

Curriculum Vitae

Philip W. L. Fong

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Research Interests

Access control, security and privacy for the Internet of Things, protection technologies for social media, language-based security.

Citizenship

Canadian.

Education

- Ph.D., 2004, Computer Science, Simon Fraser University, Burnaby, BC, Canada.
- M.Math., 1995, Computer Science, University of Waterloo, Waterloo, Ontario, Canada.
- B.Math. (Honors Coop), 1993, Double Honours in Computer Science and Combinatorics & Optimization, University of Waterloo, Waterloo, Ontario, Canada.

Positions Held

July 2009 – Present *Canada Research Chair in Software Security (Tier II)*, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada.

Jan 2009 – Present	<i>Associate Professor</i> , Department of Computer Science, University of Calgary, Calgary, Alberta, Canada. Tenured appointment.
Jul 2007 – Dec 2009	<i>Associate Professor</i> , Department of Computer Science, University of Regina, Regina, Saskatchewan, Canada. Tenured appointment.
Feb 2004 – Jun 2007	<i>Assistant Professor</i> , Department of Computer Science, University of Regina, Regina, Saskatchewan, Canada.
May 2003 – Jan 2004	<i>Lecturer</i> , Department of Computer Science, University of Regina, Regina, Saskatchewan, Canada.
Jan – Apr, 2001	<i>Sessional Instructor</i> , School of Computing Science, Simon Fraser University, Burnaby, BC, Canada
May – Aug, 1997	<i>Summer Intern</i> , Software & Systems Research Laboratory, AT&T Research, Murray Hill, NJ, USA.
May – Aug, 1996	<i>Summer Intern</i> , Software & Systems Research Laboratory, AT&T Research, Murray Hill, NJ, USA.
Sept – Dec, 1992	<i>Research Assistant</i> , Pattern Analysis and Machine Intelligence Lab, University of Waterloo, Waterloo, Ontario, Canada.
Jan – Apr, 1992	<i>Research Assistant</i> , Logic Programming and Artificial Intelligence Lab, University of Waterloo, Waterloo, Ontario, Canada.

Publications

Refereed Journal Publications

- [J1] Ebrahim Tarameshloo, M. Hosseinkhani Loorak, Philip W. L. Fong, Sheelagh Carpendale. Using Visualization to Explore Original and Anonymized LBSN Data. *Computer Graphics Forum*, 35(3):291–300, February 2016.
- [J2] Mohammad Jafari, Reihaneh Safavi-Naini, Philip W. L. Fong, and Ken Barker. A Framework for Expressing and Enforcing Purpose-Based Privacy Policies. *ACM Transactions on Information and System Security*, 17(1), article 3, 31 pages, August 2014.
- [J3] Seyed Hossein Ahmadinejad and Philip W. L. Fong. Unintended Disclosure of Information: Inference Attacks by Third-Party Extensions to Social Network Systems. *Computers and Security*, 44:75-91, July 2014. Elsevier.
- [J4] Mona Hosseinkhani Loorak, Philip W. L. Fong, and Sheelagh Carpendale. Papilio: Visualizing Android Application Permissions. *Computer Graphics Forum*, 33(1):391–400, February 2014.
- [J5] Philip W. L. Fong and Simon Orr. Isolating Untrusted Software Extensions by Custom Scoping Rules. *Computer Languages, Systems and Structures*, 36(3):268–287, October 2010. Elsevier.
- [J6] Philip W. L. Fong. Discretionary Capability Confinement. *International Journal of Information Security*, 7(2):137–154, April 2008. Springer.

- [J7] Philip W. L. Fong. Reasoning about Safety Properties in a JVM-Like Environment. *Science of Computer Programming*, 67(2–3):278–300, July 2007. Elsevier.
- [J8] Philip W. L. Fong and Robert D. Cameron. Proof Linking: Modular verification of mobile programs in the presence of lazy, dynamic linking. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 9(4):379–409, October 2000.

