

Constructive mathematics is often guided by the slogan that proofs are programs. But this immediately raises a question: what kind of programs? While constructive foundations are traditionally interpreted through pure computation, many mathematical principles become more natural, more informative, or even newly valid when the underlying programs are allowed to use computational effects such as state, non-deterministic or probabilistic computation, etc. In this talk, I will explain how modalities provide a principled way to control such effects inside type theory. Rather than treating effects as external impurities, modalities act as an observation policy: they determine which computational capabilities are exposed to the logic and which remain hidden. Changing the modalities therefore changes the constructive world we obtain. Through examples involving Continuity, Choice, and variants of Markov's principle, I will show how this perspective gives a systematic way to study how the landscape of constructive mathematics shifts when programs are allowed to compute with effects.