

ATI Summit: Big data in the physical sciences

Wednesday 13 January 2016 - Wednesday 13 January 2016

The Marble Hall/Kohn Centre, The Royal Society



Book of Abstracts

Contents

21st Century Physical Sciences: The Age of Algorithms?	1
ATI Overview	1
Data science in the physical sciences	1
From physical modelling to big data analytics: examples and challenges	1
Spotlight talks	1

2

21st Century Physical Sciences: The Age of Algorithms?

Corresponding Author: sjrob@robots.ox.ac.uk

0

ATI Overview

Corresponding Author: s.olhede@ucl.ac.uk

1

Data science in the physical sciences

Corresponding Author: tony.hey@stfc.ac.uk

3

From physical modelling to big data analytics: examples and challenges

Corresponding Author: b.leimkuhler@ed.ac.uk

4

Spotlight talks

Summary:

Spotlight speakers (in order):

Karin Sigloch (Oxford) - "Seismic tomography"

Aris Karastergiou (Oxford) - "Pulsars"

Juha Jäykkä (Cambridge) - "Algorithms to Architectures"

Stephen Smartt (Belfast) - "Big Data problems for transient sky surveys in astronomy"

Peter Coveney (UCL) - "Compute and data-intensive simulations, error analysis & control in the chemical sciences"

Thomas Kitching (MSSL) - "Euclid"

Eiko Yoneki (Cambridge) - "Efficient massive-scale graph processing"

Jonathan Gair (Edinburgh) - "Challenges in data analysis for gravitational wave detectors"

Tim Scanlon (UCL) - "Big Data at the Large Hadron Collider"

Alan Heavens (Imperial) - "Many data: few numbers; many data: many numbers"

Sjoerd de Ridder (Edinburgh) - "Analysing data from Large N permanent seismic stations to monitor subsurface processes"

Serena Viti (UCL) - "Data science challenges and solutions in astrochemistry"

David Wallom (Oxford) - "Creating insight from Big Data in Energy and the environment"