

**University, Company or Organization
at which Leave was taken**

Type of Leave

Dates

N/A

Maternity Leave

10/07–4/08

8. TEACHING

(a) Areas of special interest and accomplishments

I incorporate the latest research into the undergraduate courses I have taught, whether it is our introductory computer science class (CPSC 111) or our introductory data management course (CPSC 304). Even though I make it clear that the research material is optional, it is often mentioned positively on course evaluation. At the graduate level, I designed two new data management courses: a new breadth oriented data management course (CPSC 504), and a course on metadata management (CPSC 534A). For both graduate courses I created a novel format where I pair students for presentation and discussion. The format has been used by another faculty member at the University of Michigan. The content of the metadata class was used as inspiration for a class at Roma Tre University.

(b) Courses Taught at UBC

Session	Course Number	Scheduled Hours	Class Size	Hours Taught			
				Lectures	Tutorials	Labs	Other
2010/2011W1	CPSC 504	3	22	3/week			
2009/2010W1	CPSC 504	3	21	3/week			
2009/2010W2	CPSC 304	3	96	3/week			
2007/2008W2	CPSC 504	3	18	3/week			
2007/2008W1	CPSC 111	3	140	3/week			
2006/2007W2	CPSC 304	3	85	3/week			
2006/2007W1	CPSC 504	3	21	3/week			
2005/2006W2	CPSC 504	3	29	3/week			
2005/2006W1	CPSC 304	3	93	3/week			
2004/2005W2	CPSC 534A	3	15	3/week			

(c) Graduate Students Supervised and/or Cosupervised

Student Name	Program	Year		Principal Supervisor	CoSupervisor
		Start	Finish		
Jamila Salari	M.Sc.	2010		Rachel Pottinger	
Dibesh Shakya	M.Sc.	2009		Rachel Pottinger	
Charles Z. Chen	M.Sc.	2009		Rachel Pottinger	
Tianyu Li	M.Sc.	2009		Laks Lakshmanan Rachel Pottinger	
Michael Lawrence	Ph.D.	2006		Rachel Pottinger	
Jian Xu	Ph.D.	2006		Rachel Pottinger	
Ali Moosavi	M.Sc.	2009	2010	Laks Lakshmanan Rachel Pottinger	
April Webster	M.Sc.	2008	2010	Rachel Pottinger	
Jiemin Zhang	M.Sc.	2007	2008	Rachel Pottinger	
Michael DiBernardo	M.Sc.	2006	2007	Rachel Pottinger	
Andrew Carbonetto	M.Sc.	2006	2008	Francis Ouellette	

(continued...)

Student Name	Program	Year		Principal Supervisor	CoSupervisor
		Start	Finish		
Ting Wang	M.Sc.	2005	2006	Rachel Pottinger	
Shuan Wang	M.Sc.	2005	2007	Laks Lakshmanan	
Jie Zhao	M.Sc.	2005	2006	Rachel Pottinger	
Xun Sun	M.Sc.	2005	2006	Rachel Pottinger	

(d) *Other Student Supervisory Activities*

Student Name	Program	Year		Role
		Start	Finish	
Brett Cannon	Ph.D. Computer Science	2009		Thesis Committee Member
Mandana Sotoodeh	Ph.D. Electrical and Comp. Eng.	2007		Thesis Committee Member
Madhav Nepal	Ph.D. Civil Engineering	2006		Thesis Committee Member
Yun Lou	B.Sc. Computer Science	2010	2010	USRA Supervisor
Jamila Salari	B.Sc. Computer Science	2009	2009	USRA Supervisor
Piam Kiarostami	B.Sc. Computer Science	2009	2009	Directed Study Supervisor
Chrissie Kwan	B.Sc. Computer Science	2008	2008	Directed Study Supervisor
Fei Ma	M.Sc. Computer Science	2006	2006	Thesis Committee Member
Scott Thompson	B.Sc. Computer Science	2007	2007	Directed Study Supervisor
Terence Ho	M.Sc. Computer Science	2007	2008	Thesis Committee Member
Alfred Pang	M.Sc. Computer Science	2007	2007	The Second Reader for Breadth Essay
April Webster	B.Sc. Computer Science	2007	2007	Directed Study Supervisor
Bertrand Low	M.Sc. Computer Science	2006	2007	Thesis Committee Member
Wendy Hui Wang	Ph.D. Computer Science	2006	2006	Thesis Committee Member
San-Yuen Chang	B.Sc. Computer Science	2006	2006	Co-op Supervisor
Clarence Kwan	B.Sc. Computer Science	2006	2006	Directed Study Supervisor
Elaine Chang	M.Sc. Computer Science	2005	2005	Thesis Committee Member
Alex Shyr	B.Sc. Computer Science	2005	2005	Directed Study Supervisor
Kevin Irmscher	B.Sc. Computer Science	2005	2005	Directed Study Supervisor

9. SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) *Areas of special interest and accomplishments*

When heterogeneous databases are combined, they typically have different schemas (i.e., data representations). For information to be shared between these databases, there must be some way for differences in representation to be resolved: if information about a neighborhood is stored one way in schema A, and another way in schema B, then for information from both schemas to be combined, there must be some way to describe how data in schema A relates to the data in schema B; this is referred to as semantic heterogeneity. Combining these heterogeneous sources so that they can be queried uniformly is known as semantic integration, and forms the basis of my research program. I focus on both generic semantic integration and on semantic integration in application-based settings. Collaborating with researchers in other domains helps me to ensure that my research is applicable to real world problems.

(b) *Research or equivalent grants (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC))*

Agency	Title	Comp	\$/Year	Year(s)	PI (Co-PIs in italics)
SAP	Requirements-Driven Data Warehousing	C	32,400 20,000	09–10 10–11	Iluju Kiringa, <i>Mariano Consens,</i> <i>Rachel Pottinger</i>
NSERC CRD	Requirements-Driven Data Warehousing	C	62,956 54,356	08-09 09-10	Iluju Kiringa, <i>Rachel Pottinger,</i> <i>Mariano Consens</i>
NSERC Strategic Network	Business Intelligence Network	C	1,000,000	2009 – 2014	Renée Miller et al.
NSERC	Data management techniques for unmanaged data	C	20,500	2008 – 2010	Rachel Pottinger
NSERC Strategic Project Grant	ARTIFACT: Advanced Research, Techniques and Informatics for Future Advantages in Construction	C	147,500 147,500 147,500	06 – 07 07–08 08–09 09–10	Sheryl Staub-French, <i>Kellogg Booth,</i> <i>Rachel Pottinger,</i> <i>Melanie Tory</i>
NSERC- PSEPC	Decision coordination for critical linkages in a national network of infrastructures	C	340,000	2005 – 2008	Jose Marti, <i>Lyn Bartram,</i> <i>Konstantin Beznosov,</i> <i>Kellogg Booth,</i> <i>Juri Jaskevitch,</i> <i>Brian Klinkenberg,</i> <i>Philippe Kruchten,</i> <i>Gary Poole,</i> <i>Rachel Pottinger,</i> <i>K.D. Srivastava,</i> <i>Carlos Ventura,</i> <i>Carson Woo,</i> <i>Richard Rosenberg</i>
NSERC	Extending, Verifying, and Applying Metadata Management	C	66000	2005 – 2008	Rachel Pottinger
University of British Columbia	Startup	NC	60000	2004	Rachel Pottinger

(c) *Research or equivalent contracts (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC))*

(d) *Invited Presentations*

- **Managing Academic Risk:** New Researchers’ Symposium at SIGMOD 2010, June, 2010.
- **Schema Merging and Mapping Creation for Relational Sources:** University of Alberta Database Systems Seminar, May, 2009.
- **Finding an Academic Job:** The University of Washington’s course: “Exploring Faculty Careers in Higher Education,” May, 2006.
- **Current Trends in Metadata Management Research: Taxonomies and Ontologies:** Joint meeting of Society for Technical Communicators, Canada West Coast Chapter and Content Management Professionals, Canada West Community, May, 2006.
- **Processing Queries and Merging Schemas in Support of Data Integration:** Duke University, May, 2005.
- **Processing Queries and Merging Schemas in Support of Data Integration:** University of British Columbia, April, 2005.
- **Processing Queries and Merging Schemas in Support of Data Integration:** University of Virginia, April, 2005.

