

TITLE: "A Hoare Logic for Reasoning About Nonterminating Behaviors"

ABSTRACT: I will discuss a Hoare logic for reasoning about behaviors of possibly nonterminating behaviors of While programs in terms of coinductive (possibly infinite) traces that subsumes both the partial-correctness and total-correctness standard state-based Hoare logics. As the underlying logic of assertions, we use an interval temporal logic with chop and chop-star connectives as in Mosztowski's work except that we are intuitionistic, which makes the logic considerably more discriminate and subtle. I will also discuss an adaptation for While with interactive I/O using a tree logic.

(Joint work with Keiko Nakata.)