

# Curriculum Vitæ

Sylvain Hallé

November 2019

## Summary

Publications	120
Book Chapters	3
Journals	18
Conferences	82
Total Research Funds	\$1,610,316
Students Supervised	78
Ph.D.	7
M.Sc. (with thesis)	21
M.Sc. (without thesis)	31
Undergraduate	19
Courses Taught (total)	84
Courses Taught (distinct)	25
Number of students	892
Papers Reviewed	
Journals	43
Conferences	99

## Affiliations

- 2018–present: Full Professor (tenured)  
Department of Computer Science and Mathematics  
Université du Québec à Chicoutimi, Canada
- 2014–2018: Associate Professor (tenured)  
Department of Computer Science and Mathematics  
Université du Québec à Chicoutimi, Canada
- 2010–2014: Assistant Professor (tenure-track)  
Department of Computer Science and Mathematics  
Université du Québec à Chicoutimi, Canada
- 2008–2010: Postdoctoral Research Fellow  
Department of Computer Science  
University of California, Santa Barbara, USA

## Publications

I have authored a total of **120** peer-reviewed publications, counting 3 book chapters, 18 journal papers, and 82 peer-reviewed papers in international conferences and workshops. These papers have been cited a combined total of **615** times, yielding a personal *H*-index of **12**, according to Google Scholar.

## Book Chapters

1. Q. Betti, S. Hallé, R. Khoury, B. Montreuil. (2019). Monitoring Lifecycle Properties of Blockchain and Smart Contracts-Enabled Simulation for Hyperconnected Logistics. In *Decentralised Internet of Things: A Blockchain Perspective*, Springer, 1–40
2. S. Hallé, R. Villemaire, O. Cherkaoui. (2011). Logical Methods for Self-Configuration of Network Devices. In *Formal and Practical Aspects of Autonomic Computing and Networking: Specification, Development, and Verification*, IGI Global, 189–216
3. S. Hallé, R. Villemaire. (2010). XML Query Evaluation in Validation and Monitoring of Web Service Interface Contracts. In *Advanced Applications and Structures in XML Processing: Label Streams, Semantics Utilization and Data Query Technologies*, IGI Global, 406–424

## Journals

4. M. Roudjane, D. Rebaïne, R. Khoury, S. Hallé. (2019). Stream Processing Patterns for Detecting Trend Deviations in Event Logs. In G. Grossmann, R. Lagerström, S. Nurcan, eds., *Information Systems*, Elsevier. Accepted for publication
5. Q. Betti, R. Khoury, S. Hallé, B. Montreuil. (2019). Improving Hyperconnected Logistics with Blockchains and Smart Contracts. In J. Fiaidhi, J. Voas, eds., *IT Professional*, vol. 21 no. 4, IEEE Computer Society, 25–32
6. S. Hallé, R. Khoury, M. Awesso. (2018). Streamlining the Inclusion of Computer Experiments In A Research Paper. In *Computer*, vol. 51 no. 11, IEEE Computer Society, 78–89
7. S. Hallé, R. Khoury, Q. Betti, A. El-Hokayem, Y. Falcone. (2017). Decentralized Enforcement of Document Lifecycle Constraints. In S. Rinderle-Ma, F. Matthes, J. Mendling, eds., *Information Systems*, vol. 74, Elsevier, 117–135
8. S. Varvaressos, K. Lavoie, S. Gaboury, S. Hallé. (2017). Automated Bug Finding in Video Games: A Case Study for Runtime Monitoring. In *ACM Computers in Entertainment*, vol. 15 no. 1, ACM, 1–28.  $\approx 0.78$  in 2013
9. E.L. Ngoupé, C. Parisot, S. Stoessel, P. Valtchev, O. Cherkaoui, P. Boucher, S. Hallé. (2017). A Declarative and Efficient Approach to Network Device Configuration Correctness. In *Journal of Networks and Systems Management*, vol. 25 no. 1, Springer, 180–209
10. S. Hallé, N. Bergeron, F. Guérin, G. Le Breton, O. Beroual. (2016). Declarative Layout Constraints for Testing Web Applications. In M. ter Beek, eds., *J. Logical and Algebraic Methods for Programming*, vol. 85 no. 5, Elsevier, 737–758.  $\approx 0.636$  in 2015
11. K. Xie, S. Gaboury, S. Hallé. (2016). Real-Time Streaming Communication with Optical Codes. In W.D. Zhong, eds., *IEEE Access*, vol. 4 no. 1, IEEE, 1–15

12. S. Hallé, M. Soucy-Boivin. (2015). MapReduce for Parallel Trace Validation of LTL Properties. In L. Gillam, eds., *Journal of Cloud Computing*, vol. 4 no. 8, Springer, 1–16
13. S. Hallé, J. Vallet, R. Tremblay-Lessard. (2015). On Piggyback Runtime Monitoring of Object-Oriented Programs. In B. Steffen, J. Hatcliff, T. Margaria, eds., *Software Tools for Technology Transfer*, vol. 17 no. 2, Springer, 125–142.  $\hookleftarrow$  2
14. A. Betin-Can, S. Hallé, T. Bultan. (2013). Modular verification of asynchronous service interactions using behavioral interfaces. In *IEEE Transactions on Services Computing*, vol. 6 no. 2, IEEE Computer Society, 262–275.  $\hookleftarrow$  1.468 in 2011.  $\hookrightarrow$  1
15. S. Desmeules, A. Blondin Massé, S. Hallé, S. Gaboury. (2013). Multipseudoperiodic words. In H.C. Yen, O.H. Ibarra, eds., *International Journal of Foundations of Computer Science*, vol. 24 no. 7, World Scientific Publishing, 1153–1166.  $\hookleftarrow$  0.550 in 2013
16. S. Hallé. (2013). Cooperative Runtime Monitoring. In *Enterprise Information Systems*, vol. 7 no. 4, Taylor & Francis, 395–423.  $\hookleftarrow$  3.684 in 2011.  $\hookrightarrow$  3
17. R. Villemaire, S. Hallé. (2012). Reasoning about visibility. In *Journal of Applied Logic*, vol. 10 no. 2, Elsevier, 169–178.  $\hookleftarrow$  0.574 in 2011.  $\hookrightarrow$  3
18. S. Hallé, R. Villemaire. (2012). Runtime Enforcement of Web Service Message Contracts with Data. In *IEEE Transactions on Services Computing*, vol. 5 no. 2, IEEE Computer Society, 192–206.  $\hookleftarrow$  1.468 in 2011.  $\hookrightarrow$  60
19. S. Hallé, R. Villemaire, O. Cherkaoui, R. Deca. (2012). A logical approach to data-aware automated sequence generation. In *Transactions on Computational Science*, no. 15, Springer, 192–216.  $\hookleftarrow$  0.75 in 2013.  $\hookrightarrow$  3
20. S. Hallé, T. Bultan, G. Hughes, M. Alkhalaf, R. Villemaire. (2010). Runtime verification of web service interface contracts. In *Computer*, vol. 43 no. 3, IEEE Computer Society, 59–66.  $\hookleftarrow$  1.79 in 2010.  $\hookrightarrow$  45
21. S. Hallé, R. Villemaire, O. Cherkaoui. (2009). Specifying and Validating Data-Aware Temporal Web Service Properties. In *IEEE Transactions on Software Engineering*, vol. 36 no. 5, IEEE Computer Society, 669–683.  $\hookleftarrow$  3.75 in 2009.  $\hookrightarrow$  39

