

Carmen S. Chui

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Research Interests

- Ontology design, mapping, integration, and verification
- Knowledge representation & modelling
- Automated reasoning of first-order ontologies
- Applications of ontologies to data and knowledge integration
- Engineering education

Education

Ph.D. in Industrial Engineering **09/2013–present**
University of Toronto Toronto, Canada

- Dissertation: “A Molecular Structure Ontology for Medicinal Chemistry”
- Adviser: [Michael Grüninger](#)
- Committee: [Mark Fox](#), [Michael Grüninger](#), [L.H. Shu](#)
- Currently enrolled in the [Prospective Professors in Training \(PPIT\) Program](#)
- Client and student mentor for an APS112 design group during the Winter 2017 semester

M.A.Sc. in Industrial Engineering **09/2011–08/2013**
University of Toronto Toronto, Canada

- Dissertation: “[Axiomatized Relationships Between Ontologies](#)”
- Adviser: [Michael Grüninger](#)
- Committee: [Mark Fox](#), [Michael Grüninger](#), [L.H. Shu](#)
- Received [Teaching Fundamentals \(TF\) Certificate](#) from the Teaching Assistants’ Training Program (TATP) in 2012

B.A.Sc. (with honours) in Industrial Engineering **09/2007–06/2011**
University of Toronto Toronto, Canada

- Information Systems option stream
- Fourth year research thesis: “Reasoning About Changes”

Publications

Identifiers

- ORCID: <http://orcid.org/0000-0001-9493-5912>

- DBLP page: <http://dblp2.uni-trier.de/pers/hd/c/Chui:Carmen>

Peer-Reviewed Conference Proceedings (Full Papers)

In the fields of knowledge representation and computer science, full paper contributions are subjected to *anonymous and external peer-review*, where results are presented at the conference or workshop; where applicable, acceptance rates are listed in each entry.

- [C1] **Chui, C.**, Grüninger, M., “A Molecular Structure Ontology for Medicinal Chemistry”. In: *Formal Ontology in Information Systems - Proceedings of the 9th International Conference, FOIS 2016, Annecy, France, July 6-9, 2016*. Acceptance Rate: 30.9% (25 papers of 80 submissions). 2016, pp. 285–298. URL: <http://dx.doi.org/10.3233/978-1-61499-660-6-285>.
- [C2] **Chui, C.**, Grüninger, M., “Mathematical Foundations for Participation Ontologies”. In: *Formal Ontology in Information Systems - Proceedings of the Eighth International Conference, FOIS 2014, September, 22-25, 2014, Rio de Janeiro, Brazil*. Acceptance Rate: 29.6% (24 papers of 81 submissions). 2014, pp. 105–118. URL: <http://dx.doi.org/10.3233/978-1-61499-438-1-105>.
- [C3] **Chui, C.**, Grüninger, M., “Merging the DOLCE and PSL Upper Ontologies”. In: *KEOD 2014 - Proceedings of the International Conference on Knowledge Engineering and Ontology Development, Rome, Italy, 21-24 October, 2014*. Acceptance Rate: 18% (78 submissions). An updated and revised version of this paper appears in [B1]. Nominated for Best Student Paper award. SciTePress, 2014, pp. 16–26. ISBN: 978-989-758-049-9. URL: <https://doi.org/10.5220/0005027100160026>.
- [C4] Grüninger, M., Hahmann, T., Katsumi, M., **Chui, C.**, “A Sideways Look at Upper Ontologies”. In: *Formal Ontology in Information Systems - Proceedings of the Eighth International Conference, FOIS 2014, September, 22-25, 2014, Rio de Janeiro, Brazil*. Acceptance Rate: 29.6% (24 papers of 81 submissions). 2014, pp. 9–22. URL: <https://doi.org/10.3233/978-1-61499-438-1-9>.

Peer-Reviewed Workshop Proceedings (Full Papers)

- [W1] **Chui, C.**, Grüninger, M., “Ontology Decomposition: Verification of DOLCE”. In: *Proceedings of the Joint Ontology Workshops 2017 Episode 3: The Tyrolean Autumn*. To Appear. Accepted at the [Workshop on Foundational Ontology \(FOUST II\)](#) as part of the [Joint Ontology Workshops \(JOWO 2017\)](#) held in Bolzano, Italy. Sept. 2017.
- [W2] Grüninger, M., **Chui, C.**, Katsumi, M., “Upper Ontologies in COLORE”. In: *Proceedings of the Joint Ontology Workshops 2017 Episode 3: The Tyrolean Autumn*. To Appear. Accepted at the [Workshop on Foundational Ontology \(FOUST II\)](#) as part of the [Joint Ontology Workshops \(JOWO 2017\)](#) held in Bolzano, Italy. Sept. 2017.
- [W3] Aameri, B., Grüninger, M., **Chui, C.**, “Anti-Modules”. In: *Proceedings of the Joint Ontology Workshops 2016 Episode 2: The French Summer of Ontology co-located with the 9th International Conference on Formal Ontology in Information Systems (FOIS 2016), Annecy, France, July 6-9, 2016*. 2016. URL: <http://ceur-ws.org/Vol-1660/womocoe-paper2.pdf>.