- **Processing Queries and Merging Schemas in Support of Data Integration:** Tufts University, March, 2005.
- **Processing Queries and Merging Schemas in Support of Data Integration:** University of Waterloo, March 2005.
- **Processing Queries and Merging Schemas in Support of Data Integration:** Indiana University, February, 2005.

(e) *Conference Participation (Organizer, Keynote Speaker, etc.)*

- **Co-Chair:** DB Me (Database Mentoring workshop) at SIGMOD, June 11, 2010.
- **Registration Co-chair:** ACM SIGMOD, June 9–12, 2008.
- **Co-organizer:** Anonymous Advice Session for Junior Faculty at the Grace Hopper Celebration of Women in Computing, Oct 6, 2006.
- **Academic Advisory Committee Member:** Grace Hopper Celebration of Women in Computing, October 17–20, 2007.
- **Speaker:** Computing Research Association’s Committee on the Status of Women in Computings’ Grad Cohort for Women Workshop, February 24, 2005.

10. SERVICE TO THE UNIVERSITY

(a) *Memberships on committees, including offices held and dates*

Departmental Committees:

Finance, 2/2010 – present.

Focus on Women in Computer Science, 9/2008–8/2010.

Faculty Affairs Committee, 5/2005–9/2007.

Ad-hoc Committee on Breadth Requirements for PhD students, 5/2005–6/2006.

ICICS Committees:

ICICS Distinguished Lecture Committee, 1/2007–1/2008.

11. SERVICE TO THE COMMUNITY

(a) *Memberships on scholarly societies, including offices held and dates*

Co-chair for Technical Posters, Grace Hopper Celebration of Women in Computing, 2006

(b) *Program Committees*

Very Large Databases (VLDB), 2011

ACM SIGMOD International Conference on Management of Data (SIGMOD), 2011

Very Large Databases (VLDB), 2010

Workshop on Enabling Real Time Business Intelligence (BIRTE), 2009

International Conference on Data Engineering (ICDE), 2010

Very Large Databases (VLDB), 2009

International Conference on Conceptual Modeling (ER), 2009

International Conference on Data Engineering (ICDE), 2009

Very Large Databases (VLDB), 2008

Workshop on Databases, Information Systems and Peer-to-Peer Computing (DBISP2P), 2007

Very Large Databases (VLDB) PhD Workshop, 2007

Very Large Data Bases (VLDB), 2007
The International Conference on Management of Data (COMAD), 2006
The International Workshop on Web Information and Data Management (WIDM), 2006
International Conference on Data Engineering (ICDE), 2007
Workshop on Databases, Information Systems and Peer-to-Peer Computing (DBISP2P), 2006
International Conference on Data Engineering (ICDE) PhD Workshop, 2006
The International Workshop on Database Interoperability (InterDB), 2006
International Conference on Data Engineering (ICDE), 2006
Workshop on Databases, Information Systems and Peer-to-Peer Computing (DBISP2P), 2005
Very Large Databases (VLDB) PhD Workshop, 2005

(c) Reviewer (journal, agency, etc., including dates)

VLDB (Journal Track), 2006–2009
Theoretical Computer Science, 2008
ACM Computing Surveys, 2007
ACM Transactions on the Web, 2007
IBM Systems Journal, 2005
ACM Transactions on Database Systems, 2005
Communications of the ACM, 2004
Information Systems Journal, 2003–2010
AI Communications, 2002
IEEE Transactions on Knowledge and Data Engineering, 2002–2010
VLDB Journal, 2002–2007
Knowledge and Information Systems, 2001

(d) External examiner (indicate university and dates)

University Ph.D. Examiner for Hongrae Lee, University of British Columbia, Computer Science, 2010.
University Ph.D. Examiner for Sase Singh, University of British Columbia, Business Administration, 2009.
MS. Thesis Examiner for Kathleen Bill, University of Newcastle, Commerce, 2005.

