# Shane McIntosh

*Curriculum Vitae*

4106 Boul Décarie, Montréal, QC, Canada, H4A 3K1 : (514) 318-0741

✉: shane.mcintosh@mcgill.ca : http://shanemcintosh.org/


## SUMMARY OF ACCOMPLISHMENTS

- Ranked among the most active and impactful early career software engineering scholars by a recent independent study (https://doi.org/10.1016/j.jss.2018.10.029).
- Recipient of selective national awards like the Governor General's Academic Gold Medal and the Vanier Canada Graduate Scholarship (see SELECTED AWARDS).
- Broad network of collaborators, which includes industrial practitioners and academics from institutions in Canada, Japan, Austria, and USA.

## CURRENT POSITION

**Canada Research Chair** in Software Release Engineering (*To be announced, Oct. 2019*)

**Asst. Professor**, Dept. of Electrical and Computer Eng., McGill University, Canada (2015–Present)

## EXTERNAL RESEARCH FUNDING (TOTAL $875,800 CAD)

| Agency | Program | Start Date | End Date | Amount |
|---|---|---|---|---|
| NSERC | Tier 2 Canada Research Chair (TBA) | Oct. 2019 | Sep. 2024 | $600,000 CAD |
| Mitacs | Accelerate International | Jun. 2019 | Feb. 2020 | $30,000 CAD |
| NSERC | Engage | Jan. 2019 | Jun. 2019 | $25,000 CAD |
| Mitacs | Accelerate | Sep. 2017 | Dec. 2017 | $15,000 CAD |
| FRQNT | Nouveaux Chercheurs | May 2017 | Apr. 2019 | $50,800 CAD |
| NSERC | Discovery | May 2016 | Apr. 2021 | $155,000 CAD |

## SELECTED AWARDS

- **Academic Gold Medal** Governor General of Canada. *One of two Ph.D. graduates from the Queen's University class of 2015 to be recognized with this award.*
- **ACM SIGSOFT Distinguished Paper** Int'l Conf. on Mining Software Repositories (MSR 2016). *One of two papers of the 36 accepted papers to receive this award.*
- **Distinguished Paper Award** Int'l Conf. on Mining Software Repositories (MSR 2014). *One of two papers of the 29 accepted papers to be recognized with this award.*
- **Distinguished Reviewer Awards** Int'l Conf. on Software Analysis, Evolution, and Reengineering (SANER 2019) and Int'l Conf. on Software Maint. and Evolution (ICSME 2018)
- **Vanier Canada Graduate Scholarship** NSERC. *The only software engineering scholar to be recognized with this award to date.* Held from 2012–2015, $150,000 CAD
- **Peter Silvester Award** Dept. of Elec. & Computer Eng., McGill University. *In recognition of strong performance as a junior faculty member.* 2016, $2,000 CAD

## PAPERS IN REFEREED INTERNATIONAL JOURNALS (17 TOTAL)

| Shorthand | Journal | Publisher | CORE Rank | Five Year Impact Factor | Papers |
|---|---|---|---|---|---|
| TSE | Transactions on Software Engineering | IEEE | A* | 3.925 | 8 |
| EMSE | Empirical Software Engineering | Springer | A | 3.494 | 8 |
| AUSE | Automated Software Engineering | Springer | A | 2.341 | 1 |

**TSE'20a** T. Hirao, S. McIntosh, A. Ihara, K. Matsumoto. Code Reviews with Divergent Review Scores: An Empirical Study of the OpenStack and Qt Communities. *Transactions on Software Engineering* (IEEE), In press, 13 pages, Feb. 2020.

**TSE'20b** K. Gallaba, S. McIntosh. Use and Misuse of Continuous Integration Features: An Empirical Study of Projects that (mis)use Travis CI. *Transactions on Software Engineering* (IEEE), 46(1):33–50, Jan. 2020.

**TSE'19** C. Tantithamthavorn, S. McIntosh, A. E. Hassan, K. Matsumoto. The Impact of Automated Parameter Optimization on Defect Prediction Models. *Transactions on Software Engineering* (IEEE), 45(7):683–711, Jul. 2019.

**TSE'18** S. McIntosh, Y. Kamei. Are Fix-Inducing Changes a Moving Target? A Longitudinal Case Study of Just-In-Time Defect Prediction. *Transactions on Software Engineering* (IEEE), 44(5):412–428, May 2018.

