

**THE CONCORDIA INSTITUTE FOR INFORMATION SYSTEMS ENGINEERING
IS PLEASED TO PRESENT THE FOLLOWING GUEST LECTURE**

Dr. Jean Goubault-Larrecq, Professor and Head, SECSI
École Normale Supérieure de Cachan and INRIA
FRANCE

Forward Analysis for WSTS, Part I: Completions

Well-structured transition systems provide the right foundation to compute a finite basis of the set of predecessors of the upward closure of a state. The dual problem, to compute a finite representation of the set of successors of the downward closure of a state, is harder: Until now, the theoretical framework for manipulating downward-closed sets was missing. We answer this problem, using insights from domain theory (dcpos and ideal completions), from topology (sobrifications), and shed new light on the notion of adequate domains of limits.

Jean Goubault-Larrecq was born in Rouen, France, in 1965. He studied at École Polytechnique, (France) then at the Corps des Mines; he received his Ph.D. from École Polytechnique, (France) in 1993 and his habilitation in 1997. He worked at the research center of Bull S.A. for ten years, was invited researcher at the University of Karlsruhe in 1996, worked as research engineer then project director at Dyade, a common technology transfer venture between Bull and INRIA, from 1996 to 2000. He is currently full-time professor of computer science at the École Normale Supérieure de Cachan, and head of the SECSI (Sécurité des Systèmes d'Information) project at INRIA Saclay. He currently teaches programming and semantics, complexity theory (both introductory and advanced), lambda-calculus and logic. His research domains include automated deduction, formal specification, models and methods for cryptographic protocols, intrusion detection, proof theory and modal logics, linear logic, algebraic topology in computer science, and, more recently, semantic models for mixed non-deterministic and probabilistic choice.

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