Boyu Li

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Citizenship Status

Canadian citizen

Position

Post-doctoral researcher, University of Windsor	Jan. 2023 – June 2023
Post-doctoral researcher, University of Waterloo	Aug. 2021 – Jan. 2023
Pacific Institute for Mathematical Sciences post-doctoral fellowship, University of Victoria	Sept. 2018 – July 2021

Education

University of Waterloo   2018
Ph.D. Pure Mathematics
Advisor: Kenneth Davidson
Thesis: Regular Dilation on Semigroups

University of Waterloo   2013
M.Math. Pure Mathematics, Thesis option.
Advisor: Alexandru Nica
Thesis: Asymptotic Distribution for Block Statistics on Noncrossing Partitions.

University of Waterloo   2012
B.Math. Honour Co-op, Graduated with Distinction – Dean's Honor List
Governor General's Silver Medal (top 3 of the graduating class)
Majors: Pure Mathematics, Combinatoric and Optimization, Mathematical Finance

Awards

Graduate

Mathematics Doctoral Prize competition – Second Place, University of Waterloo	2019
Susan and Janos Aczel Graduate Scholarship, University of Waterloo	2016 - 2018
Ontario Graduate Fellowship	2015
Ontario Graduate Scholarship for international student, $15,000	2013

Undergraduate

Governor General's Silver Medal, University of Waterloo, (top 3 among graduating class)	2012
Mike Vangoch Memorial Scholarship, University of Waterloo	2012
Putnam Team Member, University of Waterloo	2010, 2012
Putnam Competition Honourable Mention (Top 50 in north America)	2009
Dr. Nathan Mendelsohn Prize (top Putnam score among Canadian students)	2009
J.D. Kalbfleisch Scholarship for International Students, University of Waterloo	2008

Publications

Work in Progress

1. Boyu Li and Dilian Yang, Wold decomposition on self-similar graphs, in preparation.

Submitted

1. Anna Duwenig and Boyu Li, Imprimitivity theorems and self-similar actions on Fell bundles, https://arxiv.org/abs/2208.01124

Published

1. Anna Duwenig and Boyu Li, Equivalence of Fell bundles is an equivalence relation, *Münster Journal of Mathematics* (to appear), 2022
2. Boyu Li and Dilian Yang, Zappa-Szép actions of groups on product systems, *Journal of Operator Theory,* 88(2):247-274, 2022
3. Anna Duwenig and Boyu Li, The Zappa-Szép product of a Fell bundle and a groupoid, *Journal of Functional Analysis*, 282(1), no. 109268, 2022
4. Marcelo Laca and Boyu Li, Dilation theory for right LCM semigroup dynamical systems, *Journal of Mathematical Analysis and Application*, 505(2), no. 125586, 2022
5. Boyu Li, Wold decomposition on odometer semigroups, *Proceedings of the Royal Society of Edinburgh*, 152(3):738-755, 2022
6. Boyu Li, C*-envelope and dilation theory of semigroup dynamical systems, *Integral Equations and Operator Theory*, 93 (3), no. 19, 2021
7. Marcelo Laca and Boyu Li, Amenability and functoriality of right-LCM semigroup C*-algebras. *Proceedings of American Mathematical Society,* 148(12):5209-5224, 2020
8. Boyu Li, Regular dilation and Nica-covariant representation on right LCM semigroups. *Integral Equations and Operator Theory*, 91(4), no. 36, 2019
9. Kenneth R. Davidson, Adam Dor-on and Boyu Li, Structure of Free Semigroupoid Algebras, *Journal of Functional Analysis*, 277(9):3283-3350, 2019
10. Boyu Li, Regular Dilation on Graph Products of N, *Journal of Functional Analysis*, 273(2):799-835, 2017
11. Boyu Li, Normal Extensions of Representations of Abelian Semigroups. *Canadian Mathematical Bulletin*, 59:564-574, 2016.
12. Boyu Li, Regular Representations of Lattice Ordered Semigroups, *Journal of Operator Theory* 76(1):33-56, 2016

Conference Presentations

Invited Talks

Examples of self-similar actions and imprimitivity theorems, *Canadian Mathematical Society Summer Meeting – C*-algebras and applications session*, 2023