**EMSE'18a** D. A. da Costa, S. McIntosh, C. Treude, U. Kulesza, A. E. Hassan. The Impact of Rapid Release Cycles on the Integration Delay of Fixed Issues. *Empirical Software Engineering* (Springer), 23(2):835–904, Apr. 2018.

**EMSE'18b** D. A. da Costa, S. McIntosh, U. Kulesza, A. E. Hassan, S. L. Abebe. An Empirical Study of the Integration Time of Fixed Issues. *Empirical Software Engineering* (Springer), 23(1):334–383, Feb. 2018.

**EMSE'17a** C. Bezemer, S. McIntosh, B. Adams, D. M. Germán, A. E. Hassan. An Empirical Study of Unspecified Dependencies in Make-Based Build Systems. *Empirical Software Engineering* (Springer), 22(6):3117–3148, Dec. 2017.

**TSE'17a** D. A. da Costa, S. McIntosh, W. Shang, U. Kulesza, R. Coelho, A. E. Hassan. A Framework for Evaluating the Results of the SZZ Approach for Identifying Bug-Introducing Changes. *Transactions on Software Engineering* (IEEE), 43(7):641–657, July 2017.

**TSE'17b** F. Zhang, A. E. Hassan, S. McIntosh, Ying Zou. The Use of Summation to Aggregate Software Metrics Hinders the Performance of Defect Prediction Models. *Transactions on Software Engineering* (IEEE), 43(5):476–491, May 2017.

**EMSE'17b** P. Thongtanunam, S. McIntosh, A. E. Hassan, H. Iida. Review Participation in Modern Code Review: An Empirical Study of the Android, Qt, and OpenStack Projects. *Empirical Software Engineering* (Springer), 22(2):768–817, Apr. 2017.

**TSE'17c** C. Tantithamthavorn, S. McIntosh, A. E. Hassan, K. Matsumoto. An Empirical Comparison of Model Validation Techniques for Defect Prediction Models. *Transactions on Software Engineering* (IEEE), 41(1):1–18, Jan. 2017.

**AUSE'16** S. McIntosh, B. Adams, M. Nagappan, A. E. Hassan. Identifying and Understanding Header File Hotspots in C/C++ Build Processes. *Automated Software Engineering* (Springer), 23(4):619–647, Dec. 2016.

**TSE'16** C. Tantithamthavorn, S. McIntosh, A. E. Hassan, K. Matsumoto. Comments on "Researcher Bias: The Use of Machine Learning in Software Defect Prediction" *Transactions on Software Engineering* (IEEE), 42(11):1092–1094, Nov. 2016.

**EMSE'16a** Y. Kamei, T. Fukushima, S. McIntosh, K. Yamashita, N. Ubayashi, A. E. Hassan. Studying Just-In-Time Defect Prediction using Cross-Project Models. *Empirical Software Engineering* (Springer), 21(5):2072–2106, Oct. 2016.

**EMSE'16b** S. McIntosh, Y. Kamei, B. Adams, A. E. Hassan. An Empirical Study of the Impact of Modern Code Review Practices on Software Quality. *Empirical Software Engineering* (Springer), 21(5):2146–2189, Oct. 2016.

**EMSE'15** S. McIntosh, M. Nagappan, B. Adams, A. Mockus, A. E. Hassan. A Large-Scale Empirical Study of the Relationship between Build Technology and Build Maintenance. *Empirical Software Engineering* (Springer), 20(6):1587–1633, Dec. 2015.

**EMSE'12** S. McIntosh, B. Adams, A. E. Hassan. The evolution of Java build systems. *Empirical Software Engineering* (Springer), 17(4-5):578–608, Aug. 2012.

**FULL PAPERS IN REFEREED INTERNATIONAL CONFERENCE PROCEEDINGS (33 TOTAL)**

| Shorthand | Conference Name | Publisher | CORE Rank | Accepted Papers |
|---|---|---|---|---|
| ICSE | Int'l Conf. on Software Engineering | ACM/IEEE | A* | 7 |
| FSE | Int'l Symp. on the Foundations of Software Engineering | ACM | A* | 2 |
| ASE | Int'l Conf. on Automated Software Engineering | ACM/IEEE | A | 2 |
| ICSME | Int'l Conf. on Software Maintenance and Evolution | IEEE | A | 5 |
| MSR | Int'l Conf. on Mining Software Repositories | ACM/IEEE | A | 8 |
| ESEM | Int'l Symp. on Empirical Software Engineering and Measurement | ACM | A | 2 |
| SANER | Int'l Conf. on Software Analysis, Evolution, and Reengineering | IEEE | B | 6 |
| APSEC | Asia-Pacific Software Engineering Conf. | IEEE | B | 1 |

**MSR'20** S. Mujahid, R. Abdalkareem, E. Shihab, S. McIntosh. Using Others' Tests to Avoid Breaking Updates. *In proc. of the 17th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), To appear, May 2020. Accept: 45/171 (26%).