Refereed Conference Publications

- [C1] Pooya Mehregan and Philip W. L. Fong. Policy Negotiation for Co-owned Resources in Relationship-Based Access Control. In *Proceedings of the 21st ACM Symposium on Access Control Models and Technologies (SACMAT'2016)*, pages 125–136, Shanghai, China, June 6–8, 2016.
- Remarks:** Acceptance rate (full papers): $18/55 = 33\%$. CiteSeer CS Impact Factor (May 2003): 1.15 (top 17.44% - ranked 213 of 1221).
- [C2] Seyed Hossein Ahmadinejad, Philip W. L. Fong, and Rei Safavi-Naini. Privacy and Utility of Inference Control Mechanisms for Social Computing Applications. In *Proceedings of the 11th ACM Asia Conference on Computer and Communication Security (ASIACCS'2016)*, pages 829–840, Xi'an, China, May 30 - June 3, 2016.
- Remarks:** Acceptance rate (full papers): $73/350 = 21\%$.
- [C3] Syed Zain Rizvi and Philip W. L. Fong. Interoperability of Relationship- and Role-Based Access Control. In *Proceedings of the 6th ACM Conference on Data and Application Security and Privacy (CODASPY'2016)*, pages 231–242, New Orleans, LA, March 9–11, 2016.
- Remarks:** Acceptance rate (full papers): $22/115 = 19\%$.
- [C4] Syed Zain R. Rizvi, Philip W. L. Fong, Jason Crampton, and James Sellwood. Relationship-Based Access Control for an Open-Source Medical Records System. In *Proceedings of the 20th ACM Symposium on Access Control Models and Technologies (SACMAT'2015)*, pages 113–124, Vienna, Austria, June 1–3, 2015.
- Remarks:** Acceptance rate (full papers): $17/59 = 29\%$. CiteSeer CS Impact Factor (May 2003): 1.15 (top 17.44% - ranked 213 of 1221).
- [C5] Pooya Mehregan and Philip W. L. Fong. Design Patterns for Multiple Stakeholders in Social Computing. In *Proceedings of the 28th Annual IFIP WG 11.3 Working Conference on Data and Applications Security and Privacy (DBSec'2014)*, volume 8566 of *Lecture Notes in Computer Science*, pages 163–178, Vienna, Austria, July 14–16, 2014.
- Remarks:** Acceptance rate (full papers): $22/63 = 35\%$.
- [C6] Ebrahim Tarameshloo and Philip W. L. Fong. Access Control Models for Geo-Social Computing Systems. In *Proceedings of the 19th ACM Symposium on Access Control Models and Technologies (SACMAT'2014)*, pages 115–126, London, Ontario, Canada, June 25–27, 2014.

Remarks: Acceptance rate (full papers): $17/58 = 29\%$. CiteSeer CS Impact Factor (May 2003): 1.15 (top 17.44% - ranked 213 of 1221).

- [C7] Ebrahim Tarameshloo, Philip W. L. Fong, and Payman Mohassel. Protection in Federated Social Computing Systems. In *Proceedings of the Fourth ACM Conference on Data and Applications Security and Privacy (CODASPY'2014)*, pages 75–86, San Antonio, Texas, USA, March 3–5, 2014.

Remarks: Acceptance rate (full papers): $19/119 = 16\%$.

- [C8] Philip W. L. Fong, Pooya Mehregan, and Ram Krishnan. Relational Abstraction in Community-Based Secure Collaboration. In *Proceedings of the 20th ACM Conference on Computer and Communications Security (CCS'2013)*, pages 585–598, Berlin, Germany, November 4–8, 2013.

Remarks: Acceptance rate: $105/530 = 20\%$. CiteSeer CS Impact Factor (May 2003): 1.82 (top 4.01% - ranked 49 of 1221).

- [C9] Jayalakshmi Balasubramaniam and Philip W. L. Fong. A White-Box Policy Analysis and its Efficient Implementation. in *Proceedings of the 18th ACM Symposium on Access Control Models and Technologies (SACMAT'2013)*, pages 149–160, Amsterdam, Netherlands, June 12–14, 2013.

Remarks: Acceptance rate: $19/62 = 30\%$. CiteSeer CS Impact Factor (May 2003): 1.15 (top 17.44% - ranked 213 of 1221).

- [C10] Seyed Hossein Ahmadinejad and Philip W. L. Fong. On the Feasibility of Inference Attacks by Third-Party Extensions to Social Network Systems. In *Proceedings of the 8th ACM Symposium on Information, Computer and Communication Security (ASIACCS'2013)*, pages 161–166, Hangzhou, China, May 8–10, 2013.

Remarks: Acceptance rate (full & short papers): $62/216 = 29\%$.

- [C11] Arif Akram Khan and Philip W. L. Fong. Satisfiability and Feasibility in a Relationship-based Workflow Authorization Model. In *Proceedings of the 17th European Symposium on Research in Computer Security (ESORICS'2012)*, volume 7459 of *Lecture Notes in Computer Science*, pages 109–126, Pisa, Italy, September 10–12, 2012. Springer.

Remarks: Acceptance rate: $50/248 = 20\%$. CiteSeer CS Impact Factor (May 2003): 1.25 (top 14.16% - ranked 173 of 1221).

- [C12] Cheng Xu and Philip W. L. Fong. The Specification and Compilation of Obligation Policies for Program Monitoring. In *Proceedings of the 7th ACM Symposium on Information, Computer and Communications Security (ASIACCS'2012)*, 12 pages, Seoul, South Korea, May 1–3, 2012.

Remarks: Acceptance rate (full papers): $35/159 = 22\%$.

- [C13] Mohd Anwar and Philip W. L. Fong. A Visualization Tool for Evaluating Access Control Policies in Facebook-style Social Network Systems. In *Proceedings of the 27th ACM Symposium on Applied Computing (SAC'12)*, Security Track, pages 1443–1450, Riva del Garda, Trento, Italy, March 26–30, 2012.

Remarks: Acceptance rate (security track): 24%.

- [C14] Glenn Bruns, Philip W. L. Fong, Ida Siahaan, and Michael Huth. Relationship-Based Access Control: Its Expression and Enforcement Through Hybrid Logic. In *Proceedings of the 2nd ACM Conference on Data and Application Security and Privacy (CODASPY'12)*, pages 117–124, San Antonio, TX, USA, February 7-9, 2012.

