG Hui Grace (2009-10); FENG Yikang (2008-09); YIM Chun How (2008-09); CHEAH Li Min (2007-08).

PROFESSIONAL SERVICES

Editorial board	Transactions in GIS (Editorial board member) Singapore Journal of Tropical Geography (Associate Editor)
Reviewer	<u>Journal</u> Applied Ontology, Cities, Computer Environment and Urban Systems, Children Geography, Disaster Prevention and Management, Geoforum, International Journal of Geographic Information Science, Journal of Geography and Higher Education, Journal of Spatial Science, Natural Hazards, Singapore Journal of Tropical Geography, and Transactions in GIS <u>Conference</u> Global Spatial Data Infrastructure (GSDI) 12, 2010
Conference Sessions Organized	Session Organizer: Symposium on Human Dynamics in Smart and Connected Communities: Spatial Humanities in the Digital Era. <i>Annual Meeting of the American Association of Geographers</i> , 2017, Boston, MA (2 paper sessions) Session Organizer: CyberGIS Symposium. <i>Annual Meeting of the Association of American Geographers</i> , 2014, Los Angeles, CA (one of the 24 members on the committee; 16 panel or paper sessions) Session Organizer: CyberGIS Symposium. <i>Annual Meeting of the Association of American Geographers</i> , 2013, Los Angeles, CA (one of the 14 members on the committee; 17 panel or paper sessions) Session Organizer: Geospatial Ontologies and Its Applications. <i>Annual Meeting of the Association of American Geographers</i> , 2012, New York NY (co-organized with Liping D, Robert Raskins, and Alexandre Sorokine; 3 sessions) Session Organizer: Semantics I: Geospatial Ontology for Geographic Analysis and Data Integration. <i>Annual Meeting of the Association of American Geographers</i> , 2010, Washington, DC (co-organized with Alexandre Sorokine; part of the 2 sessions on Semantics)

Session Organizer: Spatial Ontologies and Data Models. *Annual Meeting of the Association of American Geographers*, 2004, Philadelphia, PA (co-organized with Alexandre Sorokine)

- Consultancy **Singapore Land Authority and Ministry of Home Affairs**, Evaluating disclosure risk of linked social-spatial data in Singapore, 2009 – 2010
- Other Services **Lecturer** for Maps and Mapping, Ministry of Education, Singapore, Geography Talent Development Program, 2013, 2014, and 2015
- GIS Coordinator** of the Documenting Bukit Brown Cemetery Project, Institute of Southeast Asian Studies, 2012
- Consultant**, Ministry of Education, Singapore, GIS Trials for ‘A’ Level Geography, 2010
- Judge** for the Spatial Challenge of the Singapore Land Authority, Singapore, 15 Apr, 2009
- Member of the Conference Organizing Committee** for the International Association of Geomorphologists Regional Conference, Kota Kinabalu, Malaysia, 25-29 Jun, 2007
- Judge** for the map competition of the International Map Trade Association Global Conference and Trade Fair, Singapore, 14-17 Nov, 2006
- GIS Specialist** for a GIS Mapping and Training Project with the charity organization, Tomorrow’s Hope, for Nias, Indonesia through the Singapore Red Cross Tidal Wave Reconstruction fund, 2005 – 2006
- NUS
Departmental
Committees Search Committees for one Lecturer and two Research Engineers in GIS, 2013
- Graduate Studies Committee, 2012 – present
- Undergraduate Sub-Committee and Infrastructure Committee, 2010 – 2012
- Teaching Strategy sub-committee, GIS and Map Unit, GIS Lab, Safety committee, and Department Web page, 2008 – 2010
- Professional
Affiliation Association of American Geographers, 1999 – present