**ESEC/FSE'19** T. Hirao, S. McIntosh, A. Ihara, K. Matsumoto. The Review Linkage Graph for Code Review Analytics: A Recovery Approach and Empirical Study. *In proc. of the 27th Symp. on the Foundations of Software Engineering* (ACM), pp. 578–589, August 2019. Accept: 73/303 (24%).

**SANER'19 RENE** P. K. Sidhu, G. Mussbacher, S. McIntosh. Reuse (or Lack Thereof) in Travis CI Specifications: An Empirical Study of CI Phases and Commands. *In proc. of the 26th Int'l Conf. on Software Analysis, Evolution, and Reengineering* (IEEE), pp. 524–533, February 2019.

**APSEC'18** L. An, F. Khomh, S. McIntosh, M. Castelluccio. Why Did This Reviewed Code Crash? An Empirical Study of Mozilla Firefox. *In proc. of the 25th Asia-Pacific Software Engineering Conf.* (IEEE), pp. 396–405, December 2018. Acceptance: 52/191 (27%).

**ESEM'18** F. El Zanaty, T. Hirao, S. McIntosh, A. Ihara, K. Matsumoto. An Empirical Study of Design Discussions in Code Review. *In proc. of the 12th Int'l Symposium on Empirical Software Engineering and Measurement* (ACM/IEEE), pp. 11:1–11:10, October 2018. Acceptance: 30/140 (21%).

**ICSME'18** M. Robillard, M. Nassif, S. McIntosh. Threats of Aggregating Software Repository Data. *In proc. of the 34th Int'l Conf. on Software Maintenance and Evolution* (IEEE), pp. 508–518, September 2018. Acceptance: 45/174 (26%).

**ICSME'18 Industry** R. Wen, D. Gilbert, M. G. Roche, S. McIntosh. BLIMP Tracer: Integrating Build Impact Analysis with Code Review. *In proc. of the Industry track of the 34th Int'l Conf. on Software Maintenance and Evolution* (IEEE), pp. 685–694, September 2018. Acceptance: 15/32 (47%).

**ASE'18** K. Gallaba, C. Macho, M. Pinzger, S. McIntosh. Noise and Heterogeneity in Historical Build Data: An Empirical Study of Travis CI. *In proc. of the 33rd Int'l Conf. on Automated Software Engineering* (ACM/IEEE), pp. 87–97, September 2018. Acceptance: 69/346 (20%).

**SANER'18** C. Macho, S. McIntosh, M. Pinzger. Automatically Repairing Dependency-Related Build Breakage. *In proc. of the 25th Int'l Conf. on Software Analysis, Evolution and Reengineering* (IEEE), pp. 106–117, March 2018. Acceptance: 39/146 (27%).

**MSR'17a** C. Macho, S. McIntosh, M. Pinzger. Extracting Build Changes with BUILDDIFF. *In proc. of the 14th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 368–378, May 2017. Acceptance: 37/121 (31%).

**MSR'17b** B. Ghotra, S. McIntosh, A. E. Hassan. A Large-Scale Study of the Impact of Feature Selection Techniques on Defect Classification Models. *In proc. of the 14th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 146–157, May 2017. Acceptance: 37/121 (31%).

**ICSME'16** J. Shimagaki, Y. Kamei, S. McIntosh, D. Pursehouse, N. Ubayashi. Why are Commits being Reverted? A Comparative Study of Industrial and Open Source Projects. *In proc. of the 32nd Int'l Conf. on Software Maintenance and Evolution* (IEEE), pp. 301–311, Oct. 2016. Acceptance: 35/127 (29%).

**ESEM'16** K. Miura, S. McIntosh, Y. Kamei, A. E. Hassan, N. Ubayashi. The Impact of Task Granularity on Co-evolution Analyses. *In proc. of the 10th Int'l Symposium on Empirical Software Engineering and Measurement* (ACM/IEEE), no. 47, Sep. 2016. Acceptance: 27/122 (22%).

**ICSE'16a** P. Thongtanunam, S. McIntosh, A. E. Hassan, H. Iida. Revisiting Code Ownership and its Relationship with Software Quality in the Scope of Modern Code Review. *In proc. of the 38th Int'l Conf. on Software Engineering* (ACM/IEEE), pp. 1039–1050, May 2016. Acceptance: 101/530 (19%).

