

**The University of Chicago**  
**ALGEBRAIC GEOMETRY SEMINAR**

Wednesday, May 13<sup>th</sup>, 2015  
4:30 – 6:00 pm, Eckhart 312

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**On mod- $\ell$  birational anabelian geometry**

In the early 90's, Bogomolov introduced a program whose ultimate goal is to reconstruct function fields of dimension  $> 1$  over algebraically closed fields from their pro- $\ell$  2-step nilpotent Galois groups. Although it is far from being resolved in full generality, this program has since been carried through for function fields over the algebraic closure of a prime field. Unfortunately, when passing to the mod- $\ell$  2-step nilpotent Galois group, one can no longer use the fundamental theorem of projective geometry, which plays a crucial role in the pro- $\ell$  situation. After an introduction to Bogomolov's program, in this talk I will describe some progress in the mod- $\ell$  context which overcomes this difficulty.