

**FALL 2003**  
**LOGIC SEMINAR**

**Friday, September 12, 2003**

3:00p.m.

Funger 428B

Speaker: Valentina Harizanov, GWU

Title: *Recursive finitely branching trees and their infinite paths*

Abstract: The algorithmic version of Weak König's Lemma that every infinite recursive binary tree has an infinite recursive path is false. However, the Low Basis Theorem of Jockusch and Soare establishes that every such tree has a path of the lowest possible Turing jump. Hence, although no nonstandard model of Peano Arithmetic is computable (Tennebaum's Theorem), there is such a model of low Turing degree.

**Friday, September 26, 2003**

3:30p.m.

Funger 428B

Speaker: Valentina Harizanov, GWU

Title: *Bi-orders on computable groups and paths through computable trees*

Abstract: We will analyze the connection between spaces of bi-orders on computable groups and the classes of the infinite paths of computable binary trees. We will also present Solomon's negative answer to a question posed by Downey and Kurtz.

**Friday, October 3, 2003**

3:30p.m.

Funger 428B

Speaker: Amir Togha, GWU

Title: *Left-ordered groups*

Abstract: We will discuss the notion of left-orderability of groups. We will establish some sufficient conditions for a finitely generated group to admit a left order.

**Friday, October 10, 2003**

3:30p.m.

Funger 428B

Speaker: Amir Togha, GWU

Title: *Left-ordered groups, Part II*

Abstract: We will continue the discussion on the size and structure of the spaces of orders on abelian torsion-free groups.

**Friday, October 24, 2003**

3:30p.m.

Funger 428B

Speaker: Jennifer Chubb, GWU

Title: *The Priority Method*

Abstract: I will discuss the finite injury priority method in the context of a solution to Post's Problem. The lecture will be accessible to all graduate students.

**Friday, November 7, 2003**

3:30p.m.

Funger 428B

Speaker: Valentina Harizanov, GWU

Title: *Automorphisms of the lattice of computably enumerable sets*

**Friday, November 14, 2003**

3:30p.m.

Funger 428B

Speaker: Corey Null, GWU

Title: *A Survey of Mathematics in Music*

Abstract: This will be an overview of mathematical concepts as they apply to music with a focus on mathematical models for musical composition.

The lecture will be accessible to all graduate students.

**Friday, November 21, 2003**

12:00noon

Funger 428B

Speaker: Ali Enayat, American University

Title: *Automorphisms of models of arithmetic and set theory, part I*

Abstract: I will discuss new model theoretic characterizations of a number of arithmetical and set theoretical theories  $T$  in terms of the behaviour of automorphisms.