

# Bristol Algorithms Days 2016

## Workshop on Efficient Algorithms and Lower Bounds

2 – 3 February 2016

The aim of this event is to explore new avenues of research in both the theoretical and practical aspects of algorithm. This workshop is funded by the 5 year EPSRC fellowships of Raphaël Clifford and Ashley Montanaro titled "Next generation pattern matching" and "New insights in quantum algorithms and complexity".

### Programme

#### Tuesday 2nd February 2016

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|-------------------|---|
| 11.30am – 12.15pm | Some mathematical aspects of data centre networks<br>Iain Stewart, University of Durham                     |
| 12.15 – 1pm       | Efficient search and monitoring protocols for mobile entities<br>Leszek Gąsieniec, University of Liverpool  |
| 2 – 3pm           | Excursion   |
| 3.30 – 4.15pm     | Self-organizing binary search trees: Recent results<br>Kurt Mehlhorn, Max-Planck-Institut, Germany          |
| 4.45 – 5.30pm     | Algorithms and barriers for random hypergraph partitioning<br>Will Perkins University of Birmingham         |
| 5.30 – 6.15pm     | Learning with submodular functions: Models, algorithms, and applications<br>Alina Ene University of Warwick |

#### Wednesday 3rd February 2016

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|----------------|---|
| 09.15 – 10am   | Approximate Nash equilibrium computation<br>Paul Goldberg, University of Oxford                                     |
| 10 – 10.45am   | Conditional lower bounds for dynamic programming problems<br>Karl Bringmann, Max-Planck-Institut, Germany           |
| 11.15am – 12pm | Quantum algorithms and machine learning<br>Iordanis Kerenidis, LIAFA, University of Paris Diderot, France           |
| 12 – 12.45pm   | Vacant sets and vacant nets: Critical times simple and modified random walks<br>Colin Cooper, King's College London |
| 2.30 – 3.15pm  | Unconditional hardness results for dynamic and online problems<br>Allan Grønlund, University of Aarhus, Denmark     |
| 3.15 – 4pm     | Multiple random walks<br>Thomas Sauerwald, University of Cambridge  |