(e) Other service to the community

Co-creator and co-moderator of lists for pretenure and job hunting PhD women in Computer Science, Computing Research Association's Committee on the Status of Women in Computing Research, 2008–present
Associate Information Director ACM SIGMOD, 2005–present
Mentor, UBC Department of Computer Science Tri-Mentoring Program, 2004–2007, 2008–2010

12. AWARDS AND DISTINCTIONS

(a) Awards for Scholarship (indicate name of award, awarding organizations and date)

Graduate Research Fellowship, Microsoft Research, 2001–2004
Fellowship, Achievement Rewards for College Scientists Foundation, 1997–2000
Graduate Research Fellowship, United States National Science Foundation, 1997–2000
Graduate Research Program for Women Grant, Lucent Technologies, Bell Laboratories, 1997–2000

(b) Awards for Service (indicate name of award, awarding organizations and date)

Denice Denton Emerging Leader Award, Anita Borg Institute, 2007

THE UNIVERSITY OF BRITISH COLUMBIA
Publication Record

SURNAME: Pottinger

Date: January 11, 2011 Initials:
FIRST NAME: Rachel
MIDDLE NAME: Amanda

1. REFEREED PUBLICATIONS

(a) Journals

Jian Xu and Rachel Pottinger. “Optimizing acquaintance selection in a PDMS.” *International Journal on Cooperative Information Systems*, To Appear.

Jiemin Zhang, April Webster, Michael Lawrence, Madhav Nepal, Rachel Pottinger, Sheryl Staub-French, and Melanie Tory. “Improving the Usability of Standard Schemas.” *Information Systems*. 36. 2011. pp. 209–221.

Dandan Huang, Melanie Tory, Sheryl Staub-French and Rachel Pottinger. “Visualization Techniques for Schedule Comparison”. *Computer Graphics Forum (Proceedings of EuroVis 2009)*, 28.3(2009): 951–958.

Angela Bonifati, Elaine Chang, Terence Ho, Laks V.S. Lakshmanan, Rachel Pottinger, Yongik Chung. “Schema Mapping and Query Translation in Heterogeneous P2P XML Databases”. *VLDB Journal*, 19.2 (2010): 231–256.

Michael DiBernardo, Rachel Pottinger and Mark Wilkinson. “Assisted Workflow Assembly for Life-Sciences Web Service Composition in the BioMoby Semantic Web Framework”. *Journal of Biomedical Informatics*, 41.5 (2008): 837–847.

Rachel Pottinger and Alon Halevy. “MiniCon: A Scalable Algorithm for Answering Queries Using Views”. *VLDB Jjournal*. 10.2-3 (2001): 182 – 198.

(b) Conference Proceedings

Xun Sun, Rachel Pottinger, and Michael Lawrence. “Support Elements in Graph Structured Schema Reintegration”. *International Conference on Information and Knowledge Management (CIKM)*. 1361–1364.

Michael Lawrence, Rachel Pottinger, Sheryl Staub-French “Coordination of Data in Heterogeneous Domains”. *Second International Workshop on New Trends in Information Integration (NTII)*, Long Beach, USA, March 6, 2010.

Madhav Nepal, Jiemin Zhang, April Webster, Sheryl Staub-French, Rachel Pottinger and Michael Lawrence. “Querying IFC-based Building information Models to Support Construction Management Functions”. *Construction Research Congress*. 2009.

Madhav Nepal, Sheryl Staub-French, Jiemin Zhang, Rachel Pottinger and Michael Lawrence. “Deriving Construction Features from an IFC Model”. *Canadian Society for Civil Engineering Conference (CSCE)*. 2008.

Rachel Pottinger and Philip Bernstein. “A Generic Mapping Construction System”. *Extending Database Technology (EDBT)*. 2008. 73 – 84.

Ting Wang and Rachel Pottinger. “SeMap: A Generic Schema Matching System”. *Extending Database Technology (EDBT)*. 2008. 97 – 108.

Hassina Bounif, Stefano Spaccapietra and Rachel Pottinger. “Requirements Ontology and Multi-representation Strategy for Database Schema Evolution”. VLDB Workshop on Ontologies-based techniques for DataBases and Information Systems. SEOUL, Korea, Republic of. Sep, 2006.

Hassina Bounif and Rachel Pottinger. “Schema Repository for Database Schema Evolution”. 2nd International Workshop on Data Management in Global Data Repositories (GRep). Krakow, Poland. Sep, 2006. 647 – 651.

