# Curriculum Vitae

Elizabeth Ann Patitsas

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# 1 Biographical Information

## 1.1 Contact Information

- **Email**: patitsas@cs.toronto.edu

- **Mailing Address**: 40 St. George Street, Room 4242, Toronto ON M5S 2E4, Canada

## 1.2 Education

- **Doctor of Philosophy (in progress)** *June 2018 (expected)*
  - *Programme:* Computer Science, University of Toronto
  - *Thesis*: Computing as a Literacy: Policy Factors Affecting Broadening Participation in Computer Science Education

- **Master of Science** *June 2013*
  - *Programme:* Computer Science, University of Toronto
  - *Thesis*: Comparing and contrasting different algorithms leads to increased student learning

- **Honours Bachelor of Science** *June 2011*
  - *Programme:* Integrated Sciences (CS/Physics/Math), University of British Columbia
  - *Thesis*: Knowledge transfer between laboratory teaching assistants

## 1.3 Employment

- **Course Instructor** *January 2015 – May 2015*
  Department of Computer Science, University of Toronto
  *Instructor for CSC 120 (Computer Science for the Sciences)*

- **Course Instructor** *January 2014 – May 2014*
  Department of Computer Science, University of Toronto
  *Instructor for CSC 120 (Computer Science for the Sciences)*

- **Course Instructor** *January 2013 – May 2013*
  Department of Computer Science, University of Toronto
  *Instructor for CSC 190 (Computer Algorithms and Data Structures)*

- **Curriculum developer** *June 2012 – October 2012*
  Department of Computer Science, University of Toronto
  *Curriculum development for BIG 102 (The Internet: Saving Civilization or Trashing the Planet?)*

- **Teaching Assistant** *September 2011 – May 2017*
  Department of Computer Science, University of Toronto

- **Research Assistant** *July 2011 – present*
  Department of Computer Science, University of Toronto

- **Academic Assistant** *January 2011 – June 2011*
  Department of Computer Science, University of British Columbia
  *Course develoment/research for CPSC 121 (Models of Computation)*

- **Summer Camp Instructor** *May 2010 – August 2010*
  Department of Computer Science, University of British Columbia
  *TechTrek summer camp for grade 7-8 students*

- **Academic Assistant** *May 2010 – August 2010*
  Department of Computer Science, University of British Columbia
  *Course development for CPSC 301 (Computing in the Life Sciences)*

- **Academic Assistant** *September 2009 – December 2009*
  Department of Computer Science, University of British Columbia
  *Research on student misconceptions in Java labs*

- **Research Assistant** *May 2009 – August 2009*
  Department of Computer Science, University of British Columbia
  *USRA student in the Bioinformatics, Empirical and Theoretical Algorithmics Lab*

- **Teaching Assistant** *September 2008 – June 2011*
  Department of Computer Science, University of British Columbia

- **Research Assistant** *May 2008 – August 2008*
  Department of Computer Science, University of British Columbia
  *USRA student in the Networking and Internet Computing Lab*

## 1.4 Personal Background

- **Citizenship**: Canadian

- **Languages spoken**: English, French

# 2 Research

## 2.1 Refereed Conference Publications

*Note: in computer science, including CS education, conference proceedings are the primary format for peer reviewed achival publication.*

[1] Elizabeth Patitsas, Jesse Berlin, Michelle Craig, and Steve Easterbrook. Evidence that computer science grades are not bimodal. In *Proceedings of the 2016 ACM Conference on International Computing Education Research*, pages 113–121. ACM, 2016.

[2] Elizabeth Patitsas, Michelle Craig, and Steve Easterbrook. Scaling up women in computing initiatives: What can we learn from a public policy perspective? In *Proceedings of the eleventh annual International Conference on International Computing Education Research*, pages 61–69. ACM, 2015.

