

Education

The French Naval Academy Research Institute (IRENav)

Ph.D in GEOMATICS

Feb. 2011 – Dec. 2014

Brest, France

- > Thesis title: An Ontologies and Agents Based Approach for Undersea Feature Characterization and Generalization
- > Committee: Eric SAUX (supervisor), Eric GUILBERT (supervisor), Christophe CLARAMUNT, Jacques TISSEAU, Bernard ESPINASSE, Sébastien MUSTIÈRE, Georges DUBOIS
- > This work was funded by the Research Grant Council of Hong Kong, the Consulate General of France in Hong Kong and the Région Bretagne in France under grant 0211/ARE 09011/00026102.

Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University

M.Sc in GEOMATICS

Aug. 2009 – Jan. 2011

Hong Kong

- > Dissertation title: Terrain Feature Extraction at Different Levels
- > Supervisor: Associate Professor Eric Guilbert
- > GPA: 3.35(4)

Hainan University

B.S. in COMPUTER SCIENCE AND TECHNOLOGY

Sept. 2003 – July 2007

Haikou, China

- > Dissertation title: The Research of Image Edge Detection Algorithm
- > GPA: 79(100)

Work Experience

ETH Zurich, Singapore-ETH Centre

Postdoctoral Researcher

Oct. 2015 – Present

Singapore

- > Research topic 1: Digital Underground: 3D mapping of utility networks
- > Research topic 2: The Growth and Evolution of City Infrastructure

Hong Kong R & D center for Logistics and Supply Chain Management Enabling Technologies

Senior Researcher

Aug. 2014 – Aug. 2015

Hong Kong

- > Working in GIS cloud, E-banking and other projects.

The Hong Kong Polytechnic University

Teaching Assistant (part time)

Jan. 2013 – May 2014

Hong Kong

- > Teaching lab of System Customisation and Development (year 2), includes basic skill of VB.net and Java programming in GIS and UML.

Information Center of Hainan Land Environment and Resources

Computer Programmer

Sept. 2007 – June 2009

Haikou, China

- > Worked in the Program Department to design and produce software that can be used in the Land Environment and Resources services.
- > Technical director of The Second Land Survey Project Management System of Hainan province.

Refereed Journal Articles

- > **Jingya YAN**, Siow Wei Jaw, Kean Huat Soon, Andreas Wieser, and Gerhard Schrotter. "Towards an Underground Utilities 3D Data Model for Land Administration." *Remote Sensing* 11, no. 17 (2019): 1957. [doi](#)
- > **Jingya YAN**, Eric Guilbert, and Eric Saux. "An ontology-driven multi-agent system for nautical chart generalization." *Cartography and Geographic Information Science* (2016): 1-15. [doi](#)
- > **Jingya YAN**, Eric Guilbert, and Eric Saux. "An ontology of the submarine relief for analysis and representation on nautical charts." *The Cartographic Journal* 52, no. 1 (2015): 58-66. [doi](#)

Conference Proceedings

- > **Jingya YAN**, Siow Wei JAW, Kean Huat SOON, and Gerhard SCHROTTER. "THE LADM-BASED 3D UNDERGROUND UTILITY MAPPING: CASE STUDY IN SINGAPORE." *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences*, Volume XLII-4/W15, 2019, pp.117-122. [doi](#)
- > **Jingya YAN**, Kean Huat SOON, Siow Wei JAW, and Gerhard SCHROTTER. "A LADM-based 3D Underground Utility Data Model: A Case Study of Singapore." 8th International FIG workshop on the Land Administration Domain Model (2019). [doi](#)
- > **Jingya YAN**, Siow Wei JAW, Rob Van Son, Kean Huat SOON, and Gerhard SCHROTTER. "Three-Dimensional Data Modelling for Underground Utility Network Mapping." *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences* 42.4 (2018). [doi](#)
- > Rob Van Son, Siow Wei JAW, **Jingya YAN**, Victor Khoo Hock Soon, Richard Loo Wei Kiah, Sandy Teo Shen Ni, Gerhard SCHROTTER. "A Framework for Reliable Three-dimensional Underground Utility Mapping for Urban Planning." *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences* 42 (2018). [doi](#)
- > Siow Wei Jaw, Rob Van Son, Victor Khoo Hock Soon, Gerhard Schrotter, Richard Loo Wei Kiah, Sandy Teo Shen Ni, and **Jingya YAN**. "The Need for a Reliable Map of Utility Networks for Planning Underground Spaces." 2018 17th International Conference on Ground Penetrating Radar (GPR). IEEE, 2018. [doi](#)
- > **Jingya YAN**. "Ontology-based approach to modeling interdependency of critical infrastructure." SRA 2017 Annual Meeting, Arlington, VA (2017).
- > **Jingya YAN** and Tang, Junqing. "Resilience-oriented Analysis of Risk Management and Ontologybased Categorisation of Hazards in interdependent Infrastructure Systems." SRA 2017 Annual Meeting, Arlington, VA (2017).
- > **Jingya YAN**, Eric Guilbert, and Eric Saux. "An ontology for the generalisation of the bathymetry on nautical charts." *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences* 2, no. 2 (2014): 1. [doi](#)
- > **Jingya YAN**, Eric Guilbert, and Eric Saux. "An ontology for submarine feature representation on charts." In: Parsons J., Chiu D. (eds) *Advances in Conceptual Modeling*. ER 2013. Lecture Notes in Computer Science, vol 8697. Springer, Cham. [doi](#)
- > **Jingya YAN**, Eric Guilbert, and Eric Saux. "A conceptual model for submarine feature description and generalisation in nautical chart production." *The 20th International Conference on Geoinformatics*, Geoinformatics 2012, Hong Kong (2012).