Remarks: Acceptance rate (full & short papers): $31/113 = 27\%$.

- [C15] Philip W. L. Fong and Ida Siahaan. Relationship-Based Access Control Policies and Their Policy Languages. In *Proceedings of the 16th ACM Symposium on Access Control Models and Technologies (SACMAT'11)*, pages 51–60, Innsbruck, Austria, June 15-17, 2011.

Remarks: Acceptance rate: $16/52 = 31\%$. CiteSeer CS Impact Factor (May 2003): 1.15 (top 17.44% - ranked 213 of 1221).

- [C16] Philip W. L. Fong. Preventing Sybil Attacks by Privilege Attenuation: A Design Principle for Social Network Systems. In *Proceedings of the 2011 IEEE Symposium on Security and Privacy (S&P'11)*, pages 263–278, Oakland, California, USA, May 22-25, 2011.

Remarks: Acceptance rate: $34/309 = 11\%$. CiteSeer CS Impact Factor (May 2003): 1.39 (top 10.97% - ranked 134 of 1221).

- [C17] Philip W. L. Fong. Relationship-Based Access Control: Protection Model and Policy Language. In *Proceedings of the First ACM Conference on Data and Application Security and Privacy (CODASPY'11)*, pages 191–202, San Antonio, Texas, USA, February 21-23, 2011.

Remarks: Acceptance rate: $21/69 = 30\%$. Best Paper Runner-Up Award. CiteSeer CS Impact Factor (May 2003) is not available.

- [C18] Mohammad Jafari, Philip W. L. Fong, Reihaneh Safavi-Naini, Ken Barker, and Nicholas Paul Sheppard. Towards Defining Semantic Foundations for Purpose-Based Privacy Policies. In *Proceedings of the First ACM Conference on Data and Application Security and Privacy (CODASPY'11)*, pages 213-224, San Antonio, Texas, USA, February 21-23, 2011.

Remarks: Acceptance rate: $21/69 = 30\%$. CiteSeer CS Impact Factor (May 2003) is not available.

- [C19] Philip W. L. Fong, Mohd Anwar and Zhen Zhao. A Privacy Preservation Model for Facebook-Style Social Network Systems. In *Proceedings of the 14th European Symposium on Research In Computer Security (ESORICS'09)*, volume 5789 of *Lecture Notes in Computer Science*, pages 303–320, Saint Malo, France, September 21-23, 2009. Springer.

Remarks: Acceptance rate: $42/220 = 19\%$. CiteSeer CS Impact Factor (May 2003): 1.25 (top 14.16% - ranked 173 of 1221).

- [C20] Fei Yan and Philip W. L. Fong. Efficient IRM Enforcement of History-Based Access Control Policies. In *Proceedings of the Fourth ACM Symposium on Information, Computer and Communication Security (ASIACCS'09)*, pages 35–46, Sydney, Australia, March 10–12, 2009.

Remarks: Acceptance rate: $33/147 = 22\%$.

- [C21] Boting Yang and Philip W. L. Fong. Two NP-Complete Problems in Software Security. In *Proceedings of the International Conference on Relations, Orders and Graphs: Interaction with Computer Science (ROGICS'08)*, Mahdia, Tunisia, May 12–17, 2008.
- [C22] Philip W. L. Fong and Simon Orr. A Module System for Isolating Untrusted Software Extensions. In *Proceedings of the 22nd Annual Computer Security Applications Conference (ACSAC'06)*, pages 203–212, Miami Beach, Florida, USA, December 11–15, 2006.
Remarks: Acceptance rate: $40/132 = 30\%$. CiteSeer CS Impact Factor: 0.63 (top 42.66% - ranked 521 of 1221).
- [C23] Philip W. L. Fong. Discretionary Capability Confinement. In *Proceedings of the 11th European Symposium On Research In Computer Security (ESORICS'06)*, volume 4189 of *Lecture Notes in Computer Science*, pages 127–144, Hamburg, Germany, September 18–20, 2006. Springer.
Remarks: Acceptance rate: $32/160 = 21\%$. CiteSeer CS Impact Factor: 1.25 (top 14.16% - ranked 173 of 1221).
- [C24] Philip W. L. Fong. Link-Time Enforcement of Confined Types for JVM Bytecode. In *Proceedings of the Third Annual Conference on Privacy, Security and Trust (PST'05)*, pages 191–202, St. Andrews, New Brunswick, Canada, October 12–14, 2005.
Remarks: Acceptance rate: $19/50 = 38\%$.
- [C25] Philip W. L. Fong. Pluggable verification modules: An extensible protection mechanism for the JVM. In *Proceedings of the 19th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA'04)*, pages 404–418, Vancouver, BC, Canada, October 24–28, 2004.
Remarks: Acceptance rate: $27/173 = 16\%$. CiteSeer CS Impact Factor: 2.05 (top 2.29% - rank 28 of 1221).
- [C26] Philip W. L. Fong. Access control by tracking shallow execution history. In *Proceedings of the 2004 IEEE Symposium on Security and Privacy (S&P'04)*, pages 43–55, Berkeley, California, USA, May 9–12, 2004.
Remarks: Acceptance rate: $19/186 = 10\%$. CiteSeer CS Impact Factor: 1.39 (top 10.97% - ranked 134 of 1221).
- [C27] Philip W. L. Fong and Robert D. Cameron. Proof Linking: Distributed verification of Java classfiles in the presence of multiple classloaders. In *Proceedings of the USENIX Java Virtual Machine Research and Technology Symposium (JVM'01)*, pages 53–66, Monterey, California, USA, April 23–24, 2001.
Remarks: Acceptance rate: $18/50 = 36\%$.
- [C28] Philip W. L. Fong and Robert D. Cameron. Proof Linking: An architecture for modular verification of dynamically-linked mobile code. In *Proceedings of the ACM SIGSOFT Sixth International Symposium on the Foundations of Software Engineering (FSE'98)*, pages 222–230, Orlando, Florida, USA, November 3–5, 1998.