Peter Mork, Rachel Pottinger and Philip Bernstein. “Challenges in Precisely Aligning Models of Human Anatomy Using Generic Schema Matching”. MedInfo. 2004. 401 – 405.

Rachel Pottinger and Philip Bernstein. “Merging Models Based on Given Correspondences”. VLDB. 2003. 862 – 873.

Rachel Pottinger and Alon Levy. “A Scalable Algorithm for Answering Queries Using Views”. International Conference on Very Large Databases (VLDB). 2000. 484 – 495.

(c) *Other*

(c).1 Magazine Articles

Rachel Pottinger. “Choosing a Ph.D. Program in Computer Science”. ACM Crossroads Magazine. 6.1 (Fall 1999): pp. 6 - 13.

(c).2 Posters

Michael Lawrence and Rachel Pottinger. “A System for Integration of Lossy and Unstructured Data in Large Building Projects”. The 20th Canadian Artificial Intelligence Conference. May, 2007.

Andrew Carbonetto, Francis Ouellette and Rachel Pottinger. “Ontology Alignment on Biological Systems using Domain Taxonomy”. Canadian Genetic Diseases Network (CGDN) Annual Scientific Meeting. Apr, 2007.

Rachel Pottinger. “An Extensible System for Merging Two Models”. International Conference on Very Large Databases. 2002.

Angela Bonifati, Elaine Chang, Terence Ho, Laks Lakshmanan and Rachel Pottinger. “HEPTOX: Marrying XML and Heterogeneity in Your P2P Databases”. International Conference on Very Large Databases (VLDB). 2005.

Zachary Ives, Alon Levy, Jayant Madhavan, Rachel Pottinger, Stefan Saroiu, Igor Tatarinov, Qiong Chen, Ewa Jaslikowska and Wai Tak Theodora Yeung. “Self-Organizing Data Sharing Communities with SAGRES (demo)”. ACM SIGMOD Conference on Management of Data (SIGMOD). 2000.

2. NON-REFEREED PUBLICATIONS

(a) *Journals*

Rachel Pottinger and Philip Bernstein. “Associativity and Commutativity in Generic Merge”. Conceptual Modeling: Foundations and Applications. Springer, 2009: 254–272.

Rachel Pottinger and Philip Bernstein. “Creating a Mediated Schema Based on Initial Correspondences”. IEEE Data Engineering Bulletin. 25.3 (September 2002): 26 – 31.

Philip Bernstein, Alon Halevy and Rachel Pottinger. “Model Management: Managing Complex Information Structures”. SIGMOD RECORD. 29.4 (December 2000): 55 – 63.

3. BOOKS

(a) *Authored*

(b) *Edited*

(c) *Chapters*

Rachel Pottinger: “Mapping-Based Merging of Schemas”. Schema Matching and Mapping. Ed. Angela Bonifati, Zohra Bellashene and Erhard Rahm. Data-Centric Systems and Applications (Springer), 2011. To Appear. ISBN 978-3-642-16517-7.

Rachel Pottinger. “Database Schema Integration”. Encyclopedia of Geographical Information Systems. Ed. Shashi Shekhar and Hui Xiong. Springer, 2007.

4. PATENTS

5. SPECIAL COPYRIGHTS

6. ARTISTIC WORKS, PERFORMANCES, DESIGNS

7. OTHER WORKS

8. WORK SUBMITTED (including publisher and date of submission)

Jian Xu and Rachel Pottinger. “Integrating Domain Heterogeneous Data Sources Using Decomposition Aggregation Queries.” Submitted to VLDB 2011, December 2010.

Jian Xu and Rachel Pottinger. “Source Selection for Aggregation in Semantic Integration.” In Submission to VLDB 2011, December 2010.

Ali Moosavi, Tianyu Li, Laks V.S. Lakshmanan, and Rachel Pottinger: “ONTECTAS: Bridging the Gap Between Collaborative Tagging Systems and Structured Data.” In Submission to CAiSE 2011, November 2010.

Fatemeh Nargessian, Flavio Rizzolo, Iluju Kiringa, Rachel Pottinger: “Bridging Decision Applications and Multidimensional Databases.” In Submission to CAiSE 2011, November 2010.