



SPP (Synchro et Prog Parallèle)

Overview

François Taïani

The lecturer

- François Taiani

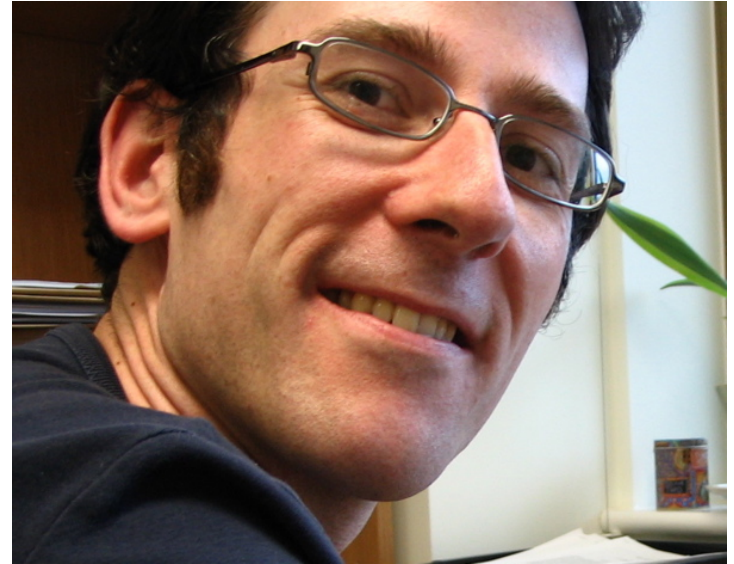
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- Background

- My interests

 - system software (OS, middleware)

 - large scale distributed computing



The module

- SPP (Synchronisation et Programmation Parallèle)

- Aims: introduction to
 - foundation of parallel computing
 - common mechanisms for synchronisation
 - common coordination problems and their solutions
 - alternative approaches to parallelism

Assessment

- 2 in-class tests (35% each, 70% in total)
 - 35% for each test
 - 1 hour each
 - 1st test: Vendredi 30/11/2012, 10h15
 - 2nd test: Mercredi 16/01/2013, 14h00

- 2 marked practical labs (15% each, 30% in total)
 - marked during lab sessions
 - schedule will depend on how we progress

Module Outline

- Unit 1: Introduction and Motivation
- Unit 2: Locks and Mutual Exclusion
- Unit 3: Implementing Locks
- Unit 4: Solving typical problems with locks
- Unit 5: Variation on Locks: Semaphores and monitors
- Unit 6: Barriers, Conditions, and Rendez-Vous
- Unit 7: Petri Nets
- Unit 8: Alternative Approaches: Actors & Immutability
- Unit 9: Modelling Parallelism: Atomicity
- Unit 10: Beyond locks: Lock-free programming

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