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**Speaker:** Stefan Vatev  
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3:00 PM

258 Hurley Hall

**Title:** Jump inversion of structures

**Abstract:**

In computable structure theory, the Turing degree spectrum of a countable structure  $A$  is the set of all Turing degrees of the atomic diagrams of all isomorphic copies of  $A$ . Making parallel with the study of the semi-lattice of Turing degrees, it is natural to ask questions of the following kind: - What would the jump of a structure look like? - What would mean for a structure to have a jump invert? - Which structures have a jump invert? Answers to this kind of questions were pursued independently and simultaneously by many researchers in the past 25 years. Different definitions of a jump structure were given, all of which turned out to be equivalent. The jump structure must have not only computability-theoretic, but also definability properties. As there are different jump inversion theorems in the semi-lattice of Turing degrees, there are different jump inversion theorems in the context of Turing degree spectra. In this talk I will make a review of some known results and I will try to make connections to some current research.