## Conferences

22. M. Roudjane, D. Rebaïne, R. Khoury, S. Hallé. (2019). Predictive Analytics for Event Stream Processing. In R. Dijkman, S.S. Cherfi, S. Nurcan, eds., *Proceedings of the 23rd IEEE Intl. Enterprise Distributed Object Computing Conference*, IEEE Computer Society
23. B. Vignau, S. Hallé, R. Khoury. (2019). 10 Years of IoT Malware: a Feature-Based Taxonomy. In F. Hsu, Y. Wu, eds., *IEEE Intl. Workshop on Trustworthy Computing*, IEEE Computer Society, 1–10
24. M. Larouche, F. Petrillo, S. Hallé. (2019). Efficient Generation of Test Data with Extended Cardinality Constraints. In R. Kang, K. Stefanov, eds., *19th Intl. Conf. on Software Quality, Reliability and Security*, IEEE Computer Society, 1–8
25. S. Hallé, R. Khoury. (2018). Writing Domain-Specific Languages for BeepBeep 3. In C. Colombo, M. Leucker, eds., *RV, Lecture Notes in Computer Science 11237*, Springer, 447–457

26. M. Roudjane, D. Rebaïne, R. Khoury, S. Hallé. (2018). Real-Time Data Mining for Event Streams. In S. Nurcan, R. Lagerström, P. Johnson, eds., *Proceedings of the 22nd IEEE Intl. Enterprise Distributed Object Computing Conference*, IEEE Computer Society, 123–134
27. R. Khoury, S. Hallé. (2018). Tally Keeping-LTL: An LTL semantics for quantitative evaluation of LTL specifications. In L. Bouzar-Benlabiod, F. Khendek, S. Rubin, eds., *6th Intl. Workshop on Formal Methods Integration*, IEEE, 495–502
28. M.R. Boussaha, R. Khoury, S. Hallé. (2017). Monitoring of Security Properties Using BeepBeep. In A. Imine, L. Logrippo, J.Y. Marion, J.M. Fernandez, eds., *FPS*, Lecture Notes in Computer Science 10723, Springer, 160–169
29. C. Meniar, F. Opalvens, S. Hallé. (2017). Runtime Verification of User Interface Guidelines in Mobile Devices. In K. Havelund, S. Lahiri, G. Reger, eds., *RV*, Lecture Notes in Computer Science 10548, Springer, 410–415
30. S. Hallé, R. Khoury. (2017). Event Stream Processing with BeepBeep 3. In G. Reger, K. Havelund, eds., *Intl. Works. on Competitions, Usability, Benchmarks, Evaluation, and Standardisation for RV*, Kalpa Publications in Computing, 81–88
31. S. Hallé, R. Khoury, S. Gaboury. (2017). A Few Things We Heard About RV Tools (Position Paper). In G. Reger, K. Havelund, eds., *Intl. Works. on Competitions, Usability, Benchmarks, Evaluation, and Standardisation for RV*, Kalpa Publications in Computing, 89–95
32. S. Hallé, R. Khoury, S. Gaboury. (2017). Event Stream Processing with Multiple Threads. In K. Havelund, S. Lahiri, G. Reger, eds., *RV*, Lecture Notes in Computer Science 10548, Springer, 359–369
33. F. Thullier, V. Plantevin, A. Bouzouane, S. Hallé, S. Gaboury. (2017). A Position-Independent Method for Soil Types Recognition Using Inertial Data from a Wearable Device. In *Proc. 14th IEEE Int. Conf. on Ubiquitous Intelligence and Computing*, IEEE
34. S. Hallé, R. Khoury. (2017). SealTest: A Simple Library for Test Sequence Generation. In T. Bultan, K. Sen, eds., *Proc. ACM SIGSOFT International Symposium on Software Testing and Analysis*, ACM, 392–395
35. S. Hallé. (2017). LabPal: Repeatable Computer Experiments Made Easy. In T. Bultan, K. Sen, eds., *Proc. ACM SIGSOFT International Symposium on Software Testing and Analysis*, ACM, 404–407
36. O. Beroual, F. Guérin, S. Hallé. (2017). Searching for Behavioural Bugs with Stateful Test Oracles in Web Crawlers. In J.P. Galeotti, J. Petke, eds., *Proc. 10th Intl. Work. on Search-Based Softw. Testing*, ACM, 7–13
37. R. Khoury, S. Gaboury, S. Hallé. (2016). Three Views of Log Trace Triaging. In N. Tawbi, N. Cuppens, L. Wang, F. Cuppens, eds., *FPS*, Lecture Notes in Computer Science 10128, Springer, 179–195
38. R. Khoury, S. Hallé, O. Waldmann. (2016). Execution Trace Analysis Using LTL-FO+. In T. Margaria, B. Steffen, eds., *ISoLA*, Lecture Notes in Computer Science 9953, Springer, 356–362
39. S. Hallé. (2016). When RV meets CEP. In Y. Falcone, C. Sanchez, eds., *RV*, Lecture Notes in Computer Science 10012, Springer, 68–91. ☹ 1
40. S. Hallé, R. Khoury, Y. Falcone, A. El-Hokayem. (2016). Decentralized Enforcement of Artifact Lifecycles. In F. Matthes, J. Mendling, S. Rinderle-Ma, eds., *Proc. of the 20th IEEE Intl. Enterprise Distributed Object Computing Conference*, IEEE Computer Society, 1–10. ☺ 23%.

• **Best Paper Award**

41. G. Reger, S. Hallé, Y. Falcone. (2016). Third International Competition on Runtime Verification. In Y. Falcone, C. Sanchez, eds., *RV*, Lecture Notes in Computer Science 10012, Springer, 21–37
42. S. Hallé. (2016). A Few Applications of Event Stream Processing. In A. Cavalli, W. Mallouli, eds., *Proc. 2nd IEEE Intl. Workshop on Security Testing and Monitoring*, IEEE Computer Society
43. S. Hallé, S. Gaboury, B. Bouchard. (2016). Towards User Activity Recognition Through Energy Usage Analysis And Complex Event Processing. In I. Maglogiannis, V. Metsis, eds., *Proc. Intl. Conf. on Pervasive Technologies Related to Assistive Environments*, ACM, 3
44. S. Hallé. (2016). Fault Localization in Web Applications via Model Finding. In G. Goessler, O. Sokolsky, eds., *EPTCS 224*, Springer, 55–67.  $\oplus$  37%
45. S. Hallé, S. Gaboury, B. Bouchard. (2016). Activity Recognition Through Complex Event Processing: First Findings. In B. Bouchard, A. Bouzouane, S. Gaboury, eds., *Workshop on Artificial Intelligence Applied to Assistive Technologies and smart environments*, AAI, 1–5.  $\odot$  1
46. S. Hallé, E. La Chance, S. Gaboury. (2015). Graph Methods for Generating Test Cases with Universal and Existential Constraints. In K. El-Fakih, G. Barlas, N. Yevtushenko, eds., *ICTSS*, Lecture Notes in Computer Science 9447, Springer, 55–70.  $\oplus$  33%
47. R. Khoury, S. Hallé. (2015). Monitoring with Partial Control. In P. Lafourcade, G. Bonfante, J. García-Alfaro, E. Kranakis, eds., *FPS*, Lecture Notes in Computer Science 9482, Springer
48. S. Hallé, R. Khoury. (2015). Runtime Monitoring of Stream Logic Formulae. In P. Lafourcade, G. Bonfante, J. García-Alfaro, E. Kranakis, eds., *FPS*, Lecture Notes in Computer Science 9482, Springer, 1–8.  $\oplus$  21%
49. S. Hallé. (2015). A Declarative Language Interpreter for CEP. In G. Grossmann, A. Ghose, J. Kolb, B. Weber, eds., *Workshops Proceedings of the 19th IEEE Intl. Enterprise Distributed Object Computing Conference*, IEEE Computer Society, 148–151.  $\odot$  2
50. E.L. Ngoupé, S. Stoessel, C. Parisot, S. Hallé. (2015). A Data Model for Management of Network Device Configuration Heterogeneity. In K. Kinoshita, F. De Turck, eds., *Proc. of th 7th IEEE/IFIP Intl. Workshop on Management of the Future Internet*, IEEE.  $\odot$  1
51. S. Hallé, N. Bergeron, F. Guérin, G. Le Breton. (2015). Testing Web Applications Through Layout Constraints. In F. Wotava, G. Fraser, D. Marinov, eds., *Proc. 8th Intl. Conference on Software Testing*, IEEE, 1–8.  $\odot$  4.  $\oplus$  25%.