- [W4] **Chui, C.**, Grüninger, M., van Berkel, M., “Ontology Mapping in an e-Commerce Application”. In: *Formal Ontologies Meet Industry - 7th International Workshop, FOMI 2015, Berlin, Germany, August 5, 2015, Proceedings*. Acceptance Rate: 61.1% (11 papers of 18 submissions). 2015, pp. 25–38. URL: https://doi.org/10.1007/978-3-319-21545-7_3.

Book Chapters

- [B1] **Chui, C.**, Grüninger, M., “Techniques for Merging Upper Ontologies”. In: *Knowledge Discovery, Knowledge Engineering and Knowledge Management - 6th International Joint Conference, IC3K 2014, Rome, Italy, October 21-24, 2014, Revised Selected Papers*. 2014, pp. 273–292. URL: https://doi.org/10.1007/978-3-319-25840-9_18.

Prepared Manuscripts

- [M1] **Chui, C.**, Grüninger, M., “Drug Discovery as Model Construction”. To be submitted to the [International Conference on Automated Deduction \(CADE 2018\)](#).

Teaching and Mentoring Experience

University of Toronto

09/2011–present

Teaching Assistant

Toronto, Canada

In addition to invigilating faculty-wide exams, I designed and conducted tutorials, held office hours, graded progress and final reports, and designed programming labs and quizzes, and graded assignments, tests, and exams.

At the *undergraduate* level:

- MIE191: Introduction to Mechanical and Industrial Engineering
 - Winter 2015, Winter 2016, Winter 2017
 - Taught by [Professor Pierre Sullivan](#)
- MIE350: Design & Analysis of Information Systems
 - Fall 2011, Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017
 - Taught by Professors [Reza Samavi](#) (Fall 2011) and [Michael Grüninger](#) (Fall 2012 onwards)
- MIE457: Knowledge Modelling & Management
 - Winter 2015, Winter 2016, Winter 2017, Winter 2018
 - Taught by [Professor Michael Grüninger](#)

At the *graduate* level:

- MIE1505: Enterprise Modelling
 - Fall 2016
 - Taught by [Professor Michael Grüninger](#)

University of Toronto**01/2017–04/2017***Client/Student Mentor**Toronto, Canada*

As part of the APS 1203/1204 course offered with the Prospective Professors in Training (PPIT) program, I was a mentor for a group of six first-year undergraduate students taking their Engineering Strategies & Practice II (APS 112) course. The group's project is to redesign mathematics in the classroom to make the subject more engaging and interesting for high-school students. We have been featured in the UofT Engineering News in the following article: <http://news.engineering.utoronto.ca/engineering-educational-experience/>.

Research and Industry Experience

Graduate Research Assistant**09/2011–present***Semantic Technologies Lab, University of Toronto**Toronto, Canada*

- Help specify the metadata and formalize logical methods to relate ontologies to one another within the [COMmon Logic Ontology REpository \(COLORE\)](#) project
- Assisted with *local* International Association for Ontology & Its Application (IAOA) events:
 - [IAOA Summer Institute on Upper Ontologies 2017](#)
 - [Toronto Ontology Festival \(TOFFEE\) 2012](#)

Database Analyst**05/2010–08/2010***Mercer (Canada) Ltd.**Toronto, Canada***Web Application Support Specialist, Database Analyst****05/2009–08/2009***Mercer (Canada) Ltd.**Toronto, Canada***Web Application Support Specialist****05/2008–08/2008***Mercer (Canada) Ltd.**Toronto, Canada*

Grants, Awards, and Scholarships

UofT Doctoral Completion Award (\$3,000.00)

October 2017

Department of Mechanical & Industrial Engineering Fellowship (totalling \$48,861.00)

2011–present

Graduate Student Endowment Fund, Faculty of Applied Science & Engineering (\$20,000)

2014

Nominated for Best Student Paper award at KEOD 2014

2014

Mechanical And Industrial Engineering Admission Scholarship (\$1,000)

2007

Faculty Of Applied Science And Engineering Admission Scholarship (\$1,000)

2007

Professional Activities & Associations

Student Member, [International Association for Ontology & Its Applications \(IAOA\)](#)

2011–present

Student Member, [ONTOLOG Forum](#)

2011–present

Graduate Student Member, Ontario Society of Professional Engineers (OSPE)	2011–present
Graduate Student Member, Institute of Electrical and Electronics Engineers (IEEE)	2011–present
Graduate Student Member, Institute of Industrial Engineers (IIE)	2011–present

Personal

Languages: English (native), French (limited working proficiency)

Citizenship: Canadian

Last updated: *November 30, 2017*