

The Coq System and contacts with USTC

Yves Bertot

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Summary

- ▶ Coq is an Inria-funded long term research project
- ▶ Received world-class award in 2013 : ACM Software System Award (\$35k)
- ▶ Coq is known and used in the best universities in the world
 - ▶ MIT, Yale, Princeton, U. Penn., Cornell, Harvard, UCSD.
 - ▶ Including Tsinghua (Beijing), USTC (Suzhou) in China

Context of work

- ▶ High reliability software
 - ▶ Programming language tools
 - ▶ Operating systems
 - ▶ Cryptography primitives
 - ▶ Electronic commerce
 - ▶ High precision numerical computation
- ▶ High level mathematics
 - ▶ Used and advocated by V. Voevodsky (Fields Medal '02)
 - ▶ Homotopy and algebraic topology
 - ▶ Groups, polynomials, and algebra
 - ▶ Combinatorials

Contacts with China

- ▶ Reference book on the Coq system published in 2004
authors: Yves Bertot and Pierre Castéran
- ▶ Translated in Chinese in 2009 (published by Tsinghua University Press)
- ▶ Proof-reading provided by several groups including a group of USTC students
- ▶ Courses organized in China.



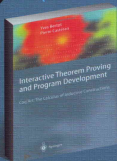
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交互式定理证明与程序开发

Coq归纳构造演算的艺术

Interactive Theorem Proving and Program Development
Coq/Art: The Calculus of Inductive Constructions



Yves Bertot
Pierre Casteran 著

顾明 等译



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Coq Schools in China

- ▶ Tsinghua course for 12 students at Tsinghua, April 2008,
- ▶ First school for 80 students, at Tsinghua, August 2009,
- ▶ Second school for 80 students, at Tsinghua, August 2010,
- ▶ Third school for 80 students, at USTC Suzhou campus, August 2011,
- ▶ Fourth school for 100 students, at ECNU in Shanghai, August 2012,
- ▶ Prof. Castéran was also invited for talks at Beihang.

School of Formal methods, USTC Suzhou, Aug. 2011

- ▶ Scientific organization: Yves Bertot
- ▶ Lecturers: YB, Sandrine Blazy (U. Rennes), Pierre Castéran (U. Bordeaux), Feng Xinyu (USTC), Chris Hawblitzel (Microsoft Research), Shao Zhong (Yale)
- ▶ Sponsors: Joint Yale-USTC laboratory, USTC, Microsoft Research-Inria joint laboratory
- ▶ More info: <http://kyhcs.ustcsz.edu.cn/fmschool-2011>