**ICSE'16b** C. Tantithamthavorn, S. McIntosh, A. E. Hassan, K. Matsumoto. Automated Parameter Optimization of Classification Techniques for Defect Prediction Models. *In proc. of the 38th Int'l Conf. on Software Engineering* (ACM/IEEE), pp. 321–332, May 2016. Accept: 101/530 (19%).

**ICSE'16 SEIP** J. Shimagaki, Y. Kamei, S. McIntosh, A. E. Hassan, N. Ubayashi. A Study of the Quality-Impacting Practices of Modern Code Review at Sony Mobile. *In proc. of the Software Engineering in Practice (SEIP) track of the 38th Int'l Conf. on Software Engineering* (ACM/IEEE), pp. 212–221, May 2016. Acceptance: 28/108 (26%).

**MSR'16a** D. A. da Costa, S. McIntosh, U. Kulesza, A. E. Hassan. Studying the Impact of Switching to a Rapid Release Cycle on Integration Delay of Addressed Issues: An Empirical Study of the Mozilla Firefox Project. *In proc. of the 13th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 374–385, May 2016. Acceptance: 36/103 (35%).
🏆 *ACM SIGSOFT distinguished paper* 🏆

**SANER'16a** M. Beller, R. Bholanath, S. McIntosh, A. Zaidman. Analyzing the State of Static Analysis: A Large-Scale Evaluation in Open Source Software. *In proc. of the 23rd Int'l Conf. on Software Analysis, Evolution and Reengineering* (IEEE), pp. 470–481, Mar. 2016. Acceptance: 52/140 (37%).

**SANER'16b** C. Macho, S. McIntosh, M. Pinzger. Predicting Build Co-Changes with Source Code Change and Commit Categories. *In proc. of the 23rd Int'l Conf. on Software Analysis, Evolution and Reengineering* (IEEE), pp. 541–551, Mar. 2016. Acceptance: 52/140 (37%).
🏆 *Nominated for best paper* 🏆

**ESEC/FSE'15** M. Nagappan, R. Robbes, Y. Kamei, É. Tanter, S. McIntosh, A. Mockus, A. E. Hassan. An Empirical Study of goto in C Code from GitHub Repositories. *In proc. of the 10th joint meeting of the European Software Engineering Conf. and the Symposium on the Foundations of Software Engineering* (ACM), pp. 404–414, Sep. 2015. Acceptance: 74/291 (25%).

**ICSE'15a** C. Tantithamthavorn, S. McIntosh, A. E. Hassan, A. Ihara, K. Matsumoto. The Impact of Mislabelling on the Performance and Interpretation of Defect Prediction Models *In proc. of the 37th Int'l Conf. on Software Engineering* (ACM/IEEE), pp. 812–823, May 2015. Acceptance: 84/452 (19%).

**ICSE'15b** B. Ghotra, S. McIntosh, A. E. Hassan. Revisiting the Impact of Classification Techniques on the Performance of Defect Prediction Models. *In proc. of the 37th Int'l Conf. on Software Engineering* (ACM/IEEE), pp. 789–800, May 2015. Acceptance: 84/452 (19%).

**MSR'15** P. Thongtanunam, S. McIntosh, A. E. Hassan, H. Iida. Investigating Code Review Practices in Defective Files. *In proc. of the 12th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 168–179, May 2015. Acceptance: 32/106 (30%).

**SANER'15a** R. Morales, S. McIntosh, F. Khomh. Do Code Review Practices Impact Design Quality? A Case Study of the Qt, VTK, and ITK Projects. *In proc. of the 22nd Int'l Conf. on Software Analysis, Evolution and Reeng.* (IEEE), pp. 171–180, Mar. 2015. Acceptance: 46/144 (32%).

**SANER'15b** X. Xia, D. Lo, S. McIntosh, E. Shihab, A. E. Hassan. Cross-Project Build Co-change Prediction. *In proc. of the 22nd Int'l Conf. on Software Analysis, Evolution and Reengineering* (IEEE), pp. 311–320, Mar. 2015. Acceptance: 46/144 (32%).

**ICSME'14a** S. McIntosh, B. Adams, M. Nagappan, A. E. Hassan. Mining Co-Change Information to Understand when Build Changes are Necessary. *In proc. of the 30th Int'l Conf. on Software Maintenance and Evolution* (IEEE), pp. 241–250, Oct. 2014. Acceptance: 40/210 (19%).