Working Papers

- > **Jingya YAN**. "Extraction Urban Clusters from Geospatial Data: A Case Study from Switzerland." Paper presented at the COST (European Cooperation in Science and Technology) meeting, London, UK (2016). [doi](#)

- > Geospatial data management
- > Geo-ontology
- > 3D geospatial data model
- > Digital twins of cities
- > Digital Cartography

Academic Activities

Conference participation

Oral Presentation

- > 8th FIG Land Administration Domain Model Workshop, Kuala Lumpur, Malaysia, Oct. 2019
- > 14th 3D GeoInfo Conference 2019, Singapore, Sept. 2019
- > ISPRS Technical Commission IV Symposium 2018, Delft, The Netherlands, Oct. 2018
- > International Conference on Infrastructure Resilience 2018, Zurich, Switzerland, Feb. 2018
- > The Society for Risk Analysis (SRA) Annual Meeting 2017, Washington, D.C., USA, Dec. 2017
- > COST (European Cooperation in Science and Technology) Action TU1305: Social Networks and Travel Behaviour, London, UK, Nov. 2016
- > The 20th International Conference on GeoInformatics, Hong Kong, June 2012

Invited and campus talks

- > ICRM Thematic Seminar Series, Topic: Developing reliable 3D mapping of underground utility networks, NanYang Technological University, Singapore, Oct. 2018
- > Researchers Talk Series, Topic: A conceptual model for submarine feature description and generalisation in nautical chart production, The Hong Kong Polytechnic University, Hong Kong, April 2013

Training

- > Doctoriales Bretagne 2013, Rennes, France, Jan. 2013
- > Summer School on Topological and Scaling Analyses of Transport and Social Media Data, Gävle, Sweden, June 2016

Manuscript Reviewer

- > Marine Geodesy
- > Sustainability
- > Land (Reviewer board)
- > ISPRS International Journal of Geo-Information

Memberships

- > Open Geospatial Consortium, member in charter of the Model for Underground Data Definition and Interchange (MUDDI) SWG
- > International Society for Photogrammetry and Remote Sensing, member

Honors & Awards

Young Researcher Travel Grant

Society of Risk Analysis

2017
Washington, D.C., USA

Travel Grant

COST Action TU1305

2016
London, UK

Student Travel Grant

The summer school of COST Action TU1305

2016
Gävle, Sweden

Best honorable of Ph.D Thesis

Université de Brest

2014

Brest, France

First-class scholarship

Hainan University

2005

Haikou, China

First-class scholarship

Hainan University

2004

Haikou, China

Skills

Language

- > Mandarin (Native)
- > English (Fluent)
- > Cantonese (conversational)
- > French, German (Beginner)

Computer Skills

- > **Programming:** JAVA, C++, PYTHON, R
- > **Databases:** PostgreSQL, MySQL, Oracle, Virtuoso, UML
- > **Web development:** HTML, PHP, JSP, JAVASCRIPT, RDF, OWL, CSS
- > **Miscellaneous:** ArcGIS, Protégé, QGIS, MATLAB, ERMAP, Gephi, LATEX

Referees

Eric GUILBERT

ASSOCIATE PROFESSOR

Université Laval

Québec, Canada

- > E-mail: eric.guilbert.1@ulaval.ca
- > Tel: (418) 656-2131, post 3863
- > Address: Département des sciences géomatiques Pavillon Louis-Jacques-Casault 1055, avenue du Séminaire, Local 1315 Québec (Québec) G1V 0A6 Canada

Eric SAUX

ASSOCIATE PROFESSOR

Naval Academy Research Institute

Brest, France

- > E-mail: eric.saux@ecole-navale.fr
- > Tel: +33 2 98 23 38 64
- > Address: BCRM Brest, Ecole Navale et Groupe des Ecoles du Poulmic, Institut de Recherche de l'Ecole Navale, Lanvéoc-Poulmic, CC 600, 29240 BREST Cedex 9 (France)

Hans Rudolf Heinimann

PROFESSOR

ETH Zurich

Zurich, Switzerland

- > E-mail: hans.heinimann@env.ethz.ch
- > Tel: +41 44 632 32 35
- > Address: Universitätstrasse 16, 8092 Zürich, Switzerland

Christophe CLARAMUNT

PROFESSOR AND CHAIR

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