• **Best Paper Award**

52. S. Varvaressos, K. Lavoie, S. Gaboury, S. Hallé. (2015). A Generalized Monitor Verdict for Log Trace Triaging. In *Proc. of the 6th Intl. Workshop on Program Comprehension Through Dynamic Analysis*, IEEE, 13–18
53. S. Varvaressos, K. Lavoie, S. Gaboury, S. Hallé. (2014). Multiple Ways to Fail: Generalizing a Monitor’s Verdict for the Classification of Execution Traces. In B. Bonakdarpour, S.A. Smolka, eds., *RV*, Lecture Notes in Computer Science 8734, Springer, 10–14

54. K. Lavoie, S. Varvaressos, C. Leplongeon, S. Gaboury, S. Hallé. (2014). Portable Runtime Verification with Smartphones and Optical Codes. In B. Bonakdarpour, S.A. Smolka, eds., *RV*, Lecture Notes in Computer Science 8734, Springer, 80–84.  $\mathcal{Q}$  1.  $\oplus$  34%
55. S. Hallé, S. Varvaressos. (2014). A Formalization of Complex Event Stream Processing. In M. Reichert, S. Rinderle-Ma, G. Grossmann, eds., *Proc. of the 18th IEEE Intl. Enterprise Distributed Object Computing Conference*, IEEE, 2–11.  $\mathcal{Q}$  4.  $\oplus$  20%
56. S. Varvaressos, K. Lavoie, A. Blondin Massé, S. Gaboury, S. Hallé. (2014). Automated Bug Finding in Video Games: A Case Study for Runtime Monitoring. In B. Robinson, L. Williams, C. Wohlin, eds., *Proceedings of the Intl. Conference on Software Testing*, IEEE, 143–152.  $\mathcal{Q}$  6.  $\oplus$  28%
57. S. Hallé, G. Le Breton, F. Maronnaud, A. Blondin Massé, S. Gaboury. (2014). Exhaustive Exploration of Ajax Web Applications With Selective Jumping. In B. Robinson, L. Williams, C. Wohlin, eds., *Proceedings of the Intl. Conference on Software Testing Workshops*, IEEE, 243–252.  $\mathcal{Q}$  3.  $\oplus$  28%
58. A. Blondin Massé, S. Gaboury, S. Hallé, M. Larouche. (2014). Solving Equations on Words with Morphisms and Antimorphisms. In *LATA*, Lecture Notes in Computer Science 8370, Springer, 186–197.  $\mathcal{Q}$  3.  $\oplus$  39%
59. G. Le Breton, N. Bergeron, S. Hallé. (2014). A Reference Framework for the Automated Exploration of Web Applications. In J. Dong, Z. Feng, E. André, L. Zhang, eds., *Proc. of the 19th IEEE International Conference on Engineering of Complex Computer Systems*, IEEE, 81–90.  $\mathcal{Q}$  2.  $\oplus$  24%
60. E.L. Ngoupé, S. Stoesel, C. Parisot, S. Hallé, P. Valtchev, O. Cherkaoui, P. Boucher. (2014). A Lazy Evaluation Strategy for Assessing Network Device Configuration Correctness. In J. Dong, Z. Feng, E. André, L. Zhang, eds., *Proc. of the 19th IEEE International Conference on Engineering of Complex Computer Systems*, IEEE, 190–193.  $\oplus$  24%
61. J. Vallet, A. Mrad, S. Hallé. (2013). The Relational Database Engine: an Efficient Validator of Temporal Properties on Event Traces. In *Workshops Proceedings of the 17th IEEE Intl. Enterprise Distributed Object Computing Conference*, IEEE, 275–284.  $\mathcal{Q}$  3
62. S. Varvaressos, D. Vaillancourt, A. Blondin Massé, S. Gaboury, S. Hallé. (2013). Runtime Verification of Temporal Logic Properties in a Platform Game. In A. Legay, U. Fahrenberg, L.M. Traonouez, B. Boyer, E. Blin, eds., *RV*, Lecture Notes in Computer Science 8174, Springer, 346–351.  $\mathcal{Q}$  1
63. G. Le Breton, F. Maronnaud, S. Hallé. (2013). Automated exploration and analysis of Ajax web applications with WebMole. In L. Carr, A.H.F. Laender, B.F. Lóscio, I. King, D. Fontoura, L. Vrandečić, L. Aroyo, J.P.M. de Oliveira, F. Lima, E. Wilde, eds., *22nd International World Wide Web Conference, WWW '13*, ACM, 245–248.  $\mathcal{Q}$  4.  $\oplus$  28%
64. S. Hallé, E. Ngoupé, R. Villemaire, O. Cherkaoui. (2013). Distributed firewall anomaly detection through LTL model checking. In A. Clemm, P. Demeester, F. de Turck, Y. Diao, C.S. Hong, eds., *Proceedings of the 13th IFIP/IEEE International Symposium on Integrated Network Management*, IEEE, 194–201.  $\mathcal{Q}$  1.  $\oplus$  27%
65. M. Larouche, A. Blondin Massé, S. Gaboury, S. Hallé. (2013). Solving equations on words through Boolean satisfiability. In *Proceedings of the 2013 ACM Symposium on Applied Computing (SAC)*, ACM, 104–106.  $\mathcal{Q}$  2.  $\oplus$  24%

66. G. Demarty, F. Maronnaud, G. Le Breton, S. Hallé. (2013). SiteHopper: Abstracting navigation state machines for the efficient verification of web applications. In M.H. ter Beek, N. Lohmann, eds., *WS-FM*, Lecture Notes in Computer Science 7843, Springer, 103–117.  $\mathcal{Q}$  4.  $\oplus$  42%
67. S. Hallé, R. Tremblay-Lessard. (2012). A case for "piggyback" runtime monitoring. In T. Margaria, B. Steffen, eds., *ISoLA*, Lecture Notes in Computer Science 7609, Springer, 295–311.  $\mathcal{Q}$  2
68. A. Mrad, S. Ahmed, E. Beaudet, S. Hallé. (2012). BabelTrace: A collection of transducers for trace validation. In S. Tasiran, S. Qadeer, eds., *RV*, Lecture Notes in Computer Science 7687, Springer, 126–130.  $\mathcal{Q}$  7.  $\oplus$  40%
69. B. Barre, M. Klein, M. Soucy-Boivin, P.-A. Ollivier, S. Hallé. (2012). MapReduce for parallel trace validation of LTL properties. In S. Tasiran, S. Qadeer, eds., *RV*, Lecture Notes in Computer Science 7687, Springer, 184–198.  $\mathcal{Q}$  28.  $\oplus$  40%.

• **Best Paper Award**

70. A. Blondin Massé, S. Gaboury, S. Hallé. (2012). Pseudoperiodic words. In H.C. Yen, O.H. Ibarra, eds., *DLT*, Lecture Notes in Computer Science 7410, Springer, 308–319.  $\mathcal{Q}$  5
71. S. Hallé, R. Villemaire. (2012). Constraint-based invocation of stateful web services: the Beep store (case study). In P. Lago, G.A. Lewis, A. Metzger, V. Tosic, eds., *4th Intl. ICSE Workshop on Principles of Engineering Service-Oriented Systems*, ACM, 61–62
72. B. Khorchani, S. Hallé, R. Villemaire. (2012). Firewall anomaly detection with a model checker for visibility logic. In *NOMS*, IEEE, 466–469.  $\mathcal{Q}$  13.  $\oplus$  26%
73. S. Hallé, O. Cherkaoui, P. Valtchev. (2012). Towards a semantic virtualization of configurations. In *NOMS*, IEEE, 1268–1271.  $\mathcal{Q}$  1
74. S. Hallé, E.L. Ngoupé, G. Nijdam, O. Cherkaoui, P. Valtchev, R. Villemaire. (2012). Validmaker: A tool for managing device configurations using logical constraints. In *NOMS*, IEEE, 1111–1118.  $\mathcal{Q}$  4.

