Seminar Concurrency Theory

Topics and selection of papers:

- Process algebra
  - Calculus of communicating systems (CCS)
    - A complete axiomatisation for observational congruence of finite state behaviors [19]
    - Barbed bisimulation [22]
    - Comparing recursion, replication, and iteration in process calculi [6, 7]
    - Decidable subsets of CCS [9]
  - The π-calculus
    - Foundations of the π-calculus [20, Chapter 8+9],[21]
    - A theory of bisimulation for the pi-calculus [24]
    - The spi calculus [1]
    - The Psi calculus [4]
  - Mobile ambients [8]
  - Modal transition systems and interface theories for concurrency [16, 2, 3]
  - Input/output automata [14, 15]
- Causal models of concurrency
  - Petri Nets
    - Undecidability of bisimilarity for Petri nets and some related problems [13]
    - Branching processes of Petri nets [10]
    - The relation between CCS and Petri nets [12, 11]
  - Trace theory, Mazurkiewicz traces [17, 18]
  - Modeling concurrency with partial orders (Pomsets) [23]
  - Comparing Mazurkiewicz traces and Pomsets [5]
  - Event structures [25, 26]

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