中央研究院 資訊科學研究所
Institute of Information Science, Academia Sinica

Distinguished Lecture Series

Coq, a Proof Assistant Based On Type Theory

Friday, October 16th, 2009 10:00 am
Auditorium 106 at new IIS Building

Jean-Pierre Jouannaud

Professor, INRIA Research Director, Project FORMES and Chair Professor of Software Theory, School of Software, Tsinghua University, Beijing, China

Abstract

I shall describe how the Curry-Howard isomorphism between types/propositions and programs/proofs leads to a natural architecture which is common to most proof assistants (PA) based on higher-order type theory. A main advantage of this architecture is that the correctness of proofs can be trusted provided a quite small part of the code of the whole PA — the kernel — is trusted. We shall then stress why the usual intensional equality available in type theory is not adequate for applications, propose a novel architecture allowing the integration of an extensional equality to type theory, and discuss why this novel architecture can again be trusted. Details about this new implementation of Coq shall be given in conclusion.

For more infomation: http://www.iis.sinica.edu.tw/