Remarks: Acceptance rate: $29/141 = 21\%$. CiteSeer CS Impact Factor: 1.88 (top 3.43% - rank 42 of 1221).

- [C29] Premkumar T. Devanbu, Philip W. L. Fong, and Stuart G. Stubblebine. Techniques for trusted software engineering. In *Proceedings of the 20th International Conference on Software Engineering (ICSE'98)*, pages 126–135, Kyoto, Japan, April 19–25, 1998.

Remarks: Acceptance rate: $41/209 = 20\%$. CiteSeer CS Impact Factor: 0.90 (top 27.92% - rank 341 of 1221).

- [C30] M.-A. D. Storey, K. Wong, P. Fong, D. Hooper, K. Hopkins, H. A. Müller. On designing an experiment to evaluate a reverse engineering tool. In *Proceedings of the 3rd Working Conference on Reverse Engineering (WCRE'96)*, Monterey, California, USA, pages 31–40, November 1996.

- [C31] Philip W. L. Fong. A quantitative study of hypothesis selection. In *Proceedings of the Twelfth International Conference on Machine Learning (ICML'95)*, pages 226–234, Tachoe City, California, USA, July 9–12, 1995.

Remarks: Acceptance rate: $68/213 = 32\%$. CiteSeer CS Impact Factor: 2.12 (top 1.88% - rank 23 of 1221).

- [C32] Qiang Yang and Philip W. L. Fong. Constraint relaxation using local search and abstraction. In *Proceedings of the Third International Conference for Young Computer Scientists (ICYCS'93)*, pages 2118–2121, Beijing, China, 1993. Sponsoring Societies: ICYCS, ACM.

Refereed Workshop Publications

- [W1] Seyed Hossein Ahmadinejad, Mohd Anwar, and Philip W. L. Fong. Inference Attacks by Third-Party Extensions to Social Network Systems. In *Proceedings of the 3rd IEEE International Workshop on Security and Social Networking (SESOC'11)* (published as part of *Proceedings for the 2011 IEEE International Conference on Pervasive Computing and Communications Workshops - PERCOM Workshops*), pages 282–287, Seattle, Washington, USA, March 21, 2011.

Remarks: Acceptance rate: $7/23 = 30\%$.

- [W2] Mohd Anwar, Philip W. L. Fong, Xue-Dong Yang, and Howard Hamilton. Visualizing Privacy Implications of Access Control Policies in Social Network Systems. In *Proceedings of the Fourth International Workshop on Data Privacy Management (DPM'09)*, volume 5939 of *Lecture Notes in Computer Science*, pages 106–120 Saint Malo, France, September 24–25, 2009. Springer.

Remarks: Acceptance rate: $8/23 = 35\%$.

- [W3] Qiang Yang, Philip Fong and Edward Kim. Design Patterns for Planning Systems. In *Proceedings of the 1998 AIPS Workshop on Knowledge Engineering and Acquisition for Planning*:

Bridging Theory and Practice, Pittsburg, pages 104–112, July 1998. Also available as AAAI Technical Report WS-98-03.

- [W4] Qiang Yang and Philip W. L. Fong. Situated control rules as approximate plans: a PAC-based theory. In *Proceedings of the Third European Workshop on Planning (EWSP'95)*, Assisi, Italy, 1995. Also available in *New Direction in AI Planning*, Volume 31 of *Frontiers in Artificial Intelligence and Applications*, edited by M. Ghallab and A. Milani, January 1996, pp 327–339.

Unrefereed Articles

- [U1] Philip W. L. Fong. Reading a Computer Science Research Paper. *Inroads – SIGCSE Bulletin*, 41(2):138-140, June 2009.

Book Editorships

- [B1] Frédéric Cuppens, Joaquín Garcín-Alfaro, A. Nur Zincir-Heywood, Philip W. L. Fong (Eds.). *Foundations and Practice of Security — 7th International Symposium, FPS 2014, Montreal, QC, Canada, November 3–5, 2014. Revised Selected Papers. Lecture Notes in Computer Science*, volume 8930, Springer 2015.
- [B2] Rainer Bohme, Philip W. L. Fong and Reihaneh Safavi-Naini (Eds.). *Information Hiding — 12th International Conference, IH'2010, Calgary, AB, Canada, June 28–30, 2010, Revised Selected Papers. Lecture Notes in Computer Science*, volume 6387, Springer 2010.

