

## Parallel Programming

School of Computer Science

College of Engineering and Physical Sciences

### Details

**Code** 24450

**Level of study** Third/Final year

**Credit value** 10

**Semester** 2

**Other pre-requisites** None. Some familiarity with the Haskell programming language would be helpful.

### Module description

This module covers the basics of programming massively parallel architectures such as graphics processing units (GPUs), multi-cores and field-programmable gate arrays (FPGAs). The module is focussed on the architecture of such devices and their use in speeding-up common computational tasks. Recent developments in such architectures made this task substantially easier and newly available programming tools allow for high-level straightforward programming of these systems. The module will provide a largely practical introduction to the topic. Lectures will address the basic architectural principles of modern parallel architectures and relevant algorithms and programming techniques.

### Teaching and learning methods

2 hrs/week lectures; 2 hrs/week practical sessions

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