► SZYMON CHLEBOWSKI, *Intuitionistic Logic with Propositional Identity and Propositional Quantifiers.*

Adam Mickiewicz University in Poznań, Poland.

E-mail: szymon.chlebowski@amu.edu.pl.

The aim of the talk is to study intuitionistic logic with two additional connectives: propositional identity and propositional quantifiers. The root of our research lies in the work of Roman Suszko devoted to the so called non-Fregean logics [1], which were used to formalize ontology in Wiitgenstein's *Tractatus Logico-Philosophicus*. Suszko introduced propositional identity connective, in the context of classical logic, in order to be able to distinguish between semantic correlates of sentences, which are non longer truth values, but *situations*. In [3] two sequent calculi for minimal non-Fregean logic (SCI system) were presented. Extending these results [2] introduced an intuitive interpretation of propositional identity in the context of intuitionistic logic alongside with Kripke semantics and cut-free sequent calculus for the basic intuitionistic logic with propositional identity (ISCI system). During the talk we will present an extension of the aforementioned system with propositional quantifiers (ISCI$_Q$). We will discuss intuitive interpretation of the new connectives, Kripke semantics and sequent calculus for the logic ISCI$_Q$.

[1] Golińska-Pilarek, Joanna, and Taneli Huuskonen *Non-Fregean propositional logic with quantifiers.* Notre Dame J. Formal Logic 57(2): 249-279 (2016)

[2] Chlebowski, Szymon *An Investigation into Intuitionistic Logic with Identity.* Bulletin of the Section of Logic, 48(4), 259–283 (2019)

[3] Chlebowski, Szymon *Sequent Calculi for SCI.* Studia Logica, 106,541–563 (2018)