

## Fall 2016

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- **August 30**

Organizational Meeting

- **September 6**

[No talk this week](#) (see the Geometry/Topology seminar on September 8 here.)

- **September 13**

[Eran Crockett](#) (Binghamton University)

***Properties of finite algebras***

**Abstract:** We study various properties of finite algebras and the varieties they generate. In particular, we look for counterexamples to the conjecture that every dualizable algebra is finitely based.

- **September 20**

[Name](#) (University)

***Title of Talk***

**Abstract:** Abstract for Talk

- **September 27**

[Name](#) (University)

***Title of Talk***

**Abstract:** Abstract for Talk

- **October 4**

[Holiday](#)

***Title of Talk***

**Abstract:** Abstract for Talk

- **October 11**

[Name](#) (University)

***Title of Talk***

**Abstract:** Abstract for Talk

- **October 18**

[Luise C. Kappe](#)

***On auto commutators in infinite abelian groups***

**Abstract:** Abstract for Talk

- **October 25**

[Matt Evans](#) (Binghamton University)

***An introduction to BCK-algebras***

**Abstract:** In this talk I will introduce BCK-algebras and discuss some of their universal algebraic properties. In the bounded commutative case, I will develop the beginnings of a Priestley duality for BCK-algebras and discuss some complications.

▪ **November 1**

[Rachel Skipper](#) (Binghamton University)

***On some groups generated by finite automata***

**Abstract:** Every invertible automaton with finitely many states produces a group of automorphisms of a regular rooted tree. In this talk, we outline how to obtain a group from an automaton and then discuss a particular family of examples.

▪ **November 7**

[Matthew Moore](#) (McMaster University)

***Dualizable algebras omitting types 1 and 5 have a cube term***

**Abstract:** An early result in the theory of Natural Dualities is that an algebra with a near unanimity (NU) term is dualizable. A converse to this is also true: if  $V(A)$  is congruence distributive and  $A$  is dualizable, then  $A$  has an NU term. An important generalization of the NU term for congruence distributive varieties is the cube term for congruence modular (CM) varieties, and it has been thought that a similar characterization of dualizability for algebras in a CM variety would also hold. We prove that if  $A$  omits tame congruence types 1 and 5 (all locally finite CM varieties omit these types) and is dualizable, then  $A$  has a cube term.

▪ **November 8**

[Colin Reid](#) (University of Newcastle)

***Totally disconnected, locally compact groups***

**Abstract:** Totally disconnected, locally compact (t.d.l.c.) groups are a large class of topological groups that arise from a few different sources, for instance as automorphism groups of combinatorial structures, or from the study of isomorphisms between finite index subgroups of a given group. Two analogies are that they are like 'discrete groups combined with compact groups' or 'non-Archimedean Lie groups'. A general theory has begun to emerge in recent years, in which we find that the interaction between small-scale and large-scale structure in t.d.l.c. groups is somewhere between the two extremes that these analogies would suggest. I will give a survey of some ways in which these groups arise and a few recent results in the area.

▪ **November 15**

[Andrew Kelley](#) (Binghamton University)

***Maximal subgroup growth: current progress and open questions***

**Abstract:** This is an update on my research on the maximal subgroup growth of certain f.g. groups. The focus is on metabelian groups, virtually abelian groups, and on the Baumslag-Solitar groups.

▪ **November 22**

[Name](#) (University)

***Title of Talk***

**Abstract:** Abstract for Talk

**▪ November 29**

[Joseph Cyr](#) (Binghamton University)

***Embedding Modes into Semimodules***

**Abstract:** A mode is an algebra which is idempotent and whose basic operations are homomorphisms. The main focus of this talk will be to give a generalization of Jezek and Kepka's embedding theorem for groupoid modes. We will show that a mode is embeddable into a subreduct of a semimodule over a commutative semiring if and only if it satisfies the so called Szendrei identities. Thus the operations on Szendrei modes can be represented in a particularly nice way. This will involve thinking of operations "additively", that is, taking an n-ary operation and considering it as a sum of n unary operations.

**▪ December 6**

[No talk this week](#) (attend the algebra candidate talk on Friday)

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- Pre-2014 semesters
  - [Fall 2014](#)
  - [Spring 2015](#)
  - [Fall 2015](#)
  - [Spring 2016](#)

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