

# Jingya YAN

POSTDOCTORAL RESEARCHER, ETH ZURICH

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## Education

### The French Naval Academy Research Institute (IRENav)

Brest, France

PH.D IN GEOMATICS

Feb. 2011 - Dec. 2014

- Thesis title: *An Ontologies and Agents Based Approach for Undersea Feature Characterization and Generalization*
- Supervisor: Associate Professor Eric SAUX
- Co-supervisor : Associate Professor Eric Guilbert
- 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

Hong Kong

M.SC IN GEOMATICS

Aug. 2009 - Jan. 2011

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

### Hainan University

China

B.S. IN COMPUTER SCIENCE AND TECHNOLOGY

Sept. 2003 - July 2007

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

## Work Experience

### ETH Zurich, Singapore-ETH Centre

Singapore

POSTDOCTORAL RESEARCHER

Oct. 2015 - PRESENT

- 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

Hong Kong

SENIOR RESEARCHER

Aug. 2014 - Aug. 2015

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

### The Hong Kong Polytechnic University

Hong Kong

TEACHING ASSISTANT (PART TIME)

Jan. 2013 - May 2014

- 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

Haikou, China

COMPUTER PROGRAMMER

Sept. 2007 - June 2009

- 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.

## Publications

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### 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.
- **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.
- **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.
- **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.

### BOOK CHAPTERS

- **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.

### 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.
- **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).
- **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).
- 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).
- 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.
- **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 Ontology-based Categorisation of Hazards in interdependent Infrastructure Systems." *SRA 2017 Annual Meeting*, Arlington, VA (2017).
- **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.** “The Growth of Natural Cities in Switzerland.” Paper presented at the COST (European Cooperation in Science and Technology) meeting, London, UK (2016)

## Honors & Awards

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|------|---|------------------------------|
| 2017 | <b>Young Researcher Travel Grant</b> , Society of Risk Analysis       | <i>Washington, D.C., USA</i> |
| 2016 | <b>Travel Grant</b> , COST Action TU1305                              | <i>London, UK</i>            |
| 2016 | <b>Student Travel Grant</b> , The summer school of COST Action TU1305 | <i>Gävle, Sweden</i>         |
| 2014 | <b>Best honorable of Ph.D Thesis</b> , Universite de Brest            | <i>Brest, France</i>         |
| 2005 | <b>First-class scholarship</b> , Hainan University                    | <i>Haikou, China</i>         |
| 2004 | <b>First-class scholarship</b> , Hainan University                    | <i>Haikou, China</i>         |

## Academic Activity

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### Conference participation

#### 8th FIG Land Administration Domain Model Workshop

*Kuala Lumpur, Malaysia*

ORAL PRESENTATION

*Oct. 2019*

- The presentation about The LADM-based 3D Underground Utility Mapping: Case Study in Singapore.

#### 14th 3D GeoInfo Conference 2019

*Singapore*

ORAL PRESENTATION

*Sept. 2019*

- The presentation about A LADM-based 3D Underground Utility Data Model: A Case Study of Singapore.

#### ISPRS Technical Commission IV Symposium 2018

*Delft, The Netherlands*

ORAL PRESENTATION

*Oct. 2018*

- The presentation about Three-Dimensional Data Modelling for Underground Utility Network Mapping.

#### International Conference on Infrastructure Resilience 2018

*Zurich, Switzerland*

ORAL PRESENTATION

*Feb. 2018*

- Ontology-based approach to modelling interdependency of critical infrastructure.

#### International Conference on Infrastructure Resilience 2018

*Zurich, Switzerland*

SESSION CHAIR

*Feb. 2018*

- I was session chair of Resilience Assessment session.

#### The Society for Risk Analysis (SRA) Annual Meeting 2017

*Washington, D.C., USA*

ORAL AND POSTER PRESENTATION

*Dec. 2017*

- Ontology-based approach to modeling interdependency of critical infrastructure.
- Resilience-oriented Analysis of Risk Management and Ontology-based Categorisation of Hazards in interdependent Infrastructure Systems.

#### COST (European Cooperation in Science and Technology) Action TU1305: Social Networks and Travel Behaviour

*London, UK*

ORAL PRESENTATION

*Nov. 2016*

- The growth of Natural cities from the Nighttime Light data and street network in Switzerland.

## The 20th International Conference on GeoInformatics

Hong Kong

### ORAL PRESENTATION

June 2012

A conceptual model for submarine feature description and generalisation in nautical chart production.

## Invited and campus talks

### ICRM Thematic Seminar Series

Singapore

NANYANG TECHNOLOGICAL UNIVERSITY

Oct. 2018

Developing reliable 3D mapping of underground utility networks.

### Researchers Talk Series

Hong Kong

THE HONG KONG POLYTECHNIC UNIVERSITY

April 2013

A conceptual model for submarine feature description and generalisation in nautical chart production.

## 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

## Other Information

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### LANGUAGES

**Mandarin** Native

**English** Fluent

**Cantonese** conversational

**French** Beginner

**German** Beginner

### COMPUTER SKILLS

**Programming** JAVA, C++, PYTHON, R

**Databases** PostgreSQL, MySQL, Oracle, Virtuoso, UML

**Web development** W3C Standards, HTML, PHP, JSP, JAVASCRIPT, RDF, OWL, CSS

**OS Systems** Windows, Mac OS X, Linux (Ubuntu)

**Miscellaneous** ArcGIS, Protégé, QGIS, MATLAB, ERMAP, Gephi,  $\text{\LaTeX}$ , Photoshop

**Interests** Swimming, Cycling, Table tennis, Basketbal, Squash, Scuba diving, Photography

## Referees

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**Eric SAUX**

*Naval Academy Research  
Institute*

*Brest, France*

**ASSOCIATE PROFESSOR**

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- Address: BCRM Brest, Ecole Navale et Groupe des Ecoles du Poulmic, Institut de Recherche de l'Ecole Navale, Groupe MoTIM (Modélisation et Traitement de l'Information Maritime), Lanvéoc-Poulmic, CC 600, 29240 BREST Cedex 9 (France)

**Eric GUILBERT**

*Université Laval*

*Québec, Canada*

**ASSOCIATE PROFESSOR**

- 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

**Hans Rudolf Heinimann**

*ETH Zurich*

*Zurich, Switzerland*

**PROFESSOR AND DIRECTOR**

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**Christophe CLARAMUNT**

*Naval Academy Research  
Institute*

*Brest, France*

**PROFESSOR AND CHAIR**

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