Professional Activities

1. Program Committee. *The Seventh ACM Conference on Data and Application Security and Privacy (CODASPY'2017)*, Scottsdale, Arizona, USA, March 22–24.
2. Program Committee. *The 21st ACM Symposium on Access Control Models and Technologies (SACMAT'2016)*, Shanghai, China, June 6–8, 2016.
3. Program Committee. *The Sixth ACM Conference on Data and Application Security and Privacy (CODASPY'2016)*.
4. Program Committee. *The First IEEE European Symposium on Security and Privacy (EuroS&P'2016)*, Saarbrücken, Germany, March 21-24, 2016.
5. Appointed Group Member. *Computer Science Evaluation Group*, Natural Sciences and Engineering Research Council of Canada, 2014–2017.
6. Program Committee. *The 20th ACM Symposium on Access Control Models and Technologies (SACMAT'2015)*, Vienna, Austria, June 1–3, 2015.

7. Program Committee. *The Fifth ACM Conference on Data and Application Security and Privacy (CODASPY'2015)*, San Antonio, TX, USA, March 2–4, 2015.
8. Program Committee. *The 21st ACM Conference on Computer and Communications Security (CCS'2014)*, Scottsdale, Arizona, USA, November 3–7, 2014.
9. Program Co-chair. *The 7th International Symposium on Foundations and Practice of Security (FPS'2014)*, Montreal, Canada, November 3–5, 2014.
10. Program Committee. *The 19th European Symposium on Research in Computer Security (ESORICS'2014)*, Wroclaw, Poland, September 7–11, 2014.
11. Program Committee. *The 19th ACM Symposium on Access Control Models and Technologies (SACMAT'2014)*, London, Ontario, Canada, June 25–27, 2014.
12. Program Committee. *The Fourth ACM Conference on Data and Application Security and Privacy (CODASPY'2014)*, San Antonio, Texas, USA, March 3–5, 2014.
13. Program Committee. *The 18th ACM Symposium on Access Control Models and Technologies (SACMAT'2013)*, Amsterdam, NL, June 12–14, 2013.
14. Program Committee. *The 8th ACM Symposium on Information, Computer and Communications Security (ASIACCS'2013)*, Hangzhou, China, May 8–10, 2013.
15. Program Committee. *The Third ACM Conference on Data and Application Security and Privacy (CODASPY'2013)*, San Antonio, Texas, USA, February 18–20, 2013.
16. Program Committee. *The 17th ACM Symposium on Access Control Models and Technologies (SACMAT'2012)*, Newark, USA, June 20–22, 2012.
17. Program Chair (Security Theme). *The 10th Annual Conference on Privacy, Security and Trust (PST'2012)*, Paris, France, July 16–18, 2012.
18. Program Committee. *The 4th International Workshop on Security and Online Social Networks (SESOC'2012)*, Lugano, Switzerland, March 19, 2012.
19. Program Committee. *The 2nd ACM Conference on Data and Application Security and Privacy (CODASPY'2012)*, San Antonio, Texas, USA, February 8–10, 2012.
20. Editorial Board. *Journal of Information Security*, Scientific Research Publishing, 2010 – present.
21. Program Committee. *The 6th International Workshop on Data Privacy Management (DPM'2011)*, in conjunction with ESORICS'2011, Leuven, Belgium, September 15–16, 2011.
22. Program Committee. *The 5th International Conference on Network and System Security (NSS'2011)*, Milan, Italy, September 6–8, 2011.
23. Program Committee. *The 16th ACM Symposium on Access Control Models and Technologies (SACMAT'2011)*, Innsbruck, Austria, June 15–17, 2011.

24. Invited reviewer. *ACM Transactions on Information and System Security (TISSEC)*, ACM, 2010.
25. Invited reviewer. *International Journal of Information Security (IJIS)*, Springer, 2010.
26. Invited reviewer. *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, IEEE, 2010.
27. General Chair. *The 12th Information Hiding Conference*, Calgary, Alberta, Canada, June 28-30, 2010.
28. Program Committee. *The 5th International Workshop on Data Privacy Management (DPM'2010)*, in conjunction with ESORICS'2010, Athens, Greece, September 23, 2010.
29. Program Committee. *The 5th IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA'10)*, in conjunction with COMPSAC'10, Seoul, South Korea, July 19–23, 2010.
30. Program Committee. *The 4th International Conference on Network and System Security (NSS'10)*, Melbourne, Australia, September 1–3, 2010.
31. Program Committee. *The 2009 Annual Computer Security Applications Conference (ACSAC'09)*, Honolulu, Hawaii, USA, December 7–11, 2009.
32. Reviewer. *The 4th International Conference on Information Theoretic Security (ICITS'09)*, Shizuoka, Japan, December 3–6, 2009.
33. Program Committee. *The 3rd International Conference on Network and System Security (NSS'09)*, Gold Coast, Australia, October 19–21, 2009.
34. Program Committee. *The Seventh Annual Conference on Privacy, Security and Trust (PST'09)*, Saint John, New Brunswick, Canada, August 25–27, 2009.
35. Reviewer. *International Journal of Information Security*, Springer, 2009.
36. Program Committee. *The 4th IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA'09)*, in conjunction with COMPSAC'09, Seattle, Washington, USA, July 20–24, 2009.
37. Reviewer. *Computers and Security*, Elsevier, 2009.
38. Program Committee. *The 2008 IEEE International Workshop on Cyberspace Safety and Security (CSS'08)*, Sydney, Australia, December 12, 2008.
39. Reviewer. *The 11th International Symposium on Recent Advances in Intrusion Detection (RAID'08)*, Cambridge, Massachusetts, USA, September 15–17, 2008.
40. Program Committee. *The 24th Annual Computer Security Applications Conference (ACSAC'08)*, Anaheim, California, USA, December 8–12, 2008.

