ROSS WILLARD, University of Waterloo
Constraint Satisfaction Problem dichotomy update

Given a finite relational structure M in a finite signature L, the Constraint Satisfaction Problem for M, or CSP(M), is the decision problem which, given a primitive positive sentence in the signature of L as input, asks whether the sentence is true in M. Each such problem CSP(M) is clearly in NP. The CSP Dichotomy Conjecture, dating back to work of Feder and Vardi in the 1990s, posits that for each such M, CSP(M) is either in P or is NP-complete.

The Dichotomy Conjecture has (apparently) been proved by Andrei Bulatov and independently by Dmitriy Zhuk; see https://arxiv.org/abs/17
and https://arxiv.org/abs/1704.01914. In this talk I will briefly describe the (known) connection of such problems to universal algebra, discuss a key component of Zhuk's proof, and indicate one way in which the proof can be strengthened.