

Charles Starling

Curriculum Vitae

Department of Mathematics and Statistics
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Nationality: Canadian

Education

- 2012 **Doctor of Philosophy**, *University of Ottawa*, Canada.
Supervisor: Thierry Giordano. Thesis: Actions of Finite Groups on Substitution Tilings and Their Associated C^* -algebras.
- 2005 **Master of Science**, *University of Victoria*, Canada.
Supervisor: Ian Putnam. Thesis: Computation of the Ruelle-Sullivan Map for Substitution Tilings.
- 2003 **Bachelor of Science**, *University of Victoria*, Canada, Honours in Mathematics and Physics.
Jubilee Silver Medal for top graduating GPA in the Faculty of Science.

Positions

- 2015–present **Postdoctoral Researcher**, *University of Ottawa*, Canada.
Supervisors: Thierry Giordano, Benoît Collins, and Vladimir Pestov
- 2013–2014 **Pós-doutorado Junior**, *Universidade Federal de Santa Catarina*, Brazil.
Supervisor: Ruy Exel
- 2012 **Postdoctoral Researcher**, *University of Ottawa*, Canada.
Supervisors: Thierry Giordano and Benoît Collins
- 2007–2012 **Part-time Professor and Teaching Assistant**, *University of Ottawa*, Canada.

Publications

Submitted Publications

- [14] D. Gonçalves, T. Giordano, and **C. Starling**, *Bratteli-Vershik models for partial actions of \mathbb{Z}* , arXiv:1611.04389.
- [13] T. Bice and **C. Starling**, *Locally Compact Stone Duality*, arXiv:1609.09708.
- [12] D. Gonçalves, M. Sobottka, and **C. Starling**, *Inverse semigroup shifts over countable alphabets*, arXiv:1510.04117.

Publications in Press

- [11] D. Gonçalves, M. Sobottka, and **C. Starling**, *Two-sided shift spaces over infinite alphabets*, to appear in *J. Aust. Math. Soc.*, arXiv:1506.08098.
- [10] D. Gonçalves, M. Sobottka, and **C. Starling**, *Sliding block codes between shift spaces over infinite alphabets*, to appear in *Math. Nachr.*, arXiv:1502.06262.
- [9] R. Exel and **C. Starling**, *Amenable actions of inverse semigroups*, to appear in *Ergodic Theory Dyn. Syst.*, arXiv:1411.2506.

Publications in Print

- [8] **C. Starling**, *C*-algebras of Boolean inverse monoids – traces and invariant means*, Documenta Math., **21**, 809–840, 2016.
- [7] **C. Starling**, *Inverse semigroups associated to subshifts*, J. Algebra, **463**, 211–233, 2016.
- [6] R. Exel and **C. Starling**, *Self-Similar Graph C*-Algebras and Partial Crossed Products*, J. Operator Theory, **75** (1), 299–317, 2016.
- [5] **C. Starling**, *Boundary quotients of C*-algebras of right LCM semigroups*, J. Funct. Anal., **268** (11) 3326–3356, 2015.
- [4] **C. Starling**, *K-theory of crossed products of tiling C*-algebras by rotation groups*, Commun. Math. Phys., **344** (1), 301–311, 2015.
- [3] D. Gonçalves and **C. Starling**, *Division Point Measures from Primitive Substitutions*, Expositiones Mathematicae, **33** (1), 67–77, 2015.
- [2] **C. Starling**, *Finite symmetry group actions on substitution tiling C*-algebras*, Münster J. Math. **7**, 381–412, 2014.
- [1] R. Exel, D. Gonçalves, and **C. Starling**, *The tiling C*-algebra viewed as a tight inverse semigroup algebra*, Semigroup Forum, **84**, 229–240, 2012.