• **Best Paper Award**

75. J. Calvar, R. Tremblay-Lessard, S. Hallé. (2012). A runtime monitoring framework for event streams with non-primitive arguments. In G. Antoniol, A. Bertolino, Y. Labiche, eds., *ICST*, IEEE, 499–508.  $\mathcal{Q}$  2
76. S. Hallé. (2011). Causality in message-based contract violations: A temporal logic “whodunit”. In *EDOC*, IEEE, 171–180
77. S. Hallé. (2011). Model-based simulation of SOAP web services from temporal logic specifications. In I. Perseil, K. Breitman, R. Sterritt, eds., *ICECCS*, IEEE, 95–104.  $\mathcal{Q}$  2.  $\oplus$  23%
78. S. Hallé, T. Bultan. (2010). Realizability analysis for message-based interactions using shared-state projections. In G.C. Roman, J.K. Sullivan, eds., *SIGSOFT FSE*, ACM, 27–36.  $\mathcal{Q}$  20.  $\oplus$  20%
79. S. Hallé, R. Villemaire. (2010). Runtime verification for the web - a tutorial introduction to interface contracts in web applications. In H. Barringer, Y. Falcone, B. Finkbeiner, K. Havelund, I. Lee, G.J. Pace, G. Rosu, O. Sokolsky, N. Tillmann, eds., *RV*, Lecture Notes in Computer Science 6418, Springer, 106–121.  $\mathcal{Q}$  45

80. S. Hallé. (2010). Cooperative Runtime Monitoring of LTL Interface Contracts. In *Proceedings of the Fourteenth IEEE International EDOC Conference (EDOC 2010)*, IEEE Computer Society, 227–236.  $\mathcal{Q}$  1.  $\oplus$  29%.

• **Best Paper Award**

81. S. Hallé. (2010). Automated generation of web service stubs using LTL satisfiability solving. In M. Bravetti, T. Bultan, eds., *WS-FM*, Lecture Notes in Computer Science 6551, Springer, 42–55.  $\mathcal{Q}$  2.  $\oplus$  42%

82. S. Hallé, T. Ettema, C. Bunch, T. Bultan. (2010). Eliminating navigation errors in web applications via model checking and runtime enforcement of navigation state machines. In C. Pecheur, J. Andrews, E. Di Nitto, eds., *ASE*, ACM, 235–244.  $\mathcal{Q}$  43.  $\oplus$  17%

83. S. Hallé, R. Villemare. (2009). Runtime monitoring of web service choreographies using streaming XML. In S.Y. Shin, S. Ossowski, eds., *SAC*, ACM, 2118–2125.  $\mathcal{Q}$  29.  $\oplus$  29%

84. R. Villemare, S. Hallé. (2009). Strong temporal, weak spatial logic for rule based filters. In C. Lutz, J.F. Raskin, eds., *TIME*, IEEE, 72–76.  $\mathcal{Q}$  8

85. S. Hallé, R. Villemare. (2009). Browser-based enforcement of interface contracts in web applications with BeepBeep. In A. Bouajjani, O. Maler, eds., *CAV*, Lecture Notes in Computer Science 5643, Springer, 648–653.  $\mathcal{Q}$  18.  $\oplus$  27%

86. S. Hallé, R. Villemare. (2009). Flexible and reliable messaging using runtime monitoring. In *EDOCW*, IEEE, 116–125.  $\mathcal{Q}$  5

87. S. Hallé, G. Hughes, T. Bultan, M. Alkhalaf. (2009). Generating interface grammars from WSDL for automated verification of web services. In L. Baresi, C.H. Chi, J. Suzuki, eds., *ICSOC-ServiceWave*, Lecture Notes in Computer Science 5900, Springer, 516–530.  $\mathcal{Q}$  19.  $\oplus$  16%

88. S. Hallé, R. Villemare. (2008). Satisfying a fragment of XQuery by branching-time reduction. In *TIME*, IEEE, 72–76.  $\mathcal{Q}$  1.  $\oplus$  34%

89. S. Hallé, R. Villemare. (2008). Runtime monitoring of message-based workflows with data. In *EDOC*, IEEE, 63–72.  $\mathcal{Q}$  54.  $\oplus$  25%

90. S. Hallé, R. Villemare. (2008). XML methods for validation of temporal properties on message traces with data. In R. Meersman, Z. Tari, eds., *CoopIS/DOA/ODBASE*, Lecture Notes in Computer Science 5331, Springer, 337–353.  $\mathcal{Q}$  21.  $\oplus$  22%

91. S. Hallé, R. Villemare, O. Cherkaoui, B. Ghandour. (2007). Model-checking data-aware temporal workflow properties with CTL-FO+. In *EDOC*, IEEE, 267–278.  $\mathcal{Q}$  16.  $\oplus$  28%

92. S. Hallé, R. Deca, O. Cherkaoui, R. Villemare, D. Puche. (2007). Modelling the temporal aspects of network configurations. In D. Gaiti, eds., *IFIP NetCon*, Springer, 269–282.  $\mathcal{Q}$  1

93. S. Hallé, R. Villemare, O. Cherkaoui, J. Tremblay, B. Ghandour. (2007). Extending model checking to data-aware temporal properties of web services. In M. Dumas, R. Heckel, eds., *WS-FM*, Lecture Notes in Computer Science 4937, Springer, 31–45.  $\mathcal{Q}$  6.  $\oplus$  41%

94. S. Hallé, R. Deca, O. Cherkaoui, R. Villemare. (2006). Sequential dependencies in configuration operations. In F. Krief, eds., *GRES*, 112–123.  $\mathcal{Q}$  2



95. S. Hallé. (2006). An efficient heuristic for discovering multiple ill-defined attributes in datasets. In A.M. Wani, T. Li, L. Kurgan, J. Ye, Y. Lu, eds., *ICMLA*, IEEE, 43–47. ☺ 23%
96. S. Hallé, R. Villemaire, O. Cherkaoui. (2006). CTL model checking for labelled tree queries. In *TIME*, IEEE, 27–35. ☹ 8. ☺ 39%
97. R. Villemaire, S. Hallé, R. Deca, O. Cherkaoui. (2006). Skolem functions and Herbrand universes for a tree generalization of first-order logic. In C.A. Gelbukh A and Reyes-García, eds., *MICAI*, 22–31. ☹ 1. ☺ 26%
98. S. Hallé, E. Wenaas, R. Villemaire, O. Cherkaoui. (2006). Self-configuration of network devices with configuration logic. In D. Gaïti, G. Pujolle, E. Al-Shaer, L.K. Calvert, A.S. Dobson, G. Leduc, O. Martikainen, eds., *Autonomic Networking*, Lecture Notes in Computer Science 4195, Springer, 36–49. ☹ 11
99. R. Villemaire, S. Hallé, O. Cherkaoui. (2005). Configuration logic: A multi-site modal logic. In *TIME*, IEEE, 131–137. ☹ 12. ☺ 49%
100. S. Hallé. (2005). Using boolean differences for discovering ill-defined attributes in propositional machine learning. In A. Gelbukh, A. de Albornoz, eds., *MICAI*, Lecture Notes in Computer Science 3789, Springer, 425–434. ☹ 1. ☺ 29%
101. R. Villemaire, S. Hallé, O. Cherkaoui. (2005). A hierarchical logic for network configuration. In G. Sutcliffe, A. Voronkov, eds., *LPAR*. ☹ 1
102. S. Hallé, R. Deca, O. Cherkaoui, R. Villemaire. (2004). Automated validation of service configuration on network devices. In J.B. Vicente, D. Hutchison, eds., *MMNS*, Lecture Notes in Computer Science 3271, Springer, 176–188. ☹ 14. ☺ 31%
103. S. Hallé, R. Deca, O. Cherkaoui, R. Villemaire, D. Puche. (2004). A formal validation model for the Netconf protocol. In *DSOM*, Lecture Notes in Computer Science 3278, Springer, 147–158. ☹ 13. ☺ 22%