**ICSME'14b** D. A. da Costa, S. L. Abebe, S. McIntosh, Uirá Kulesza, A. E. Hassan. An Empirical Study of Delays in the Integration of Addressed Issues *In proc. of the 30th Int'l Conf. on Software Maintenance and Evolution* (IEEE), pp. 281–290, Oct. 2014. Accept: 40/210 (19%.)
🏆 *Nominated for best paper* 🏆

**ASE'14** S. van der Burg, E. Dolstra, S. McIntosh, J. Davies, D. M. Germán, A. Hemel. Tracing Software Build Processes to Uncover License Compliance Inconsistencies. *In proc. of the 29th Int'l Conf. on Automated Software Engineering* (ACM/IEEE), pp. 731–741, Sep. 2014. Acceptance: 55/276 (20%).

**ICSE'14 SEIP** S. McIntosh, M. Poehlmann, E. Juergens, A. Mockus, B. Adams, A. E. Hassan, B. Haupt, C. Wagner. Collecting and Leveraging a Benchmark of Build System Clones to Aid in Quality Assessments. *In proc. of the Software Engineering in Practice (SEIP) track of the 36th Int'l Conf. on Software Engineering* (ACM/IEEE), pp. 145–154, Jun. 2014. Acceptance: 25/117 (21%).

**MSR'14a** S. McIntosh, Y. Kamei, B. Adams, A. E. Hassan. The Impact of Code Review Coverage and Code Review Participation on Software Quality: A Case Study of the Qt, VTK, and ITK Projects. *In proc. of the 11th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 192–201, May 2014. Acceptance: 29/85 (34%).
🏆 *Distinguished paper award* 🏆

**MSR'14b** T. Fukushima, Y. Kamei, S. McIntosh, K. Yamashita, N. Ubayashi. An Empirical Study of Just-In-Time Defect Prediction Using Cross-Project Models. *In proc. of the 11th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 172–181, May 2014. Accept: 29/85 (34%).
🏆 *Nominated for distinguished paper award* 🏆

**ICSE'11** S. McIntosh, B. Adams, T. H. D. Nguyen, Y. Kamei, A. E. Hassan. An Empirical Study of Build Maintenance Effort. *In proc. of the 33rd Int'l Conf. on Software Engineering* (ACM/IEEE), pp. 141–150, May 2011. Acceptance: 62/441 (14%).

**MSR'10** S. McIntosh, B. Adams, A. E. Hassan. The Evolution of ANT Build Systems. *In proc. of the 7th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 42–51, May 2010. Acceptance: 16/51 (31%).
🏆 *Nominated for best paper award* 🏆

**SHORT PAPERS IN REFEREED INTERNATIONAL CONFERENCE PROCEEDINGS (10 TOTAL)**

| Shorthand | Conference Name | Publisher | CORE Rank | Accepted Papers |
|---|---|---|---|---|
| ICSME | Int'l Conf. on Software Maintenance and Evolution | IEEE | A | 1 |
| MSR | Int'l Conf. on Mining Software Repositories | ACM/IEEE | A | 8 |
| SANER | Int'l Conf. on Software Analysis, Evolution, and Reengineering | IEEE | B | 1 |

**MSR'19 Challenge** D. Abric, O. E. Clark, M. Caminiti, K. Gallaba, S. McIntosh. Can Duplicate Questions on Stack Overflow Benefit the Software Development Community? *In proc. of the Mining Challenge track of the 16th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), In press, 5 pages. Acceptance: 14/27 (52%).
🏆 *Best Student Presentation of the Mining Challenge track* 🏆

**MSR'18a Challenge** N. Rabbani, M. Harvey, S. Saquif, K. Gallaba, S. McIntosh. Revisiting "Programmers' Build Errors" in the Visual Studio Context: A Replication Study using IDE Interaction Traces. *In proc. of the Mining Challenge track of the 15th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 98–101, May 2018. Acceptance: 13/31 (42%).

**MSR'18b Challenge** R. Amlekar, A. F. R. Gamboa, K. Gallaba, S. McIntosh. Do Software Engineers Use Autocompletion Features Differently Than Other Developers? *In proc. of the Mining Challenge track of the 15th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 86–89, May 2018. Acceptance: 13/31 (42%).

**ICSME'17 NIER** Q. Cao, R. Wen, S. McIntosh. Forecasting the Duration of Incremental Build Jobs. *In proc. of the New Ideas and Emerging Results track of the 33rd Int'l Conf. on Software Maintenance and Evolution* (IEEE), pp. 524–528, Sep. 2017. Acceptance: 15/26 (58%).