[3] Elizabeth Patitsas, Michelle Craig, and Steve Easterbrook. A historical examination of the social factors affecting female participation in computing. In *Proceedings of the 2014 Conference on Innovation & Technology in Computer Science Education*, ITiCSE '14, pages 111–116, New York, NY, USA, 2014. ACM.

[4] Elizabeth Patitsas. A case study of the development of CS teaching assistants and their experiences with team teaching. In *Proceedings of the twelfth Koli Calling International Conference on Computing Education Research*, Koli Calling '12, New York, NY, USA, 2013. ACM.

[5] Kate Sanders, Marizeh Ahmadzad, Tony Clear, Stephen H. Edwards, Mikey Goldweber, Chris Johnson, Raymond Lister, Robert McCartney, Elizabeth Patitsas, and Jaime Spacco. The Canterbury QuestionBank: building a repository of multiple-choice CS1 and CS2 questions. In *Proceedings of the final reports on Innovation and Technology in Computer Science Education 2013 Working Groups*, ITiCSE-WGR '13, New York, NY, USA, 2013. ACM.

[6] Elizabeth Patitsas, Michelle Craig, and Steve Easterbrook. Comparing and contrasting different algorithms leads to increased student learning. In *Proceedings of the ninth annual international ACM conference on International computing education research*, ICER '13, pages 145–152, New York, NY, USA, 2013. ACM.

[7] Michael Goldweber, John Barr, Tony Clear, Renzo Davoli, Samuel Mann, Elizabeth Patitsas, and Scott Portnoff. A framework for enhancing the social good in computing education: a values approach (reprint). *ACM Inroads*, 4(1):58–79, March 2013.

[8] Michael Goldweber, John Barr, Tony Clear, Renzo Davoli, Samuel Mann, Elizabeth Patitsas, and Scott Portnoff. A framework for enhancing the social good in computing aducation: a values approach. In *Proceedings of the final reports on Innovation and Technology in Computer Science Education 2012 Working Groups*, ITiCSE-WGR '12, pages 16–38, New York, NY, USA, 2012. ACM.

[9] Elizabeth Patitsas. A case study of environmental factors influencing teaching assistant job satisfaction. In *Proceedings of the ninth Annual Conference on International Computing Education Research*, ICER '12, pages 11–16, New York, NY, USA, 2012. ACM.

[10] Elizabeth Patitsas and Patrice Belleville. What can we learn from quantitative teaching assistant evaluations? In *Proceedings of the seventeenth Western Canadian Conference on Computing Education*, WCCCE '12, pages 36–40, New York, NY, USA, 2012. ACM.

[11] Elizabeth Patitsas and Steven Wolfman. Effective closed labs in early CS courses: lessons from eight terms of action research. In *Proceedings of the 43rd ACM Technical Symposium on Computer Science Education*, SIGCSE '12, pages 637–642, New York, NY, USA, 2012. ACM.

[12] Elizabeth Patitsas, Kimberly Voll, Mark Crowley, and Steven Wolfman. Circuits and logic in the lab: Toward a coherent picture of computation. In *Proceedings of the fifteenth Western Canadian Conference on Computing Education*, WCCCE '10, pages 7:1–7:5, New York, NY, USA, 2010. ACM.

## 2.2    Refereed Posters

[1] Elizabeth Patitsas. Accounting for the role of policy in the underrepresentation of women in computer science. In *Proceedings of the 2016 ACM Conference on International Computing Education Research*, pages 271–272. ACM, 2016.

[2] Elizabeth Patitsas, Michelle Craig, and Steve Easterbrook. How CS departments are managing the enrolment boom: Troubling implications for diversity. In *Proceedings of the 2016 Research on Equity and Sustained Participation in Engineering, Computing, and Technology*. IEEE, 2016.

[3] Elizabeth Patitsas. Evaluating diversity initiatives in computer science: Do they have unintended side-effects? In *Proceedings of the Tenth Annual Conference on International Computing Education Research*, ICER '14, pages 167–168, New York, NY, USA, 2014. ACM.