### Edited Books and Proceedings

104. . (2019). Event Stream Processing with BeepBeep 3: Log Crunching and Analysis Made Easy. In Presses de l’Université du Québec
105. G. Grossmann, S. Hallé, D. Karastoyanova, M. Reichert, S. Rinderle-Ma. (2014). 18th IEEE International Enterprise Distributed Object Computing Conference Workshops, EDOC Workshops, Ulm, Germany, September 1-5, 2014. In IEEE
106. D. Bianculli, S. Guinea, S. Hallé, A. Polini. (2013). Proceedings of the 2nd International Workshop on Quality Assurance for Service-based Applications, QASBA 2013, in conjunction with ISSTA 2013, Lugano, Switzerland, July 15, 2013. In ACM
107. E. Bagheri, D. Gasevic, S. Hallé, M. Hatala, H.R. Motahari Nezhad, M. Reichert. (2013). 17th IEEE International Enterprise Distributed Object Computing Conference Workshops, EDOC Workshops, Vancouver, BC, Canada, September 9-13, 2013. In IEEE
108. G. Salaün, X. Fu, S. Hallé. (2010). Proceedings Fourth International Workshop on Testing, Analysis and Verification of Web Software, TAV-WEB 2010, Antwerp, Belgium, 21 September 2010. In Elsevier

## Other

109. G. Reger, S. Hallé, Y. Falcone. (2016). Third International Competition on Runtime Verification - CRV 2016. In *Runtime Verification - 16th International Conference, RV 2016, Madrid, Spain, September 23-30, 2016, Proceedings*, 21–37
110. D. Karastoyanova, S. Hallé. (2014). Message from the EDOC 2014 Workshops Co-Chairs. In *18th IEEE International Enterprise Distributed Object Computing Conference Workshops, EDOC Workshops*, IEEE Computer Society, xiv
111. E. Bagheri, S. Hallé. (2013). Message from the EDOC Workshops Chairs. In *17th IEEE International Enterprise Distributed Object Computing Conference Workshops, EDOC Workshops*, IEEE Computer Society, xii
112. D. Gašević, G. Grossmann, S. Hallé, F. Rosenberg. (2011). Message from the EVL-BP 2011 Workshop Chairs. In *Workshops Proceedings of the 15th IEEE International Enterprise Distributed Object Computing Conference, EDOCW 2011*, IEEE Computer Society, 143–145
113. D. Gašević, T. Graml, S. Hallé, R. Villemare. (2011). Guest Editorial: Dynamic and Declarative Business Processes. In *Int. J. Business Process Integration and Management (IJBPIM)*, vol. 5 no. 4, Inderscience, 273–275
114. J. Dietrich, D. Gašević, G. Grossmann, S. Hallé. (2011). Guest Editorial: Special Collection on Dynamic and Declarative Business Processes (DDBP), and Vocabularies, Ontologies and Languages for the Enterprises (VORTE). In *J. of Research and Practice in Information Technology (JRPIT)*, vol. 43 no. 1, Australian Computer Society, 1–4
115. D. Gašević, G. Grossmann, S. Hallé, F. Rosenberg. (2010). Dynamic and Declarative Business Processes - DDBP 2010 (Editorial). In *Workshops Proceedings of the 14th IEEE International Enterprise Distributed Object Computing Conference, EDOCW 2010*, IEEE Computer Society, xxiv–xxvii
116. G. Salaün, X. Fu, S. Hallé. (2010). Preface. In *Proceedings Fourth International Workshop on Testing, Analysis and Verification of Web Software, TAV-WEB 2010*, no. 35, Elec. Proc. in Theoretical Computer Science, 1
117. D. Gašević, G. Grossmann, S. Hallé. (2009). Dynamic and Declarative Business Processes: Editorial. In *EDOC Workshops*, 1–4
118. S. Hallé, R. Villemare. (2009). 15th International Symposium on Temporal Representation and Reasoning (TIME 2008), Montréal, Canada, June 16-18, 2008. In *Bul. Symb. Log.*, vol. 15 no. 3, Association for Symbolic Logic, 377–378
119. A. Artale, S. Demri, C. S. Jensen, S. Hallé, R. Villemare. (2008). Message from the Chairs. In *TIME*, IEEE Computer Society, vii
120. S. Hallé, R. Deca, O. Cherkaoui, R. Villemare, D. Puche. (2005). Modelling the Sequential Aspects of Network Configurations. In *IM*, IEEE
121. R. Houry, S. Hallé, Y. Lebrun. (2019). An Automata-Based Monitor for LTL-FO+. In T. Margaria, B. Steffen, eds., *Software Tools for Technology Transfer*, Springer, 1–15. Submitted
122. S. Hallé, R. Houry. (2019). Specification-Based Test Sequence Generation with Cayley Graphs. In *IEEE Transactions on Reliability*, IEEE. Submitted

## Research Funding

- 2016–2021 · Chaires de Recherche du Canada (CRC) · Canada Research Chair in specification, test and verification of software systems · (\$500,000)
- 2016–2021 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Discovery Grants · Enriching system models and verdicts for testing and verification of software systems · (\$190,000)
- 2019–2020 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Engage · Veille de vulnérabilités et menaces sur les objets connectés · (\$23,500)
- 2019 · Mathematics of Information Technology and Complex Systems (MITACS), Accelerate · Characterization of KPI Outliers from Logs Using Data Mining · (\$15,000) · In collaboration with and Raphaël Houry
- 2018 · Mathematics of Information Technology and Complex Systems (MITACS), Accélération · Étude d'utilisabilité d'un outil de détection de bugs d'affichage dans les sites web · (\$15,000)
- 2016–2018 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Discovery Accelerator Supplements · Discovery Accelerator Supplement · (\$80,000)
- 2011–2016 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Subventions à la découverte · Specification, verification and enforcement of interface contracts with data · (\$125,000)
- 2015–2016 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Subvention d'engagement partenarial · Extraction, stockage et interrogation de données semi-structurées provenant du web · (\$25,000)
- 2013–2015 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Subventions de recherche et développement coopérative · Inductive and deductive methods for network configuration · (\$184,366) · In collaboration with Omar Cherkaoui, and Petko Valtchev
- 2014–2015 · Université du Québec à Chicoutimi (UQAC) · Développement d'un axe de recherche de calibre international en spécification, test et vérification · (\$4,000)
- 2014–2015 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Subvention d'engagement partenarial · Étude de faisabilité du traitement complexe d'événements dans un logiciel de gestion des dossiers médicaux électroniques · (\$25,000)
- 2014 · Mathematics of Information Technology and Complex Systems (MITACS), Acceleration · Comment maximiser l'engagement des utilisateurs par l'analyse et les modifications des interfaces et de l'expérience usager? · (\$15,000)
- 2013–2014 · Fondation de l'Université du Québec à Chicoutimi (FUQAC) · Automatisation de l'assurance-qualité dans le développement des jeux vidéo · (\$8,500) · In collaboration with Alexandre Blondin Massé, and Sébastien Gaboury
- 2014 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Subvention d'interaction · Analyse de logs pour les dossiers médicaux électroniques du Québec · (\$2,160)
- 2012–2014 · Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), Établissement nouveaux chercheurs · Runtime monitoring coopératif: une nouvelle approche pour la vérification en ligne de contrats d'interface · (\$55,500)