Imprimitivity theorems arising from self-similar actions, *University of Victoria Operator Theory Seminar*, 2022

Wold decomposition and C*-envelope from self-similar graphs, *Dilation and classification in operator algebra theory*, University of Copenhagen, 2022

Imprimitivity theorems arising from Zappa-Szép actions on Fell bundles, *Canadian Mathematical Society Summer Meeting – Advances in Operator Algebras session*, 2022

Dilation theory for right LCM semigroup dynamical systems, *Joint Mathematics Meeting – Advances in Operator Algebras session,* 2022

Zappa-Szép product, self-similar action, and equivalent groupoids, *Baylor University Seminar*, 2022

Zappa-Szép product, self-similar actions, and equivalent groupoids, *University of Waterloo Analysis Seminar*, 2022

Dilation theory of right LCM semigroup dynamical systems, *Canadian Mathematical Society Summer Meeting*, 2021

The Zappa-Szép product of a Fell bundle by a groupoid, *University of Wollongong Operator Algebra & Noncommutative Geometry seminar*, 2021

The Zappa-Szép product of a Fell bundle by a groupoid, *Canadian Mathematical Society Winter meeting – Operator Algebras Session*, 2020

The Zappa-Szép product of a Fell bundle by a groupoid, *Arizona State University C* Seminar*, 2020

C*-envelopes and semigroup dynamical systems, *University of Glasgow Analysis Seminar*, 2020

C*-envelopes and semigroup dynamical systems, *University of Copenhagen Operator Algebra Seminar*, 2020 (cancelled due to COVID-19)

Amenable and Non-amenable Semigroups, *University of Waterloo Analysis Seminar*, 2019

Free Semigroupoid Algebras, *CMS Winter Meeting – Operator Algebra Session,* 2017

Contributed Talks

Wold-decomposition on self-similar graphs, *Canadian Operator Symposium*, 2022

Wold decomposition on odometer semigroups, *Canadian Operator Symposium*, 2021

Dilation theory for right LCM semigroup dynamical systems, *University of Victoria Operator Theory Seminar*, 2021

The Zappa-Szép product of a Fell bundle by a groupoid, *University of Victoria Operator Theory Seminar*, 2020

Dilation on Semigroups, *University of Victoria Operator Theory Seminar*, 2018

Regular Dilation and Nica-covariant Representation on Right LCM Semigroups, *Canadian Operator Symposium*, 2018

Regular Dilation and Nica-covariant Representation on Right LCM Semigroups, *Canadian Abstract Harmonic Analysis Symposium*, 2018

Examples of Free Semigroupoid Algebras, *University of Waterloo Analysis Seminar,* 2018

Regular Dilation on Graph Products of N, *Canadian Operator Symposium*, 2017

Regular Dilation on Graph Products of N, *University of Waterloo Analysis Seminar*, 2017

Regular Representations of Lattice Ordered Semigroups. *Canadian Operator Symposium*, 2015

Regular Representations of Lattice Ordered Semigroups. *University of Waterloo Analysis Seminar*, 2015.

Teaching

As Instructor:

University of Waterloo

- Harmonic analysis (PMATH 833, graduate level, online)	2022
- Measure and Integration (PMATH 451/651, 4th-year/graduate level, online)	2021
- Calculus 3 For Honours Math (MATH 237)	2017
- Applied Complex Analysis (PMATH 332, 3rd-year)	2016

University of Victoria

- Introduction to Calculus (MATH 109)   2019
- Calculus for Students in the Social and Biological Sciences (MATH 102)   2018

Service

Journal Reviewer

- Proceeding for American Mathematical Society
- Indiana University Mathematics Journal
- Banach Journal of Mathematical Analysis
- Complex Analysis and Operator Theory
- Operators and Matrices

Membership

- Canadian Mathematical Society

Reviewer for MathSciNet

Graduate Student Outreach

Dilation Theory for Small Matrices, *Graduate student seminar*, University of Victoria, 2020

Amenable and Non-Amenable Semigroups, *Graduate student seminar*, University of Victoria, 2019

Self-adjoint Non-self-adjoint Algebra, *Graduate student seminar*, University of Victoria, 2019

Asymptotic Distributions of Noncrossing Partitions, *Pure Math Graduate Student Colloquium,* University of Waterloo, 2014.