[4] Elizabeth Patitsas. Investigating the effects of women-in-CS initiatives. In *Proceedings of the ninth annual international ACM conference on International computing education research*, ICER '13, pages 185–186, New York, NY, USA, 2013. ACM.

[5] Elizabeth Patitsas, Michelle Craig, and Steve Easterbrook. On the countably many misconceptions about #hashtables. In *Proceedings of the 44th ACM Technical Symposium on Computer Science Education*, SIGCSE '13, pages 739–739, New York, NY, USA, 2013. ACM.

[6] Kuba Karpierz, Joel Kitching, Brendan Shillingford, Elizabeth Patitsas, and Steven A. Wolfman. "Dictionary Wars": an inverted, leaderboard-driven project for learning dictionary data structures. In *Proceedings of the 44th ACM Technical Symposium on Computer Science Education*, SIGCSE '13, pages 740–740, New York, NY, USA, 2013. ACM.

[7] Elizabeth Patitsas, Vanessa Kroeker, Rachel Jordan, and Kimberly Voll. Teaching CPU architecture: a new way to provide effective scaffolding. In *Proceedings of the twelfth Koli Calling International Conference on Computing Education Research*, Koli Calling '12, pages 149–150, New York, NY, USA, 2012. ACM.

[8] Elizabeth Patitsas, Meghan Allen, and Steve Wolfman. Revitalizing labs: Lessons from 2.5 years of iterative development and assessment of digital logic labs. In *Proceedings of the 42nd ACM Technical Symposium on Computer Science Education*, SIGCSE '11, New York, NY, USA, 2011. ACM.

## 2.3   Other Refereed Talks

[1] Nickolas Falkner, Elizabeth Patitsas, and Colleen Lewis. Alternative publishing and dissemination of cs education research (abstract only). In *Proceedings of the 2017 ACM SIGCSE Technical Symposium on Computer Science Education*, SIGCSE '17, pages 723–723, New York, NY, USA, 2017. ACM.

[2] Elizabeth Patitsas. A numpy-first approach to teaching CS1 to natural science students. In *Proceedings of the 2015 ACM Conference on Innovation and Technology in Computer Science Education*, pages 333–333. ACM, 2015.

[3] Elizabeth Patitsas and Daniel Levy. Dr. Horrible's fork bomb: A lab for teaching security in CS2. In *Proceedings of the eighteenth ACM Annual Conference on Innovation and Technology in Computer Science Education*, ITiCSE '13, New York, NY, USA, 2013. ACM.

[4] Michael Goldweber, John Barr, and Elizabeth Patitsas. Computer science education for social good. In *Proceedings of the 44th ACM Technical Symposium on Computer Science Education*, SIGCSE '13, pages 15–16, New York, NY, USA, 2013. ACM.

[5] Elizabeth Patitsas. Teaching labs on pseudorandom number generation. In *Proceedings of the seventeenth ACM Annual Conference on Innovation and Technology in Computer Science Education*, ITiCSE '12, pages 376–376, New York, NY, USA, 2012. ACM.

## 2.4   Non-Refereed Talks and Posters

[1] Elizabeth Patitsas and Steve Easterbrook. Teaching CS to scientists, 2011. ICER 2011 Lightening Talk.

[2] Elizabeth Patitsas and Kimberly Voll. Changes in CPSC 121: Toward a coherent picture of computation. CWSEI End-of-Year Event, 2010.

[3] Gwen Echlin, Piam Kiarostami, Elizabeth Patitsas, and Steven Wolfman. Revising an introductory computer science course: Exploratory labs, interactive lectures, and just-in-time teaching. CWSEI End-of-Year Event, 2009.