- 2012–2013 · Université du Québec (Siège social), Fonds de développement académique du réseau (FODAR) · Établissement d’une équipe de recherche en géométrie digitale · (\$60,000) · In collaboration with Alexandre Blondin Massé, Sébastien Gaboury, Franco Saliola, Srecko Brlek, and Alain Goupil
- 2012–2013 · Fondation de l’Université du Québec à Chicoutimi (FUQAC) · Étude de faisabilité du runtime monitoring dans les jeux vidéo · (\$7,500) · In collaboration with Alexandre Blondin Massé, and Sébastien Gaboury
- 2011 · Université du Québec à Chicoutimi (UQAC), Comité interne de la recherche · Financement pour participation à une conférence internationale · (\$500)
- 2010 · Université du Québec à Chicoutimi (UQAC), Programme d’aide institutionnelle à la recherche (PAIR) volet 8 · Financement pour participation à une conférence internationale · (\$1,000)
- 2010 · Université du Québec à Chicoutimi (UQAC), Comité interne de la recherche · Financement pour participation à une conférence internationale · (\$500)
- 2012 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Subventions Engagement Partenariat · Étude de faisabilité du runtime monitoring dans les jeux vidéo · (\$17,790)
- 2012 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Subventions Engagement Partenariat · Analyse automatique de traces d’événements produits par des capteurs RFID · (\$21,000)
- 2010–2012 · Université du Québec à Chicoutimi (UQAC) · Fonds de démarrage aux nouveaux professeurs · (\$10,000)
- 2010–2011 · Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), Bourse postdoctorale convertie en fonds de démarrage · Réalisabilité et contrôlabilité de chorégraphies de services web avec contraintes interdépendantes sur le temps et les données · (\$15,000)
- 2008–2010 · Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), Bourse postdoctorale · Réalisabilité et contrôlabilité de chorégraphies de services web avec contraintes interdépendantes sur le temps et les données · (\$60,000)
- 2006–2008 · Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), Bourse doctorale (déclinée) · Formalismes logiques pour la vérification de propriétés dans les services web · (\$40,000)
- 2006–2008 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Bourse doctorale · Formalismes logiques pour la vérification de propriétés dans les services web · (\$42,000)
- 2005–2006 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG) · Bourse de recherche à incidence industrielle · (\$21,000)
- 2005–2006 · Bourse de recherche · (\$13,000)
- 2005 · Bourse de 3e cycle · (\$10,000)
- 2003–2004 · Bourse de recherche · (\$12,000)
- 2003–2004 · Bourse de 2e cycle · (\$6,000)
- 2000 · Conseil de Recherches en Sciences Naturelles et Génie du Canada (CRSNG), Bourse de recherche d’été de 1er cycle · Bourse de recherche de premier cycle · (\$5,000)

## Student Supervision

I supervised a total of **78** students, including 7 Ph.D. students, 21 M.Sc. students with thesis, 31 M.Sc. students without thesis and 19 undergraduate students, as listed below.

### PhD Students

1. Asma Razgallah (2017–present). To be determined. Co-supervised with Raphaël Khoury (main advisor)
2. Massiva Roudjane (2017–present). Implementation of grey policies in a trace validation context. Co-supervised with Raphaël Khoury
3. Florentin Thullier (2016–present). Application du Complex Event Processint à l’intelligence ambiante, dans un contexte distribué, au sein d’un habitat intelligent. Co-supervised with Sébastien Gaboury (main advisor)
4. Quentin Betti (2016–2019). Vérification décentralisée de propriétés temporelles. Co-supervised with Raphaël Khoury.
  - Bourse de stages internationaux énergie-numérique-aérospatiale
5. Oussama Beroual (2016–2018). Détection et correction automatique des bugs d’interface dans les applications web
6. Edmond La Chance (2013–2020). Algorithmes distribués sur les graphes pour la génération de tests combinatoires
7. Éric Lunaud Ngoupé (2011–2015). Gestion automatique des configurations d’équipement réseau: une approche déductive.
  - Best Paper Award, 4th International Workshop on Management of the Future Internet (ManFI)

### M.Sc. Students (with thesis)

1. Alexis Bédard (2019–2021). Développement et implémentation d’une logique expressive pour le model checking dans NuSMV
2. Nicolas Bélanger (2019–2021). Étude des techniques de pentesting. Co-supervised with Emmanuel Druon
3. Xavier Chamberland-Thibeault (2017–present). Correction de bugs dans les interfaces des applications web
4. Mohamed Racem Boussaha (2017–2019). Surveillance des propriétés de sécurité avec BeepBeep. Co-supervised with Raphaël Khoury (main advisor)
5. Mohamed Yliès Rahim (2017–2019). Compréhension d’un programme à travers la segmentation et l’analyse des traces. Co-supervised with Raphaël Khoury (main advisor)
6. Jérémy Spieldenner (2016–2018). Étude d’utilisabilité d’un outil de détection de bugs d’affichage dans les sites web

7. Éric Laberge (2016–2018). Vérification de modèles par exécution symbolique dans le contexte d’émulation d’un système de jeux vidéo
8. Chafik Meniar (2016–2018). Détection de bugs d’interface dans les applications mobiles
9. Tom Canac (2016–2018). Complete Website Tester: tests fonctionnels d’application web et couverture maximale
10. Francis Guérin (2015–2018). Testing web applications through layout constraints: tools and applications.
  - Best Tool Paper Award, 8th International Conference on Software Testing (ICST 2015)
11. Raouf Bouklab (2014–2015). Implémentation des arbres et-ou. Co-supervised with Alexandre Blondin Massé
12. Kun Xie (2014–2016). L’amélioration de la collecte de données et de l’évaluation de formules pour la vérification de l’exécution
13. Aymen Frikha (2013–2015). Systèmes de gestion des réseaux virtuels dans le contexte de l’informatique en nuage. Co-supervised with Omar Cherkaoui (main advisor)
14. Maxime Soucy-Boivin (2013–2015). Analyse de propriétés temporelles dans des traces d’événements au moyen du cloud computing.
  - Best Paper Award, 3rd International Conference on Runtime Verification (RV 2012)
15. Simon Varvaressos (2012–2013). Vérification de propriétés temporelles dans les jeux vidéo. Co-supervised with Sébastien Gaboury
16. Raphaël Tremblay-Lessard (2011–2012). Le piggyback runtime monitoring
17. Fabien Maronnaud (2011–2012). Extraction des cartes de séquences de navigation Javascript
18. Aouatef Mrad (2011–2013). Analyse des traces d’événements
19. Bassam Khorchani (2011). Développement d’un détecteur d’anomalies par les pare-feu à base de règles
20. Jérôme Calvar (2010–2011). La surveillance à l’exécution pour les programmes Java
21. Guillaume Demarty (2010–2011). Extraction automatique des séquences de navigation dans les applications web

### **M.Sc. Students (without thesis)**

I have played the role of academic advisor for 31 students doing a 6-month internship in the industry, as part of their mandatory curriculum to obtain the Professional Master’s degree at Université du Québec à Chicoutimi. Below is the list of these students, along with the name of the company they made their internship at.

1. Jordan Ellapin (2017–2018). Stage, TBD
2. Bochra Khefif (2017). Stage, CGI

3. Louis Cailliot (2017). Stage, Thales
4. Joanna Sassano (2017). Stage, SmartPixel.tv
5. Hugo Piso (2017). Stage, Clever Age
6. Thomas Barras (2017). Stage, Solutec
7. Jean-Charles Tran Van Ho (2017). Stage, Parkeon
8. Rémy Maillot (2017). Stage, Cardiweb
9. Brian Carneiro (2017). Stage, equensWorldline
10. Hichem Hammar-Boudjelal (2016). Stage, Altı (TATA Consultancy Services Group)
11. Benjamin Mauban (2016). Stage, Capgemini
12. Gabriel Rassoul (2016). Stage, Beam Me Up
13. Noël Sobczak (2016). Stage, SoftAtHome (Orange)
14. Dimitri Buhon (2016). Stage, Neos-SDI
15. Frédéric Desbiens (2016). Stage, Running With Scissors
16. Corentin Raoult (2015–2016). Stage, Pellenc SA
17. Andréa Cauchoix (2015–2016). Stage, Opéra de Rouen
18. Robin Vermes (2015–2016). Stage, Thales
19. Taiki Hagiwara (2015–2016). Stage, Ubisoft
20. Arnaud Manente (2014–2015). Stage, Bull
21. Juliette Cazenave (2014). Stage, Admonya
22. Pierre-Baptiste Raimbaud (2014–2015). Stage, Partesys
23. Deniz Gungor (2014). Stage, LiveShout
24. Patrick Simard (2014). Stage, Cégep de Chicoutimi
25. Hitiura Taeatua (2013). Stage, Socredo
26. Johan Renaut (2012–2013). Stage, Egyde Conseils
27. Jean Rouillier (2012–2013). Stage, Atos
28. Julien Vandewynckel (2012). Stage, LIARA
29. Nordwin Hoff (2012). Stage, Sopra Group
30. Richard Lepage (2012). Stage, Rio Tinto Alcan
31. Amaury Schwartz (2011–2012). Stage, iDTGV

## **M.Sc. Students (other)**

Some students from the same program elected to do their 6-month internship in the Laboratoire d'informatique formelle (LIF), the research lab of which I am currently the head. I also supervised other Master's students in projects outside of their academic curriculum, as listed below.

