► DAVID FERNÁNDEZ-DUQUE, *Noetherian Gödel Logics.*
ICS of the Czech Academy of Sciences and Department of Mathematics WE16, Ghent University.
E-mail: fernandez@cs.cas.cz.

Noetherian Gödel logics are many-valued logics where the set of truth values is a closed subset of $[0, 1]$ without infinite ascending sequences. These logics are parametrized by countable ordinals, so that $\mathsf{G}^{\downarrow}_{\alpha}$ is the logic with truth values inversely isomorphic to $\alpha + 1$. In this talk we discuss the complexity of satisfiability and validity for each Noetherian Gödel logic, strengthening and generalizing results of Baaz-Leitsch-Zach and Hájek. Specifically, we show that the complexity of satisfiability and validity in $\mathsf{G}^{\downarrow}_{\alpha}$ are related to Σ^1_1 and Π^1_1 formulas, respectively, over $(\mathbb{L}_\beta)_{\beta\leq\alpha}$.

This is joint work with Juan P. Aguilera and Jan Bydzovsky