## 2.5   Invited Talks

[1] Departmental policies matter: enrolment booms in computer science and their effect on gender diversity, Department of Computing Science, University of Alberta, *January 2017*

[2] CS Grades Aren't Bimodal, Department of Computer Science, University of British Columbia, *September 2016*

[3] Getting more women into undergraduate computing: the need to consider the role of university and departmental policies, Department of Computer Science, University of Adelaide, *September 2016*

# 3   Teaching

## 3.1   Courses Taught

- **CSC 120**: **Computer Science for the Sciences**, University of Toronto
  Sessions (2): Spring 2014, Spring 2015
  *Added and refined two new units: numpy/scipy, regex (108 students in 2014, 124 students in 2015)*
- **CSC 190**: **Computer Algorithms and Data Structures**, University of Toronto
  Session: Spring 2013
  *Taught both sections of the course (237 students)*

- **CPSC 490**: **Topics and Methods in CS Education**, University of British Columbia
  Session: Spring 2011
  *Facilitator for the student directed seminar, overseen by Steve Wolfman (7 students)*

## 3.2   Teaching Assistantships

- **CSC 2699**: **Academic Leadership for Computer Science**, University of Toronto
  Session: Spring 2017
- **CSC 2720**: **Systems Thinking for Global Problems**, University of Toronto
  Session: Spring 2016
- **Help Centre**: **Computer Science Help Centre**, University of Toronto
  Session: Fall 2015 and 2016
- **CSC 209**: **Software Tools and Systems Programming**, University of Toronto
  Sessions (2): Fall 2014, Spring 2016
- **CSC 192**: **Computer Programming, Algorithms, and Data Structures**, University of Toronto
  Session: Fall 2012
  *Also ran lectures for one week while the instructor was out of town*
- **CSC 258**: **Computer Organization**, University of Toronto
  Session: Winter 2012
  *Served as head teaching assistant, and developed new labs for the course*
- **CSC 148**: **Introduction to Computer Science**, University of Toronto
  Session: Fall 2011
- **CSC 165**: **Mathematical Reasoning and Expression for Computer Science**, University of Toronto
  Session: Fall 2011 and Summer 2016
- **CPSC 221**: **Basic Data Structures and Algorithms**, University of British Columbia
  Sessions (2): Summer 2010, Summer 2011
- **CPSC 121**: **Models of Computation**, University of British Columbia
  Sessions (5): Spring 2009, Spring 2010, Fall 2010, Summer 2010, Spring 2011
  *Served as head teaching assistant, and created and refined new labs for the course over a five-term process*
- **CPSC 111**: **Introduction to Computation**, University of British Columbia
  Sessions (2): Fall 2008, Fall 2009

## 3.3   Guest Lectures

- **CSC 148**: **Introduction to Computer Science**, University of Toronto
  *June 2013*: review of basic Python, mutability, and basic command-line use
- **CPSC 101**: **Connecting with Computer Science**, University of British Columbia
  *July 2010*: talk on public-key cryptography and the P?=NP problem

## 3.4   Teaching Practica

- **SCIE 001**: **Science One Programme**, University of British Columbia
  *March 2011*: Practicum for UBC CPSC 490 (CS Education)
  Introduction to computer science for a first-year interdisciplinary science programme
- **Grade 6-7 mathematics**: **special education**, Eaton Arrowsmith School
  *November 2010*: Practicum for UBC MATH 414 (Math Education)
  Facilitation of in-class exercises
- **Grade 6-7 mathematics**: **enriched**, Queen Mary Elementary
  *November 2010*: Practicum for UBC MATH 414
  Facilitation of in-class exercises
- **Grade 10-12 mathematics**: **Honours**, Carver Christian High School
  *October 2010*: Practicum for UBC MATH 414
  Facilitation of in-class exercises

