



Unless stated otherwise, the seminar meets Tuesdays in room WH-100E at 2:50 p.m. There will be refreshments served at 4:00 in room WH-102.

Organizers: [Alex Feingold](#) and [Hung Tong-Viet](#)

To receive announcements of seminar talks by email, please join the seminar's mailing list.

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## Spring 2020

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- **January 21**

[No Algebra Seminar Meeting](#)

Please think about giving a talk in the Algebra Seminar, or inviting an outside speaker.

- **January 28**

[Organizational Meeting](#)

- **February 4**

[Casey Donovan \(Binghamton University\)](#)

***Thompson's Group V is 3/2-Generated***

**Abstract:** Every finite simple group can be generated by two elements and furthermore, every nontrivial element is contained in a generating pair. Groups with this property are said to be 3/2-generated. Thompson's group V, a finitely presented infinite simple group, is one of a small number of examples of infinite noncyclic 3/2-generated groups. I will present a constructive proof of this fact and mention extensions of this theorem to generalizations of V.

- **February 11**

[Cancelled](#)

**February 18**[Eran Crockett \(Binghamton University\)](#)***Universal algebra and constraint satisfaction problems***

**Abstract:** Constraint satisfaction problems (CSPs) form a class of combinatorial decision problems generalizing graph colorability and Boolean satisfiability. In this expository talk, I will explain how ideas from universal algebra have been instrumental in classifying the computational complexity of CSPs.

**February 25**[Fikreab Solomon Admasu \(Binghamton University\)](#)***Subgroups of the integer lattice  $\mathbb{Z}^d$  and the higher rank discrete Heisenberg groups***

**Abstract:** A sublattice  $L$  of the integer lattice  $\mathbb{Z}^d$  is called co-cyclic when the quotient  $\mathbb{Z}^d/L$  is a cyclic group. Approximately 85% of sublattices of finite index in  $\mathbb{Z}^d$  are co-cyclic. This can be proven by either counting solutions to linear congruence equations or using zeta function methods. We show a similar result holds for subgroups of the discrete Heisenberg groups  $H_{2d+1}$ .

**March 3**[Matt Evans \(Binghamton University\)](#)***Some recent results for spectra of commutative BCK-algebras***

**Abstract:** BCK-algebras are the algebraic semantics of a non-classical logic. Like for commutative rings, there is a notion of a prime ideal in these algebras, and the set of prime ideals is a topological space called the spectrum. By work of Stone (and later, Priestley), there is a close connection between these spectra and distributive lattices with 0. In this talk I will discuss some recent results on the interplay between commutative BCK-algebras, their spectra, and distributive lattices.

**March 10**[Aparna Upadhyay \(University at Buffalo\)](#)***The Benson-Symonds Invariant***

**Abstract:** Let  $M$  be a finite dimensional  $kG$ -module for a finite group  $G$  over a field  $k$  of characteristic  $p$ . In a recent paper Dave Benson and Peter Symonds defined a new invariant  $\gamma_G(M)$ . This invariant measures the non-projective proportion of the module  $M$ . In this talk, we will see some interesting properties of this invariant. We will then determine this invariant for permutation modules of the symmetric group corresponding to two-part partitions and present a combinatorial formula for the same using tools from representation theory and combinatorics.

**March 17**[Cancelled](#)**March 24**[Cancelled](#)**March 31**[Cancelled](#)**April 7**[Spring vacation](#)

- **April 14**  
Cancelled
  - **April 21**  
Cancelled
  - **April 28**  
Cancelled
  - **May 5**  
Cancelled
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- Pre-2014 semesters
- [Fall 2014](#)
- [Spring 2015](#)
- [Fall 2015](#)
- [Spring 2016](#)
- [Fall 2016](#)
- [Spring 2017](#)
- [Fall 2017](#)
- [Spring 2018](#)
- [Fall 2018](#)
- [Spring 2019](#)
- [Fall 2019](#)

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