 Invited Conference Presentations

- Jun 2016 **Inverse semigroups in C*-algebras**, Fields Workshop on New Directions in Inverse Semigroups, University of Ottawa, Canada.
- Dec 2015 **C*-algebras generated by partial isometries and amenability**, Canadian Mathematical Society Winter Meeting, Montreal, Canada.
- Feb 2015 **Boundary Quotients of Semigroup C*-algebras**, Workshop on Functional Analysis and Dynamical Systems, Florianópolis, Brazil.
- Feb 2015 **Boundary Quotients of Semigroup C*-algebras**, Fields Workshop on Quantum Groups and Operator Algebras, University of Ottawa, Canada.
- May 2014 **C*-algebras of Partial Isometries**, 3º Colóquio de Matemática da Região Sul, UFSC Florianópolis, Brazil.
- May 2014 **Self-Similar Graph Actions and Partial Crossed Products**, Partial Actions and Representations Symposium, Gramado, Brazil.
- Nov 2013 **The Dynamics of Inverse Semigroups**, Floripadynsys Workshop on Dynamics, Numeration and Tilings, Florianópolis, Brazil.
- Jul 2012 **Finite Group Actions on Aperiodic Tilings**, Workshop on Sofic and Hyperlinear Groups and the Connes Embedding Conjecture, UFSC Florianópolis, Brazil.
- May 2012 **Finite Group Actions on Aperiodic Tilings**, NSF/CBMS Regional Conference in the Mathematical Sciences, University of Louisiana at Lafayette, United States.
- Aug 2011 **Finite Group Actions on C*-algebras Associated to Tilings**, Fields Workshop on Positivity, University of Toronto, Canada.
- Feb 2011 **Finite Group Actions on Substitution Tilings**, Brazilian Operator Algebra Symposium, Florianópolis, Brazil.

May 2010 **Substitution Tilings and Groupoids**, Fields Workshop on Semigroups and Categories, University of Ottawa, Canada.

Invited Colloquia and Seminar Presentations

- Oct 2016 **Inverse semigroups and C^* -algebras**, Operator Algebra Seminar, Fields Institute, Toronto.
- Aug 2016 **Boundary Quotients of Semigroup C^* -algebras**, Analysis Seminar, University of Aberdeen, Scotland.
- Aug 2016 **Boundary Quotients of Semigroup C^* -algebras**, Analysis Seminar, University of Glasgow, Scotland.
- Jul 2014 **Inverse semigroup C^* -algebras and partial crossed products**, C^* -algebras seminar, UFSC Florianópolis, Brazil.
- May 2013 **Division Point Measures from Primitive Substitutions**, C^* -algebras seminar, UFSC Florianópolis, Brazil.
- Nov 2013 **Semigrupos inversos são objetos dinâmicos**, Colloquium at UFSC, Florianópolis, Brazil.
- Oct 2012 **The Mathematics of Aperiodic Patterns**, Colloquium at the University of Saskatchewan, Canada.

Contributed Presentations

- Sep 2016 **Groupoids**, Analysis Seminar, University of Ottawa, Canada.
- Jun 2016 **C^* -algebras generated by partial isometries and amenability**, Canadian Operator Symposium, Centre de Recherches de Mathématiques, Montréal, Canada.
- Mar 2016 **Self-similar groups and their C^* -algebras**, Analysis Seminar, University of Ottawa, Canada.
- Jun 2015 **Boundary Quotients of Semigroup C^* -algebras**, Canadian Operator Symposium, University of Waterloo, Canada.
- May 2015 **Boundary Quotients of Semigroup C^* -algebras**, Classification of C^* -algebras, flow equivalence of shift spaces, and graph and Leavitt path algebras, University of Louisiana at Lafayette, United States.
- May 2012 **A Leisurely Walk from Inverse Semigroups to C^* -algebras**, Canadian Operator Symposium, Queen's University, Kingston, Canada.
- May 2011 **Finite Group Actions on Substitution Tilings**, Canadian Operator Symposium, University of Victoria, Canada.
- May 2008 **Aperiodic Tilings**, Ottawa Mathematics Conference, University of Ottawa, Canada.
- Jun 2005 **Computation of the Ruelle-Sullivan Map for Substitution Tilings**, Victoria Workshop on Aperiodic Order, University of Victoria, Canada.

Minicourses

- Feb 2012 **Aperiodic Order in Dynamical Systems and Operator Algebras**, 3-day minicourse at UFSC Escola de Verão 2012, Florianópolis, Brazil.