1. Vincent Porta-Scarta (2017–2018). Stage de recherche et développement au Laboratoire d'informatique formelle
2. Corentin Leplongeon (2014). Monitoring dans les jeux vidéo au moyen d'un appareil mobile
3. Clément Parisot (2013–2014). Analyse de configurations réseaux
4. Sylvain Stoesel (2013–2014). Analyse de configurations réseaux
5. Julien Roux (2013–2014). Analyse de traces d'événements dans les réseaux et les DMÉ
6. Youssef Akchar Touzani (2013). Exploration automatique d'applications web
7. Ayyoub Gannoun (2013). Vérification automatique de configurations réseau
8. Jason Vallet (2012–2013). Le runtime monitoring de programmes Java
9. Samatar Ahmed (2012). Monitoring d'événements RFID
10. Gaétan Nijdam (2012). Refactoring de code C# dans ValidMaker

## **Undergraduate Students**

1. Marc-Antoine Plourde (2019). Détection de failles de sécurité dans les objets connectés.
  - Bourse de recherche de premier cycle
2. Hans Darmstadt-Bélanger (2019). Analyse de logs avec BeepBeep 3.
  - Bourse de recherche de premier cycle
3. Vincent Gagnon (2019). Développement web avec Spring.
  - Bourse de recherche de premier cycle
4. Paul Lesur (2017–2018). Stage de développement au Laboratoire d'informatique formelle
5. Eva Terzago (2017–2018). Stage de recherche et développement au Laboratoire d'informatique formelle
6. Corentin Bouchaudon (2016). Développement de tests pour le logiciel Cornipickle
7. Paul Lesur (2016). Développement de tests pour le logiciel Cornipickle
8. Daehli Nadeau-Otis (2016). Développement du logiciel Cornipickle
9. Gabrielle Bastien (2015). Formalization of the GNOME Human Interface Guidelines (HIG).
  - Bourse de recherche de 1er cycle
10. Francis Guérin (2014–2015). Détection de bugs dans les applications web.



- Best Tool Paper Award, 8th International Conference on Software Testing (ICST 2015)
11. Gabrielle Bastien (2014). Grammaires et logique temporelle.
    - Bourse de recherche de 1er cycle
  12. Martin Renaud (2014). Monitoring d'événements RFID
  13. Raphaël Laguerre (2013). Runtime monitoring dans les jeux vidéo
  14. Kim Lavoie (2013). Runtime monitoring dans les jeux vidéo.
    - Bourse de recherche de 1er cycle
  15. Guillaume Vassal (2013). Runtime monitoring d'applications web
  16. Dominic Vaillancourt (2012–2013). Analyse d'événements pour le runtime monitoring dans les jeux vidéo
  17. Michaël Larouche (2012–2013). Développement d'un solveur d'équations sur les mots au moyen d'un solveur SAT. Co-supervised with Sébastien Gaboury, Alexandre Blondin Massé (main advisor).
    - Bourse de recherche de 1er cycle
  18. Gabriel Le Breton (2012–2014). Analyse automatique d'applications web avec JavaScript.
    - Best Tool Paper Award, 8th International Conference on Software Testing (ICST 2015)
  19. Sarah Desmeules (2012). Étude des pseudopériodes en combinatoire des mots. Co-supervised with Alexandre Blondin Massé, Sébastien Gaboury.
    - Bourse de recherche de premier cycle

## Teaching

I have taught **84** courses (25 different) to a total of **892** students, as detailed in the table below. The average evaluation of my courses is **3.67/4**.

Semester	Code	Title	Nb. students	Eval.
Hiver 2019	INF9006	Examen de synthèse	1	
	8INF309	Stage-projet	2	
	8TRD149	Introduction aux bases de données	49	
Été 2018	INF9009	Projet de thèse	1	
	8INF958	Spécification, test et vérification	29	3.59
	8INF950	Sujets spéciaux	1	
	8INF206	Projet	6	
Hiver 2018	8INF700	Sujet spécial en informatique	2	
	INF9009	Projet de thèse	1	
	8INF309	Stage-projet I	2	
Automne 2017	8INF950	Sujets spéciaux	1	
2017	INF9009	Projet de thèse	1	
Automne 2017	6MIG887	Sujets spéciaux I	1	

<b>Semester</b>	<b>Code</b>	<b>Title</b>	<b>Nb. students</b>	<b>Eval.</b>
Été 2017	INF9006	Examen de synthèse	3	
	8INF958	Spécification, test et vérification	23	
	8INF950	Sujets spéciaux	2	
Hiver 2017	INF9123	Atelier alg. génie	1	
	8INF206	Projet	2	
	INF9123	Atelier alg. génie	1	
Automne 2016	INF9103	Atelier en calcul	2	
	INF9083	Lecture dirigée	3	
Été 2016	8INF135	Sécurité des réseaux et du web	32	3.84
	8INF309	Stage-projet I	2	
	8INF206	Projet	2	
Hiver 2016	8INF319	Stage-projet II	1	
	8INF950	Sujets spéciaux	2	
	8TRD149	Introduction aux bases de données	33	3.63
	8INF206	Projet	1	
Été 2015	8INF319	Stage-projet II	1	
	8INF958	Spécification, test et vérification	27	3.65
	8INF309	Stage-projet I	1	
Hiver 2015	8GIF128	Diseño y programación web	16	
Automne 2014	8INF958	Spécification, test et vérification	21	3.52
	8INF700	Sujet spécial en informatique	1	
Été 2014	INF9006	Examen de synthèse	1	
	8INF950	Sujets spéciaux	1	
	8SIF135	Sécurité informatique	29	3.83
	8INF206	Projet	1	
Hiver 2014	INF9006	Examen de synthèse	1	
	INF9083	Lecture dirigée	1	
	8GIF128	Diseño y programación web	11	
	8INF958	Spécification, test et vérification	16	3.78
	INF9123	Atelier alg. génie	1	
Automne 2013	8INF700	Sujet spécial en informatique	1	
	8INF206	Projet	2	
	8INF857	Sécurité informatique	40	3.85
	8STA420	Stage info/gestion	1	
	INF9073	Séminaire en sciences et technologies de l'information	20	
Été 2013	8SIF135	Sécurité informatique	42	3.94
	8INF803	Bases de données réparties	14	3.76
	INF9083	Lecture dirigée	1	
Hiver 2013	8INF700	Sujet spécial en informatique	1	
	8IFG350	Stage en informatique appliquée en milieu de travail	1	
	INF9006	Examen de synthèse	1	
	8INF206	Projet	1	
Automne 2013	8INF958	Spécification, test et vérification	26	3.37
	8INF700	Sujet spécial en informatique	1	
	8GIF128	Conception et programmation de sites web	2	
Hiver 2013	8INF857	Sécurité informatique	45	3.80

