

- IRIS VAN DER GIESSEN, *Taming proof systems toward uniform interpolation*.  
Institute for Logic, Language and Computation, University of Amsterdam, The Netherlands.  
*E-mail:* `i.vandergiesen@uva.nl`.

Uniform interpolants reflect a balanced flow of information within a logical system. Intuitively, given a statement  $A$  that involves specific terminology, its uniform interpolant  $A'$  serves as a simplified reflection of  $A$ : it employs fewer terms but retains precisely those consequences of  $A$  that can be expressed in this reduced terminology. We say that a logic has the uniform interpolation property if for all formulas  $A$  there exists a uniform interpolant.

In this talk, I will explain how proof systems can be used to construct uniform interpolants, and explain why it is important to *tame* your proof system towards the right shape. Through a series of examples, I will illustrate how I have tamed sequent calculi to prove the uniform interpolation property for some modal logics. I would like to highlight ongoing research together with Borja Sierra Miranda and Guillermo Menéndez Turata in which we show that intuitionistic Gödel-Löb logic iGL enjoys the uniform interpolation property for which a *cyclic* proof system was necessary.