



MARQUETTE  
UNIVERSITY

HELEN WAY KLINGLER  
COLLEGE OF ARTS AND SCIENCES

Department of Mathematics, Statistics and Computer Science

## COLLOQUIUM

---

### *Logic and Degrees*

Mariya Soskova

Department of Mathematical Logic and Applications  
University of Wisconsin – Madison

**3:30 PM, Thursday, April 6, 2017**

Cudahy Hall, Room 401

#### **Abstract**

Some incomputable sets are more incomputable than others. We use Turing reducibility and enumeration reducibility to measure the relative complexity of incomputable sets. By identifying sets of the same complexity, we can associate to each reducibility a degree structure: the partial order of the Turing degrees and the partial order of the enumeration degrees. The two structures are related in nontrivial ways. The first has an isomorphic copy in the second and this isomorphic copy is an automorphism base. In 1969, Rogers asked a series of questions about the two degree structures with a common theme: logic and definability. In this talk I will introduce the main concepts and describe some of the work that was motivated by these questions.

---

1313 W. Wisconsin Avenue, Cudahy Hall, Room 412, Milwaukee, WI 53201-1881

For further information: see <http://www.marquette.edu/mscs/resources-colloquium.shtml>

or contact Dr. Sarah Hamilton #414-288-6343, [sarah.hamilton@marquette.edu](mailto:sarah.hamilton@marquette.edu)

*POST COLLOQUIUM REFRESHMENTS SERVED IN  
CUDAHY HALL, ROOM 342 AT 4:30 P.M.*