Supervision and Mentoring

Summer 2015 **Alexander McDonald**, *NSERC Undergraduate Research Student*, (Co-supervised with Thierry Giordano), Project: Spectral triples associated to aperiodic tilings.

Teaching

- Fall 2016 **MAT1341 – Introduction to Linear Algebra**, *University of Ottawa*.
In progress
- Winter 2016 **MAT1341 – Introduction to Linear Algebra**, *University of Ottawa*.
Average student rating: 4.90/5
- Fall 2015 **MAT1341 – Introduction to Linear Algebra**, *University of Ottawa*.
Average student rating: 4.68/5
- Winter 2015 **MAT1300 – Mathematical Methods I**, *University of Ottawa*.
Average student rating: 4.76/5
- Fall 2012 **MAT1341 – Introduction to Linear Algebra**, *University of Ottawa*.
Average student rating: 4.53/5
- Fall 2012 **MAT1300 – Mathematical Methods I**, *University of Ottawa*.
Average student rating: 4.58/5
- Summer 2012 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.73/5
- Winter 2012 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.69/5
- Fall 2011 **MAT1300 – Mathematical Methods I**, *University of Ottawa*.
Average student rating: 4.53/5
- Summer 2011 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.69/5
- Winter 2011 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.67/5
- Summer 2010 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.40/5
- Winter 2010 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.50/5
- Fall 2009 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.43/5
- Summer 2009 **MAT1318 – Functions**, *University of Ottawa*.
Average student rating: 4.75/5
- Fall 2008 **MAT1300 – Mathematical Methods I**, *University of Ottawa*.
Average student rating: 4.24/5
- Winter 2008 **MAT1341 – Introduction to Linear Algebra**, *University of Ottawa*.
Average student rating: 4.13/5
- Summer 2007 **MAT1341 – Introduction to Linear Algebra**, *University of Ottawa*.
Average student rating: 4.78/5

Grants, Awards, and Fellowships

- April 2016 **Edinburgh Mathematical Society Travel Grant**, £800.
Funds used to facilitate a research visit to Michael Whittaker (Glasgow)
- 2014–2015 **Junior Excellence in Teaching Award**, *University of Ottawa Department of Mathematics and Statistics*.
Awarded to “an exceptional teacher from among all graduate students and postdoctoral fellows”
- 2013–2014 **CNPq (Brazil) Pós-Doutorado Júnior**, BRL 108,000.
Joint award with Ruy Exel to fund postdoctoral studies at UFSC Florianópolis, Brazil
- 2006–2008 **NSERC Postgraduate Scholarship - Doctoral**, *University of Ottawa*, \$41,000 CAD.
- 2006–2008 **President’s Scholarship**, *University of Ottawa*.
- 2003–2010 **NSERC Postgraduate Scholarship - Masters**, *University of Victoria*, \$34,600 CAD.
- 2003 **Jubilee Silver Medal**, *University of Victoria*.
Awarded to the student with the highest graduating GPA in the Faculty of Science
- 2003 **NSERC Undergraduate Research Award**, *University of Victoria*, \$4500 CAD.
Supervisor: Ian Putnam
- 2002 **NSERC Undergraduate Research Award**, *University of Victoria*, \$4500 CAD.
Supervisor: Ahmed Sourour

Organization and Service

- May 2016 **Fields Workshop on Dynamical Systems and Operator Algebras**, *University of Ottawa* (Co-organized with Benoît Collins, Thierry Giordano, and Vladimir Pestov).
Conference Website: <http://www.fields.utoronto.ca/activities/15-16/dynamical>
- 2015-Present **Analysis Seminar**, *University of Ottawa*.
Seminar Website: <http://mysite.science.uottawa.ca/cstar050/analysisseminar/>
- May 2012 **Ottawa Mathematics Conference**, *University of Ottawa* (Co-organized with Farnoosh Abbas Aghababazadeh, Steven Amelotte, Jan Cannizzo, Aleksandr Gontcharov, Camelia Karimianpour, Joel Lemay, Negin Mehrdad, Babak Moazzez, and Fanny Santamaria) .
- Fall 2011 **Graduate Student Seminar**, *University of Ottawa*.
- Refereeing Semigroup Forum, Journal of Functional Analysis.