**MSR'17a Challenge** Y. Khan, Y. Gupta, K. Gallaba, S. McIntosh. The Impact of the Adoption of Continuous Integration on Developer Attraction and Retention. *In proc. of the Mining Challenge track of the 14th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 491–494, May 2017. Acceptance: 14/29 (48%).

**MSR'17b Challenge** M. Manglaviti, E. Coronado-Montoya, K. Gallaba, S. McIntosh. An Empirical Study of the Personnel Overhead of Continuous Integration. *In proc. of the Mining Challenge track of the 14th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 471–474, May 2017. Acceptance: 14/29 (48%).

**MSR'16a Challenge** J. G. Barnett, C. K. Gathuru, L. S. Soldano, S. McIntosh. The Relationship between Commit Message Detail and Defect Proneness in Java Projects on GitHub. *In proc. of the Mining Challenge track of the 13th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 496–499, May 2016. Acceptance: 10/24 (42%).
🏆 *Mining challenge runner-up* 🏆

**MSR'16b Challenge** C. Désarmeaux, A. Pecatikov, S. McIntosh. The Dispersion of Build Maintenance Activity across Maven Lifecycle Phases. *In proc. of the Mining Challenge track of the 13th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 492–495, May 2016. Acceptance: 10/24 (42%).

**MSR'14 Challenge** K. Yamashita, S. McIntosh, Y. Kamei, N. Ubayashi. Magnet or Sticky? An OSS Project-by-Project Typology. *In proc. of the Mining Challenge track of the 11th Int'l Conf. on Mining Software Repositories* (ACM/IEEE), pp. 344–347, May 2014. Acceptance: 9/19 (47%).

**CSMR-WCRE'14 ERA** S. McIntosh, K. Legere, A. E. Hassan. Orchestrating Change: An Artistic Representation of Software Evolution. *In proc. of the Early Research Achievements (ERA) track of the 1st joint meeting of the Conf. on Software Maintenance and Reengineering and the Working Conf. on Reverse Engineering* (IEEE), pp. 353–357, Mar. 2014. Acceptance: 12/33 (36%).

## INVITED PAPERS AND TALKS

**SECONFIG'19** S. McIntosh. The Influence of Noise in Continuous Integration Data. *Int'l Workshop on Software Engineering for Infrastructure and Configuration Code* (co-located with ASE 2019), San Diego, USA, Nov. 2019. *Keynote address*.

**KLAGENFURT'19** S. McIntosh. Use, Misuse, and Reuse of Continuous Integration Features. *University of Klagenfurt*, Klagenfurt, Austria, Apr. 2019.

**GERRIT'18** S. McIntosh. Supporting and Understanding Modern Code Review. *Gerrit User Summit*, Mountain View, USA, Nov. 2018.

**MICROSOFT'18** S. McIntosh. (Mis)use of Continuous Integration Features. *Microsoft Continuous Deployment Workshop*, Redmond, USA, Aug. 2018.

**GERRIT'17** S. McIntosh. Mining Gerrit Repositories for Contentious Reviews and Community Evolution. *Gerrit User Summit*, London, UK, Oct. 2017.

**SHONAN'17** S. McIntosh. Building on an unsound foundation: How release pipelines can impact our predictive models. *Mining Software Repositories: Accomplishments, Challenges and Future Trends*, National Institute of Informatics (NII) Shonan Meeting #95, Shonan, Japan. Mar. 2017. *Invited lecture*.

**NUANCE'16** S. McIntosh. Understanding and Supporting Modern Software Development and Release Teams. *Nuance Communications nCode Summit*, Montréal, Canada. Sep. 2016. *Keynote address*.

**SANER'16 FOSE** B. Adams, S. McIntosh. Modern Release Engineering in a Nutshell: Why Researchers should Care. *In proc. of the Future of Software Engineering (FOSE) track of the 23rd Int'l Conf. on Software Analysis, Evolution, and Reeng.* (IEEE), pp. 78–90, May 2016.

**GERRIT'15** S. McIntosh. Mining Gerrit Repositories to Study the Impact of Modern Code Review Practices *Gerrit User Summit*, Mountain View, USA, Nov. 2015.

**COW'15** S. McIntosh. Building on an Unsound Foundation: How Release Pipelines can Impact our Predictive Models. *44th CREST Open Workshop, Predictive Modelling for Software Engineering*, UCL, London, UK, Nov. 2015.

