Challenges for Programming, Logic, and Semantics

- New hardware and software needs new theories
  - e.g. multi-core, evolving programming languages
- New theories support new application modelling methods
  - e.g. weak memory, parallelism, semantic theories
- Formal models need tool support
  - e.g. general and specialised theorem provers
- Models and tools improve design and verification
  - e.g. system trust based on scientific understanding
- Mathematical foundations need extending and refining
  - e.g. logics, category theory and more

Potential Supervisors

- Anuj Dawar . . . . . logic and algorithms
- Marcelo Fiore . . . . . semantics, categories, types, logic
- Mike Gordon . . . . . mechanised logic, formal verification
- Tim Griffin . . . . . routing algebras, Internet connectivity analysis
- Mateja Jamnik . . . . . automated reasoning, artificial intelligence
- Alan Mycroft . . . . . compilation and static program analysis
- Larry Paulson . . . . . automated theorem proving & applications
- Andrew Pitts . . . . . semantics, logic and category theory
- Peter Sewell . . . . semantics, verification, multiprocessors, languages
- Sam Staton . . . . . semantics, process calculi
- Glynn Winskel . . . . . theory, concurrency, category theory