41. Program Committee. *The Sixth Annual Conference on Privacy, Security and Trust (PST'08)*, Delta Fredericton, Fredericton, New Brunswick, Canada, October 1–3, 2008.
42. Program Committee. *The Third IEEE International Workshop on Security, Trust, and Privacy For Software Applications (STPSA'08)*, in conjunction with COMPSAC'08, Turku, Finland, July 28 – August 1, 2008.
43. Reviewer. *IEEE Software*, 2007.
44. Program Committee. *The 23rd Annual Computer Security Applications Conference (ACSAC'07)*, Miami Beach, Florida, December 10–14, 2007.
45. Program Committee. *The First International Workshop on Run Time Enforcement for Mobile and Distributed Systems (REM'07)*, Dresden, Germany, September 26–27, 2007. In conjunction with *The 12th European Symposium On Research In Computer Security (ESORICS'07)*.
46. Program Committee. *The Second IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA'07)*. In conjunction with *The 31st Annual International Computer Software and Applications Conference (COMPSAC'07)*, Beijing, China, July 24–27, 2007.
47. Reviewer. *IEEE Transactions on Software Engineering*, 2007.
48. Reviewer. *Journal of Computer Security — Special Issue on Privacy, Security and Trust Technologies: Evolution and Challenges (PST'06)*, 2007.
49. Reviewer. *IEEE Intelligent Systems*, 2007.
50. Reviewer. *22nd Annual Computer Security Applications Conference (ACSAC'06)*, Miami Beach, Florida, USA, December 11–15, 2006.
51. Program Committee. *Fourth Annual Conference on Privacy, Security and Trust (PST'06)*, Oshawa, Ontario, Canada, October 31 – November 1, 2006.
52. Reviewer. *IEEE International Conference on Communications (ICC'06)*, Istanbul, Turkey, June 11–15, 2006.
53. Reviewer. *28th International Conference on Software Engineering (ICSE'06)*, Shanghai, China, May 20–28, 2006.
54. Reviewer. *Journal of Systems and Software*, 2005.
55. Reviewer. *Fifth International Conference on Quality Software (QSIC'05)*, Melbourne, Australia, September 19–21, 2005.
56. Reviewer. *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 2004.
57. Reviewer. *IEEE Transactions on Software Engineering (TSE)*, 2004.

58. Reviewer. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 2004.
59. Program Committee. *The 8th International Conference on Software Reuse (ICSR'04)*, Madrid, Spain, July 5–9, 2004.
60. Reviewer. *The Computer Journal*, Oxford University Press, 2003.

Invited Talks and Visits

1. Invited talk. *Social Media and Personal Security/Privacy*. ISPIA/CMSS Workshop: Defining Private and Public Interests in Cybersecurity, Calgary, Alberta, Canada, October 31, 2016.
2. Invited keynote talk. *Security of Internet of Things*. Security Researchers and Industry Experts Talks (SecRETS'2006), Calgary, Alberta, Canada, October 19, 2016.
3. Invited keynote talk. *Logic, Policy Languages, and Relationship-Based Access Control*. The First Workshop on Action Languages, Process Modeling, and Policy Reasoning (ALPP'2015), Lexington, KY, USA, September 27, 2015.
4. Invited talk. *Satisfiability and Feasibility in a Relationship-Based Workflow Authorization Model*, Department of Electrical and Computer Engineering, University of Waterloo, Ontario, Canada, June 24, 2013.
5. Invited talk. *Preventing Sybil Attacks by Privilege Attenuation: A Design Principle for Social Network Systems*, Département d'informatique et de génie logiciel, Université Laval, Québec, Canada, March 18, 2011.
6. Invited talk. *Keep Your Friends Close: A Formal Model and a Visualization Tool for Relationship-based Access Control*, Symposium on Security and Formal Method, Department of Information Engineering and Computer Science, University of Trento, Italy, March 30, 2010.
7. Invited talk. *Keep Your Friends Close: Protection Technologies for Social Network Systems*. Distinguished Lecture, Institute for Security, Privacy and Information Assurance, University of Calgary, Calgary, Alberta, Canada, December 3, 2009.
8. Invited talk. *A Privacy Preservation Model for Facebook-style Social Network Systems*. iCIS Security Seminar, iCORE Information Security Laboratory, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November 20, 2009.
9. Invited talk. *Discretionary Capability Confinement*. iCORE Information Security Laboratory, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April 25, 2008.
10. Invited talk. *ISOMOD: A Module System for Isolating Untrusted Software Extensions*. MITACS Digital Security Seminar Series. Carleton University, Ottawa, Ontario, Canada, March 14, 2006.