**UdeM'15** S. McIntosh. Software Build Systems: Enabling the Rapid Release Cycle of Modern Software Systems. *Université de Montréal*, Montréal, Canada, Oct. 2015.

## INVITATION-BASED WORKSHOPS AND SEMINARS

**Co-organizer**

- Release Engineering for Mobile Applications. Co-organized by Y. Kamei and M. Nagappan. *National Institute of Informatics (NII) Shonan Meeting #152*, Shonan, Japan. Dec. 2019.

**Invitee**

- Resilient Software Configuration and Infrastructure Code Analysis. *Schloss Dagstuhl Seminar #20142*, Wadern, Germany. Mar. 2020.
- DevOps and Microservices APIs. *2nd Vienna Software Seminar*, University of Vienna, Vienna, Austria. Aug. 2019.
- Automatic Quality Assurance and Release. *Schloss Dagstuhl Seminar #18122*, Wadern, Germany. Mar. 2018.
- On the Relation of Software Architecture and DevOps/Continuous Delivery. *1st Vienna Software Seminar*, University of Vienna, Vienna, Austria. Dec. 2017.

- Data-Driven Search-Based Software Engineering. *National Institute of Informatics (NII) Shonan Meeting #105*, Shonan, Japan. Dec. 2017.
- Predictive Modelling for Software Engineering. *44th CREST Open Workshop*, University College London, London, UK. Nov. 2015.

## GRADUATE STUDENT MENTORSHIP

### Ph.D. Students

| Name | Start Date | End Date | Co-authored Papers | Current Position |
|---|---|---|---|---|
| Farshad Kazemi | Jan. 2020 | — | | Ph.D. Student |
| Keheliya Gallaba | Sep. 2016 | — | TSE'20b, ASE'18, MSR'19 Challenge, MSR'18a Challenge, MSR'18b Challenge, MSR'17a Challenge, MSR'17b Challenge | Ph.D. Student |
| Toshiki Hirao (Co-advised w/ A. Ihara, K. Matsumoto) | Jun. 2016 | Feb. 2020 | TSE'20a, ESEC/FSE'19, ESEM'18 | Entrepreneur |
| Christian Macho (Co-advised w/ M. Pinzger) | Aug. 2015 | May 2019 | ASE'18, MSR'17a, SANER'17a, SANER'16a | Postdoctoral Researcher at the University of Klagenfurt |
| Chakkrit Tantithamthavorn (Co-advised w/ K. Matsumoto, A. E. Hassan) | May 2014 | Sep. 2016 | TSE'19, TSE'17c, TSE'16, ICSE'16b, ICSE'15a | Lecturer (tenure-track)[1] at Monash University, Australia |
| Patanamon Thongtanunam (Co-advised w/ H. Iida, A. E. Hassan) | May 2014 | Sep. 2016 | EMSE'17b, ICSE'16a, MSR'15 | Lecturer (tenure-track) at the University of Melbourne, Australia |
| Daniel Alencar da Costa (Co-advised w/ U. Kulesza, A. E. Hassan) | Jan. 2014 | Feb. 2016 | EMSE'18a, EMSE'18b, TSE'17a, MSR'16, ICSME'14b | Lecturer (tenure-track) at the University of Otago, New Zealand |
| Kazuhiro Yamashita (Co-advised w/ Y. Kamei, A. E. Hassan) | Jan. 2014 | Mar. 2017 | EMSE'16a, MSR'14b, MSR'14 Challenge | Researcher at Fujitsu Industrial Research Lab, Japan |

### Master's Students

| Name | Start Date | End Date | Co-authored Papers | Current Position |
|---|---|---|---|---|
| Mehran Meidani | Jan. 2019 | — | | M.Eng. Student |
| Shivashree Vysali | Sep. 2018 | — | | M.Eng. Student |
| Farida El Zanaty | Jan. 2018 | Dec. 2019 | ESEM'18 | Data Scientist at X |
| Christophe Rezk | Sep. 2017 | — | | Technical Consultant |
| Puneet K. Sidhu (Co-advised w/ G. Mussbacher) | Sep. 2017 | Aug. 2019 | SANER'19 RENE | TBD |

[1] Equivalent to a tenure-track assistant professor in the Canadian academic system.

| | | | | |
|---|---|---|---|---|
| Ruiyin Wen | Sep. 2016 | Aug. 2018 | ICSME'18 Industry, ICSME'17 NIER | Software Engineer at Qualcomm |
| Baljinder Ghotra | May 2014 | May 2017 | ICSE'15a, MSR'17b | Software Engineer at BlackBerry |