# 4  Service

## 4.1  Conferences and Journals

- **International liaison and reviewer**, SIGCSE Technical Symposium on Computer Science Education, Providence MD USA, *2017*
- **Reviewer**, Computer Science Education, *2013–present*
- **Conference aide**, SIGCSE Technical Symposium on Computer Science Education, Memphis TN USA, *2016*
- **Organizing committee member**, Teaching Tech Together, Boulder CO USA, *2015*
- **Reviewer**, SIGCSE Technical Symposium on Computer Science Education, Kansas City MI USA, *2015*
- **Reviewer**, SIGCSE Technical Symposium on Computer Science Education, Atlanta GA USA, *2014*
- **Session chair**, Koli Calling International Conference on Computing Education Research, Koli FI, *2013*
- **Reviewer**, Conference on Innovation and Technology in Computer Science Education, Canterbury UK, *2013*
- **Reviewer**, SIGCSE Technical Symposium on Computer Science Education, Denver CO USA, *2013*
- **Reviewer and session chair**, Conference on Innovation and Technology in Computer Science Education, Haifa IS, *2012*
- **Reviewer and conference aide**, SIGCSE Technical Symposium on Computer Science Education, Raleigh NC USA, *2012*
- **Conference aide**, SIGCSE Technical Symposium on Computer Science Education, Dallas TX USA, *2011*
- **Conference aide**, Canadian Conference on Computational Geometry, Vancouver BC, *2009*
- **Conference aide**, Annual Meeting of the Northwest Section of the American Physical Society, Vancouver BC, *2009*
- **Conference aide**, SIGCSE Technical Symposium on Computer Science Education, Portland OR USA, *2008*

## 4.2  University Committees

- **Undergraduate Affairs Committee**, University of Toronto, Department of Computer Science, *October 2012 – August 2017*
- **Undergraduate Affairs Committee**, University of British Columbia, Department of Mathematics, *September 2010 – May 2011*
- **Classroom Experience Committee**, University of British Columbia, Department of Computer Science, *September 2009 – May 2011*
- **Curriculum Committee**, University of British Columbia, Department of Computer Science, *September 2008 – May 2009*

## 4.3  Student Government

- **Treasurer and Secretary**, Computer Science Graduate Student Benevolent Society, University of Toronto, *May 2013 – March 2015*
- **Steward**, Canadian Union of Public Employees Local 3902, University of Toronto, *June 2012 – May 2013*
- **President**, Math Club, University of British Columbia, *May 2009 – May 2011*
- **Vice-President**, Math Club, University of British Columbia, *May 2008 – May 2009*

## 4.4  Reading Groups

- **Participant**, Critical Pedagogy Reading Group, University of Toronto, *May 2016 – present*
- **Participant**, Sustainability Informatics Discussion Group, University of Toronto, *January 2016 – present*
- **Coordinator**, Collaborative Changes for the Climate Change Research Community, University of Toronto, *August 2012 – May 2013*
- **Coordinator**, Social Studies of Computer Science, University of Toronto, *December 2012 – April 2013*
- **Coordinator**, CS Education Reading Group, University of Toronto, *June 2011 – present*

- **Participant**, Physics Education Brown-Bag Seminars, University of British Columbia, *May 2009 – June 2011*
- **Coordinator**, CS Education Reading Group, University of British Columbia, *September 2009 – June 2011*
- **Participant**, Empirical Algorithmics Reading Group, University of British Columbia, *March 2009 – November 2009*

## 4.5   Outreach

- **Organizer**, Social Theory for Computer Science Education, International Computing Education Research Conference, *Aug 2017*
  *Taught an introduction to sociological theories for CS education researchers*
- **Facilitator**, Software Carpentry Instructor Training, University of Toronto, *May 2016*
  *Bootcamp on how to teach Software Carpentry bootcamps*
- **Instructor**, Software Carpentry, University of Toronto, *October 2014*
  *Bootcamp on software skills for economics/finance grad students*
- **Helper**, Software Carpentry, University of Toronto, *June 2014*
  *Bootcamp on software skills on behalf of Women in Science and Engineering (WISE)*
- **Helper**, Software Carpentry, University of Toronto, *January 2012*
  *Bootcamp on software skills for natural scientists*
- **Facilitator**, CS4HS, University of Toronto at Mississauga, *July 2012*
  *Professional development for high school computer science teachers*
- **Instructor**, TechTrek, University of British Columbia, *June 2008 – June 2011*
  *Teaching robotics and programming to grade 7-12 students*
- **Volunteer**, Public Education Programme, Bamfield Marine Science Centre, *February 2008*
  *Assisting with data entry and animal care*

