

CHRISTOPHER K. CHUNG

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RESEARCH INTERESTS

Representation theory: quantum groups, quantum symmetric pairs; categorification, Soergel bimodules

EDUCATION

Doctor of Philosophy, Mathematics

Advisor: Weiqiang Wang

University of Virginia, Charlottesville, Virginia

(Expected) May 2020

Master of Mathematical Sciences

Supervisor: Anthony Licata

Australian National University, Canberra, ACT

December 2014

Master's thesis title: A spanning tree model for Khovanov homology

Bachelor of Science with distinction

Concentrations: Mathematics, Economics

University of Michigan, Ann Arbor, Michigan

April 2012

PUBLICATIONS

Quantum Supergroups VI: Roots of 1

Joint with Weiqiang Wang and Thomas Sale

arxiv:1812.05771

- Letters in Mathematical Physics, **109** (2019) 2753-2777.

Serre presentation and canonical basis for quantum covering groups

- In preparation

'p-canonical basis', book chapter

Joint with Gordon C. Brown and Christopher Leonard

In publication

- Chapter on Williamson's p-canonical basis of 'Introduction to Soergel Bimodules', a book jointly written and edited by organizers Ben Elias and Geordie Williamson and all participants of the 2017 MSRI Summer School on Soergel bimodules and categorical representation theory.

TEACHING EXPERIENCE

Instructor of Record

- MATH 1320: Calculus II

University of Virginia

(Scheduled for) Spring 2020

- MATH 1310: Calculus I

Fall 2019

- MATH 1210: Survey of Calculus I

Fall 2016, Spring 2017, Fall 2017

Graduate Teaching Assistant

- MATH 3000: Transition to Higher Mathematics

University of Virginia

Spring 2016

- MATH 2310: Multivariable Calculus

Fall 2015

Course Tutor (Teaching Assistant) and Grader

Australian National University

- MATH 2305: Differential Equations and Applications

Session 2, 2014

- MATH 1013 – 1014: Calculus and Linear Algebra I & II

Semester 2, 2013 and Semester 1, 2014

TALKS PRESENTED AND SCHEDULED

AMS Southeastern Sectional Meeting at Charlottesville, VA (Scheduled for) March 13-15, 2020

Special Session on Categorical Representation Theory and Beyond

- Title: TBA

University of Georgia Algebra Seminar (Scheduled for) November 18, 2019

- Title: *Serre presentation and canonical basis for quantum covering groups.*

University of Virginia Algebra Seminar November 1, 2019

- Title: *Serre presentation and canonical basis for quantum covering groups.*

AMS Fall Central Sectional Meeting at Madison, WI September 14-15, 2019

Special Session on Hall Algebras, Cluster Algebras and Representation Theory

- Title: *Serre presentation for quantum covering groups*

Representation Theory Reading Seminar 2016 – 2019

Seminar talks on various topics; selected titles listed

- “Twisted Yangians: Center, coideal property, and alternate presentation” Fall 2019
- “Schur-Sergeev duality between $\mathfrak{q}(n)$ and the Hecke-Clifford algebra \mathcal{H}_d ” Fall 2018
- “Springer fibers and geometry” Fall 2017
- “Classification of Nilpotent Orbits” Fall 2016
- “Introduction to Soergel Bimodules” Spring 2016

SERVICE AND OUTREACH

- **Co-Mentor, Summer 2019 REU at University of Virginia** Summer, 2019
With fellow graduate student Andrew Kobin, guided our mentees Spencer Martin and Will Donahoe through understanding the dimension formulas for spaces of modular forms, two presentations, and a poster presentation at the 2019 SUMS conference at James Madison University.
- **Mentor, Directed Reading Program at University of Virginia** Spring, 2019
Guided my DRP mentee Joseph Snitzer through a selection of category theory texts and online material to understand the Yoneda Embedding, and prepare for a presentation during UVa’s Math Club.
- **Association for Women in Mathematics Sonia Day in Topology** March 2, 2019
Facilitated and helped plan for a single day program sponsored by the UVa’s AWM chapter with fun activities aimed at providing middle and high school girls the opportunity to engage with ideas in topology.
- **UVa Math Ambassador** 2017-18
UVa’s Mathematics outreach program to Albemarle County and Charlottesville city schools.
- **Mentorship Co-chair, Association for Women in Mathematics** 2017-18
- **Member, Graduate School of Arts and Sciences Research Grant Review Committee** 2017-18

TECHNICAL STRENGTHS

Computer Languages	Proficiency with: MATLAB, Mathematica. Experience with: Maple, Python, R and Stata.
Languages	Proficient: English, Mandarin Chinese, and Malay. Learning: French.