11. Invited talk. *Capability Type Systems for Secure Cooperation*, Department of Computing, The Hong Kong Polytechnic University, June 21, 2005.
12. Invited talk. *Viewer Discretion: Language-based Protection Mechanisms for Dynamically Extensible Systems*, Department of Computing, The Hong Kong Polytechnic University, June 14, 2005.
13. Visiting scholar. Department of Computing, Hong Kong Polytechnic University, Hong Kong, June 2005.
14. Invited talk. *Open Licensing and Academic Technologies*, Centre for Academic Technologies, University of Regina, Regina, Saskatchewan, Canada, March 18, 2004.
15. Invited talk. *Proof Linking: A Modular Verification Architecture for Mobile Code Systems*, Department of Computing Science, University of Alberta, Edmonton, Alberta, Canada, January 15, 2004.

Funding

1. \$100,000 (per annum, 5 years), PI, *Tier-II Canada Research Chair in Software Security*. Canada Research Chairs, 2014–2019.
2. \$39,000 (per annum, 5 years), PI, *Security and Privacy Protection for Social Computing*, Discovery Grant - Individual, Natural Sciences and Engineering Research Council of Canada, 2014–2019.
3. \$29,000 USD (1 year), PI, *Inference Attacks in Extensible Social Network Systems*. Google Research Award, 2012.
4. \$100,000 (per annum, 5 years), PI, *Tier-II Canada Research Chair in Software Security*. Canada Research Chairs, 2009–2014.
5. \$100,000, PI, *Start-up Grant*. University of Calgary, 2009–2011.
6. \$93,290 (per annum, 2 years), PI, *Protection Technologies for the Facebook Generation*. Strategic Project Grant – Supplemental Competition (SPG), Natural Sciences and Engineering Research Council of Canada, 2008–2010. With Howard Hamilton and Xue-Dong Yang.
7. \$1,000,000 (per annum, 5 years), *The Internetworked Systems Security Network (ISSNet)*. Strategic Network Grant (SNG), Natural Sciences and Engineering Research Council of Canada, 2007–2012. With Paul Van Oorschot (Leader), and 13 others.
8. \$120,000 (profiled evenly over 4 years), PI, *Programming Abstractions for Access Control: Capability, Delegation, Obligation*, Discovery Accelerator Supplement, Natural Sciences and Engineering Research Council of Canada, 2007–2011.

9. \$25,700 (per annum, 5 years), PI, *Programming Abstractions for Access Control: Capability, Delegation, Obligation*, Discovery Grant - Individual, Natural Sciences and Engineering Research Council of Canada, 2007-2012.
10. \$66,352, *Grid Computing Laboratory*, Innovation and Science Fund, Province of Saskatchewan, 2005. With Terence Chan (PI) and Mauricio Barbi.
11. \$66,352, *Grid Computing Laboratory*, New Opportunities Fund, Canada Foundation for Innovation, 2005. With Terence Chan (PI) and Mauricio Barbi.
12. \$15,200, PI, *CS 170: Collaborative Authoring of Tutorial Resources Using an Open Source Development Model*. TEL Projects, Sask Learning, 2005.
13. \$2,000, *Creating Information Commons: Responses to Commercialization and Globalization*. Transdisciplinary Project - Competition B, University of Regina, 2005. With Daryl Hepting (PI), Patricia Elliott, David Gerhard, Roger Petry and Clair Polster.
14. \$20,700 (per annum, 3 years), PI, *Trusted Software Engineering: Secure deployment of dynamic software extensions*, Discovery Grant - Individual, Natural Sciences and Engineering Research Council of Canada, 2004-2007.
15. \$60,000, *Open Systems Lab*, Institution Grant, Western Economic Diversification Canada. 2004. Plus \$6,000 top-up from Faculty of Science, University of Regina, Regina, Saskatchewan, Canada. With Daryl Hepting (PI).
16. \$2,500, PI, *Open Source Seminar Series: Ideals, Politics, Business Models, and Technical Challenges*, Transdisciplinary Project 2003–04 (Category B), President’s Office, University of Regina, Regina, Saskatchewan, Canada. 2004. With Daryl Hepting, David Elliott, Roger Petry and Robert Anderson.
17. \$28,000, PI, Start-up Grant, Faculty of Science, University of Regina, Regina, Saskatchewan, Canada. 2003.
18. \$12,000, PI, Start-up Grant, Department of Computer Science, University of Regina, Regina, Saskatchewan, Canada. 2003–2004.
19. \$2,500, PI, VP (Research & International) Matching Start-up Grant, Office of Research Services, University of Regina, Regina, Saskatchewan, Canada. 2003.

Student and Postdoctoral Fellow Supervision

Graduate Student Supervision (In Progress)

- Juan Carlos Fuentes Carran, MSc.
- Syed Zain Raza Rizvi, PhD. Dissertation topic: *Practical Realization of Relationship-Based Access Control*.

- Lakshya Tandon, MSc.