## 4.6   Mentorship

- **Mentor**, Computer Science Graduate Student Orientation, University of Toronto, *September 2013 – September 2015*
- **Mentor**, Computer Science Tri-Mentoring Programme, University of British Columbia, *October 2009 – May 2010*
- **Mentor**, Science One Survivors, University of British Columbia, *September 2008 – May 2011*

## 4.7   Community Service

- **Volunteer**, Olivia Chow for Mayor, *September 2014 – October 2014*
- **Volunteer**, AMS Bike Co-operative, *September 2007 – August 2009*
- **Contributor**, Wikipedia: The Free Encyclopedia, *January 2004 – November 2008*

# 5   Awards

## 5.1   Grants and Scholarships

- **Queen Elizabeth II Graduate Scholarship in Science and Technology**, Government of Ontario - 10,000 CAD
  *for academic excellence, September 2017*
- **Doctoral Completion Award**, University of Toronto - 6,600 CAD
  *for academic excellence, September 2016*
- **Travel Grant**, Association for Computing Machinery - 600 USD
  *for travel to ICER 2016's doctoral consortium, September 2016*
- **Travel Grant**, Association for Computing Machinery - 600 USD
  *for travel to ICER 2014's doctoral consortium, September 2014*

- **Doctoral Fellowship**, Social Sciences and Humanities Research Council of Canada - 60,000 CAD
  *for research excellence, September 2014 – August 2017*
- **Travel Grant**, Association for Computing Machinery - 600 USD
  *for travel to ICER 2013's doctoral consortium, September 2013*
- **Ontario Graduate Scholarship**, Government of Ontario - 15,000 CAD
  *for academic excellence and research potential, September 2013 – August 2014*
- **Ontario Graduate Scholarship**, Government of Ontario - 15,000 CAD
  *for academic excellence and research potential, September 2012 – August 2013*
- **Faculty Association Award**, University of Lethbridge - 600 CAD
  *for academic excellence, November 2009*
- **Undergraduate Summer Research Award**, National Science and Engineering Research Council of Canada - 7,200 CAD
  *for research potential, May 2009 – August 2009*
- **Robert Jordan Memorial Award**, The White Tower - 800 USD
  *for community service and academic excellence, November 2008*
- **Faculty Association Award**, University of Lethbridge - 600 CAD
  *for academic excellence, November 2008*
- **Undergraduate Summer Research Award**, National Science and Engineering Research Council of Canada - 5,600 CAD
  *for research potential, May 2008 – August 2008*

## 5.2 Honours

- **John Henry Award**, International Computing Education Research Conference, ACM SIGCSE
  *for an innovative and ground-breaking academic paper, September 2016*
- **Best Working Group Award**, Conference on Innovation and Technology in Computer Science Education, ACM SIGCSE
  *for a high quality academic paper, November 2012*
- **Undergraduate TA Award**, Department of Computer Science, University of British Columbia
  *for outstanding teaching, May 2011*
- **Certificate of Appreciation**, Department of Computer Science, University of British Columbia
  *for volunteerism, April 2010*
- **Members' Choice Award**, Department of Membership, The White Tower
  *for community service, March 2010*
- **Certificate of Appreciation**, Department of Computer Science, University of British Columbia
  *for volunteerism, September 2009*
- **Undergraduate TA Award**, Department of Computer Science, University of British Columbia
  *for outstanding teaching, May 2009*
- **Volunteering Award**, Department of Computer Science, University of British Columbia
  *for volunteerism, March 2009*

# 6 Other Information

## 6.1 Professional Organizations

- AERA Divisions J and L, *March 2015 – present*
- ACM Special Interest Group on Computer Science Education, *February 2008 – present*