



# CCIMI

CANTAB CAPITAL INSTITUTE FOR THE  
MATHEMATICS OF INFORMATION

## About the Institute

The Cantab Capital Institute for the Mathematics of Information (CCIMI) is hosted within the Faculty of Mathematics of the University of Cambridge and is a collaboration between the Departments of Applied Mathematics and Theoretical Physics (DAMTP) and Pure Mathematics and Mathematical Statistics (DPMMS). It was established in 2016 through philanthropic support of a generous donation from Cantab Capital Partners. The Institute accommodates research activity on fundamental mathematical problems and methodology for understanding, analysing, processing and simulating data. Data science research performed in the Institute is on the highest international level, aiming to extract relevant information from large- and high-dimensional data with a predictable certainty.

Research at the Institute will focus on various applications within its interdisciplinary engagements and are likely to involve economists and social scientists on questions about financial markets and the internet. Specific projects will also include physicists and engineers working on software and hardware development questions in the context of security, imaging and structured data processing, as well as biomedical scientists on data science in healthcare and biology.

### Aims of the Institute

The advance of data science and the solutions to big data questions heavily rely on fundamental mathematical techniques and in particular, their intra-disciplinary engagement. This is at the heart of the Institute, involving mathematical expertise ranging from statistics, applied and computational analysis, to topology and discrete geometry – all with the common goal of advancing data science questions. With 5 PhD students, and a large growing faculty, the Institute is working on a number of projects, covering topics from biological transportation networks, to image analysis, to electron tomography.

### Dr Carola-Bibiane Schönlieb

Dr Carola-Bibiane Schönlieb is Director of the Institute. Carola is a Reader in Applied and Computational Analysis, Head of the Cambridge Image Analysis (CIA) group at the Department of Applied Mathematics and Theoretical Physics at Cambridge and a Fellow of Jesus College.



Dr Schönlieb holds a PhD in Mathematics from the University of Cambridge and a Master of Mathematics with distinction from the University of Salzburg.



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