Graduate Student Supervision (Completed)

- Ebrahim Tarameshloo, PhD (2011–2016). Dissertation: *Privacy in Geo-social Networking Systems*.
- Pooya Mehregan, PhD (2011–2016). Dissertation: *Multiple Ownership in Access Control*.
- Seyed Hossein Ahmadinejad, PhD (2010–2015). Dissertation: *A View-Based Protection Model to Prevent Inference Attacks by Third-Party Extensions to Social Computing Platforms*.
- Syed Zain Raza Rizvi, MSc (2013–2015). Thesis: *ReBAC2015: Interoperability of Relationship- and Role-Based Access Control*.
- Jayalakshmi Balasubramaniam, MSc (2010–2012). Thesis: *A Novel Approach to White-Box Policy Analysis*.
- Arif Khan, MSc (2010–2012). Thesis: *Satisfiability and Feasibility in a Relationship-based Workflow Authorization Model*.
- Cheng Xu, MSc (2008–2011). Thesis: *The Specification and Compilation of Obligation Policies*.
- Pan Liu, MSc (2006–2011). Project: *Capability Confinement by Aliasing Control*.
- Zhen Zhao, MSc (2006–2010). Thesis: *A Privacy Preservation Model for Facebook-Style Social Network Systems*.
- Hongya Sun, MSc (2006–2009). Project: *Exploiting and Preventing Software Vulnerabilities in Web Applications*.
- Fei Yan, MSc (2006–2008). Thesis: *Efficient IRM Enforcement of History-Based Access Control Policies*.
- Huan Long Zhang, MSc (2004–2008). Project: *Enforcing Communication Integrity in Dynamically Extensible Systems*.
- James Ranson, MSc (2004–2008, co-supervised with H. Hamilton). Thesis: *A Semantics of Python in Isabelle/HOL*.
- Simon Orr. MSc (2004–2006). Thesis: *A Module System for Isolating Untrusted Software Extensions*.

Postdoctoral Fellow Supervision (Completed)

- Ida Siahaan. June 2010 – June 2012.
- Mohd Anwar. February 2009 – September 2010.

Teaching

Courses Taught at University of Calgary

Teaching evaluation is scored on a scale of 1–7. Due to small class size, no teaching evaluation has been administered for CPSC 601.40.

For courses that are cross-listed as both undergraduate and graduate classes (e.g., CPSC 526/626), the class size is displayed as 31+9=40, meaning that there were 31 undergraduate students and 9 graduate students, and the total class size is 40.

Course	Title	Semester	Size	Evaluation
CPSC 525/625	Principles of Computer Security	Fall 2016	52+8=60	not yet released
CPSC 601.40	Foundations of Access Control	Fall 2016	5	not yet released
CPSC 601.40	Foundations of Access Control	Winter 2015	4	N/A
CPSC 449	Programming Paradigms	Fall 2014	80	5.50
CPSC 526/626	Network Systems Security	Winter 2014	31+9=40	5.73
CPSC 601.40	Foundations of Access Control	Winter 2014	2	N/A
CPSC 449	Programming Paradigms	Winter 2013	110	4.74
CPSC 601.40	Foundations of Access Control	Winter 2013	1	N/A
CPSC 525/625	Principles of Computer Security	Winter 2012	23+4=27	4.75
CPSC 601.40	Foundations of Access Control	Winter 2012	3	N/A
CPSC 601.40	Foundations of Access Control	Winter 2011	6	N/A
CPSC 449	Programming Paradigms	Winter 2011	69	5.74
CPSC 601.40	Foundations of Access Control	Winter 2010	2	N/A
CPSC 449	Programming Paradigms	Winter 2010	71	4.81
CPSC 601.40	Foundations of Access Control	Winter 2009	8	N/A

Courses Taught at University of Regina

Teaching evaluation is scored on a scale of 1–4. Graduate courses at the 800 level do not have student evaluation.

I do not have access to the evaluation scores of the two courses I taught in Fall 2008, since I have already left the University of Regina by the time the scores were released.

Course	Title	Semester	Class Size	Student Evaluation (Scale 1–4)
CS 410	Introduction to Compiler Design	Fall 2008	5	N/A
CS 215	Web Oriented Programming	Fall 2008	32	N/A
CS 215	Web Oriented Programming	Winter 2008	14	3.34
CS 115	Object-Oriented Design	Winter 2008	39	3.16
CS 350	Programming Language Concepts	Fall 2007	15	2.92
CS 834	Software Security	Winter 2007	8	N/A
CS 410	Introduction to Compiler Design	Winter 2007	12	3.34

CS 350	Programming Language Concepts	Fall 2006	23	3.45
CS 350	Programming Language Concepts	Winter 2006	16	3.56
CS 350	Programming Language Concepts	Fall 2005	17	3.37
CS 170	Fundamentals of Comp Sci I	Fall 2005	75	3.30
CS 834	Software Security	Winter 2005	10	N/A
CS 372	Software Engineering Methodology	Fall 2004	20	3.12
CS 170	Fundamentals of Comp Sci I	Winter 2004	43	3.08

Courses Taught at Simon Fraser University

- *CMPT 310: Artificial Intelligence Survey*, Jan–Apr, 2001.