Semester	Code	Title	Nb. students	Eval.
	8INF206	Projet	2	
	8INF700	Sujet spécial en informatique	1	
	INF9123	Atelier alg. génie	1	
Automne 2012	8SIF135	Sécurité informatique	21	3.49
	INF9009	Projet de thèse	1	
	8INF803	Bases de données réparties	34	3.57
	8INF700	Sujet spécial en informatique	1	
Été 2012	8INF206	Projet	1	
	8INF958	Spécification, test et vérification	13	3.66
Hiver 2012	8INF857	Sécurité informatique	25	3.77
	8GIF128	Conception et programmation de sites web	52	3.73
	INF9083	Lecture dirigée	1	
	8INF206	Projet	4	
	8INF950	Sujets spéciaux	3	
Automne 2011	8INF803	Bases de données réparties	18	3.43
	8TRD157	Bases de données avancées	6	
Été 2011	INF9103	Atelier en calcul	1	
	8INF700	Sujet spécial en informatique	1	
Hiver 2011	8INF857	Sécurité informatique	19	
	8GIF128	Conception et programmation de sites web	26	3.71
	8INF206	Projet	5	
Automne 2010	8INF803	Bases de données réparties	26	3.44
Été 2010	8STA971	Stage/projet	1	
Hiver 2010	8INF829	Séminaire de maîtrise en informatique I	24	3.70
Automne 2006	MAT1110	Calcul I	70	
Total			892	3.67

## Contributions to Scientific Peer Review

### Journals

I reviewed a total of **43** papers for the following journals. In parentheses is the total number of papers reviewed.

- Journal of Internet Services and Applications, Springer (1)
- Journal of Computational Science, Elsevier (1)
- Information and Software Technology, Elsevier (1)
- Computers & Security, Elsevier (1)
- IEEE Transactions on Software Engineering, IEEE (9)
- Enterprise Information Systems, Taylor & Francis (4)
- International Journal of Web Engineering and Technology, Inderscience (1)
- Electronics, MDPI (1)
- Transactions on Software Engineering and Methodology, ACM (2)
- IEEE Transactions on Services Computing, (2)
- Software: Practice and Experience, Wiley (1)
- The Computer Journal, Oxford University Press (1)
- IET Software, IET (2)

- Software Testing, Verification and Reliability, Wiley (2)
- International Journal of Machine Learning and Cybernetics, Elsevier (1)
- Computer, IEEE (1)
- Information Systems Frontiers, Springer (1)
- Service Oriented Computing and Applications, Springer (4)
- Springer Transactions on Knowledge and Data Engineering, Springer (1)
- IEEE Communications Letters, IEEE (1)
- Journal of Cloud Computing, Springer (1)
- Concurrency and Computation: Practice and Experience, Wiley (1)
- Springer Transactions on Computational Science, Springer (1)
- IEEE Access, IEEE (1)
- Software and Systems Modeling, Springer (1)

### **International Conferences and Workshops**

I also reviewed **99** papers for the following international conferences. In parentheses is the total number of papers reviewed.

- International Workshop on Quality Assurance for Service-Based Applications (1)
- International Workshop on Web Services and Formal Methods (9)
- IEEE International EDOC Conference (15)
- International Conference on Runtime Verification (24)
- International Symposium on Software Testing and Analysis (3)
- International Conference on Computer-Aided Verification (1)
- ACM Symposium on Applied Computing (3)
- International workshop on principles of engineering service-oriented systems (4)
- IADIS Information Systems Conference (5)
- IEEE/ACM International Conference on Automated Software Engineering (21)
- Workshop on Testing, Analysis, and Verification of Web Services and Applications (2)
- International Conference on Engineering of Complex Computer Systems (3)
- Global Information Infrastructure and Networking Symposium (1)
- Workshop on Causal Reasoning for Embedded and Safety-Critical Systems Technologies (1)
- EURO-NGI Conference on Next Generation Internet Networks (1)
- International Symposium On Leveraging Applications of Formal Methods, Verification and Validation (1)
- IFIP International Symposium on Data-Driven Process Discovery and Analysis (1)
- International Conference on Enterprise Information Systems (2)
- IFIP/IEEE International Workshop on Distributed Systems: Operations and Management (1)

### **Awards**

- 2016 · Best Paper Award, 20th International IEEE EDOC Conference
- 2016 · ACM Senior Member, Association for Computing Machinery
- 2015 · Best Tool Paper Award, 8th International Conference on Software Testing (ICST 2015)
- 2014 · IEEE Senior Member, IEEE
- 2012 · Best Paper Award, 3rd International Conference on Runtime Verification (RV 2012)
- 2012 · Best Paper Award, 4th IEEE/IFIP International Workshop on Management of the Future Internet
- 2010 · Best Paper Award, 14th International IEEE EDOC Conference

- 2009 · Governor General Academic Medal (gold), Governor General of Canada
- 2007 · Finaliste, OCTAS 2007, Fédération informatique du Québec
- 1999 · Jeune boursier des Grands Québécois, Chambre de commerce du Québec métropolitain (\$1,000)
- 1999 · Bourse d'excellence d'entrée, (\$1,000)
- 1998 · Premier prix Expo-sciences pancanadienne, Société mathématique du Canada (\$500)
- 1998 · Young Canadian Innovation Award, Ernest C. Manning Foundation (\$500)
- 1997 · Karl Menger Award, American Mathematical Society (\$750)
- 1997 · Médaille académique du Gouverneur général (bronze), Gouverneur général du Canada
- 1996 · Premier prix provincial, Expo-sciences panquébécoise (\$1,000)

## Committee Memberships

- 2016 · Best Paper Award, 20th International IEEE EDOC Conference
- 2016 · ACM Senior Member, Association for Computing Machinery
- 2015 · Best Tool Paper Award, 8th International Conference on Software Testing (ICST 2015)
- 2014 · IEEE Senior Member, IEEE
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- 1999 · Bourse d'excellence d'entrée, (\$1,000)
- 1998 · Premier prix Expo-sciences pancanadienne, Société mathématique du Canada (\$500)
- 1998 · Young Canadian Innovation Award, Ernest C. Manning Foundation (\$500)
- 1997 · Karl Menger Award, American Mathematical Society (\$750)
- 1997 · Médaille académique du Gouverneur général (bronze), Gouverneur général du Canada
- 1996 · Premier prix provincial, Expo-sciences panquébécoise (\$1,000)

## Event Administration

- General Chair, 21st IEEE International Enterprise Distributed Object Computing Conference (EDOC), Quebec City, Canada (2017/9)
- Co-chair, 3rd International Competition on Runtime Verification (CRV), Madrid, Spain (2016/9)
- Program Committee Chair, 19th IEEE International Enterprise Distributed Object Computing Conference (EDOC), Adelaide, Australia (2015/9)
- Workshop Co-chair, 18th IEEE International Enterprise Distributed Object Computing Conference (EDOC), Ulm, Germany (2014/9)
- Workshop Co-chair, 17th IEEE International Enterprise Distributed Object Computing Conference (EDOC), Vancouver, Canada (2013/9)
- Co-chair, International Workshop on Quality Assurance for Service-based applications (QASBA), Zurich, Switzerland (2013/8)

- Co-chair, International Workshop on Evolutionary Business Processes (EVL-BP), Beijing, China (2012/10)
- Co-chair, International Workshop on Evolutionary Business Processes (EVL-BP), Helsinki, Finland (2011/10)
- Co-chair, International Workshop on Testing, Analysis and Verification of Web Software (TAV-WEB), Antwerp, Belgium (2010/10)
- Co-chair, International Workshop on Dynamic and Declarative Business Processes (DDBP), Vitória, Espírito Santo, Brazil (2010/10)
- Co-chair, International Workshop on Dynamic and Declarative Business Processes (DDBP), Auckland, New Zealand (2009/10)
- Co-chair, International Workshop on Dynamic and Declarative Business Processes (DDBP), Munich, Germany (2008/10)
- Local Organization Co-chair, 15th International Symposium on Temporal Representation and Reasoning (TIME), Montreal, Canada (2008/8)