

RESEARCH INTERESTS

- **Computer Science**
 - High-performance computing (HPC): parallel algorithms, parallel programming languages and compiler design, concurrent data structures, operating systems, and computer architecture
 - Distributed systems: file systems, synchronisation, middleware, Grid and Cloud Computing
 - Modelling and simulation, and parallel and distributed simulation (PADS)
 - Computer networks: network protocols, network modelling and simulation, and InfiniBand
 - Cryptography, network security and web engineering
- **Applied Mathematics**
 - Mathematical modelling, numerical analysis, numerical optimisation, matrix functions, differential equations, Multiphysics modelling, mathematical physiology, and parallel scientific computing
- **Electrical and Electronics Engineering**
 - Digital electronics: system-on-chip (SoC), NoC, embedded systems, low-power circuit design, VLSI circuits, computer-aided design (CAD) and electronic design automation (EDA)
 - Analogue electronics: non-linear circuit theory, integrated circuits, parallel modelling and simulation of electrical circuits, and analogue-mixed signal (AMS)
 - Semiconductor device modelling: solid-state physics, quantum electronics, and semiconductor device modelling and simulation (TCAD)
- **Medicine**
 - Neuroscience, physiology, computational neuroscience, and ageing