## UNDERGRADUATE AND GRADUATE TEACHING

### Course Development

| Course Name | Role | Course Description | Pedagogical Features |
|---|---|---|---|
| Software Analytics (ECSE 611) | Course Creator | The application of analytics (i.e., the discovery and communication of meaningful patterns in data) to software development and release practices. | Instructor-guided exploration of the seminal and recent literature, student-led, discussion-oriented lectures. |
| Software Delivery (ECSE 437) | Course Creator | Fundamentals of design, development, and operation of code integration processes, release pipelines, and deployment strategies for software systems. | Active learning techniques including jigsaw readings, pair-and-share, live coding, in-class exercises. |
| Intro. to Software Engineering (ECSE 321) | Co-redesigner (w/ G. Mussbacher and D. Varró) | Design, development and testing of software systems. Software life cycle: requirements analysis, software architecture and design, implementation, integration, test planning, and maintenance. | Project-based learning, live coding, in-class exercises. |

### Courses Instructed

- Software Analytics (ECSE 611), Winter '17, '18, '19, '20, Enrollment: 6–18 students
- Software Delivery (ECSE 437), Fall '18, '19, Enrollment: 10–55 students
- Software Requirements Engineering (ECSE 326), Fall '19, Enrollment: 110 students
- Software Validation (ECSE 429), Fall '17, Enrollment: 103 students
- Intro. to Software Engineering (ECSE 321), Fall '15, '16, '17, '18, Enrollment: 67–90 students

## ACADEMIC SERVICE

### Associate Editor

- Journal of Systems and Software (JSS), 2018–Present

### Special Interest Group Roles

- Co-chair, Digital Learning (webinars, tech talks), ACM Special Interest Group on Software Engineering (ACM SIGSOFT), 2018–Present

### Steering Committee Membership

- Int'l Conf. on Predictive Models and Data Analytics in Software Engineering (PROMISE), 2018–Present

### Organizing Committee Roles

- Co-chair, Student Mentorship Workshop, Int'l Conf. on Software Engineering (ICSE'20)
- Co-chair, Formal Tool Demonstrations track, Int'l Symposium on the Foundations of Software Engineering (FSE'20 Tools)
- Co-chair, Student Volunteers track, Int'l Conf. on Software Engineering (ICSE'19)
- Co-chair, Tutorials track, Int'l Conf. on Agile Software Development (XP'19)
- Co-chair, Tutorials track, Asia-Pasific Software Engineering Conf. (APSEC'18)
- Co-chair, Technical program, Int'l Conf. on Predictive Models and Data Analytics in Software Engineering (PROMISE'18)

- Co-chair, Early Research Achievements track, Int'l Conf. on Software Analytics, Evolution, and Reengineering (SANER'18 ERA)
- Co-chair, Technical program, Int'l Workshop on Release Engineering (RELENG'16)
- Co-chair, Technical program, Int'l Workshop on Empirical Software Engineering in Practice (IWESEP'16)

**Selected Program Committee Membership**

- Int'l Conf. on Software Engineering (ICSE'20, '21)
- Int'l Symposium on the Foundations of Software Engineering (ESEC/FSE'20)
- Int'l Conf. on Automated Software Engineering (ASE'18, '19, '20)
- Int'l Conf. on Object-Oriented Programming, Systems, Languages, and Apps (OOPSLA'17)
- Int'l Symposium on Empirical Software Engineering and Measurement (ESEM'17, '18, '19, '20)
- Int'l Conf. on Software Maintenance and Evolution (ICSME'16, '17, '18)
- Int'l Conf. on Mining Software Repositories (MSR '16, '17, '18, '20)
- Int'l Conf. on Software Analysis, Evolution, and Reengineering (SANER'18, '19, '20)
- Int'l Conf. on Program Comprehension (ICPC'18)
- Int'l Conf. on Predictive Models and Data Analytics in Software Engineering (PROMISE'17, '19, '20)
- Int'l Working Conf. on Source Code Analysis and Manipulation (SCAM'18)

## EDUCATION

**Ph.D.** Queen's University, Canada (Sep. 2012–Jul. 2015)
🏆 *Governor General's Academic Gold Medal* 🏆

**M.Sc.** Queen's University, Canada (Sep. 2009–Jan. 2011)
🏆 *Distinguished thesis award* 🏆

**B.A.Comp.** University of Guelph, Canada (Sep. 2003–Dec. 2008)