DEPARTMENT OF
COMPUTER
SCIENCE

UNIVERSITY OF
OXFORD

DBOnto & ED3

Semantic Web and Data Integration:

New technologies and applications to industry

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Goals of Workshop

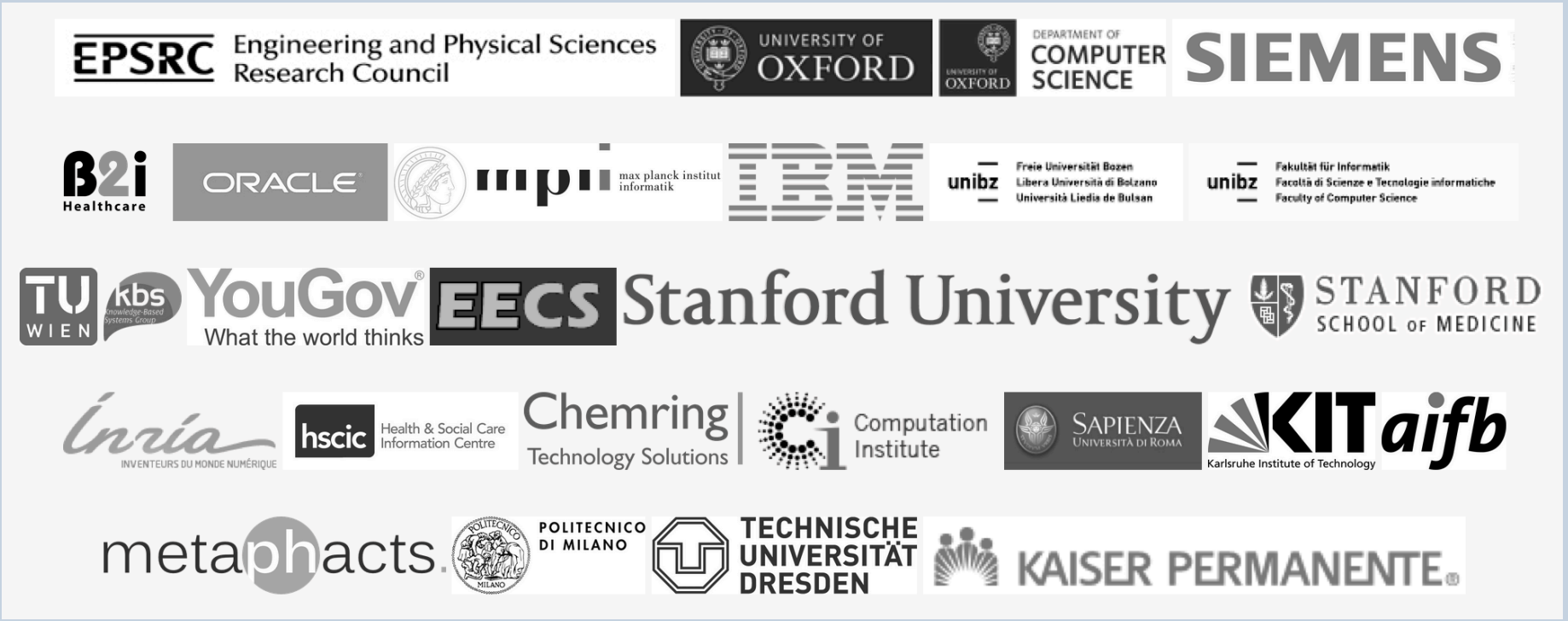
- **Improve our understanding** of the challenges faced by industry
  - related to data and knowledge management and KR
  - particularly in the area of data integration and semantic technologies
- **Hear about new techniques** that can be applied to these challenges
  - reports on existing projects sponsored by DBOnto, several of which involve collaborations between industry and academic partners
- **Identify areas** where more collaborative research is needed.
  - Aim of DBOnto is to promote interaction with
  - it can fund networking, research visits, and feasibility studies

DBOnto

"A flexible mechanism providing underpinning funding to world leading research groups"

- Attracting and retaining talented young researchers
- Training and career development of our research team
- Supporting outreach activities, including the development and delivery of tutorials, short courses, and summer schools
- **Supporting medium-duration and high-risk exploratory collaborations in order to develop shared understanding and identify promising directions for further investigation**
- **Develop software prototypes and use them to promote industrial and cross-disciplinary engagement**

DBOnto Partners



ED3: Enabling analytics over Diverse Distributed Datasources

- **To DESIGN an OBDA-based abstraction layer** that supports analytics tools in the acquisition and transformation of relevant data from large, distributed, dynamic, and heterogeneous datasources
- **To DEVELOP a prototypical implementation** of the abstraction layer that provides for easy integration with relevant datasources and analytics tools, and that is sufficiently robust to be deployed in realistic applications
- **To EVALUATE our implementation** in real use-cases provided by our industry partners

SIEMENS

LogicBlox

EDF

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THE ALAN TURING INSTITUTE IS THE UK'S NATIONAL INSTITUTE FOR DATA SCIENCE.

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THE ALAN TURING INSTITUTE IS THE UK'S NATIONAL INSTITUTE FOR DATA SCIENCE.

The Institute's mission is to:

- **undertake data science research** at the intersection of computer science, mathematics, statistics and systems engineering
- **provide technically informed advice** to policy makers on the wider implications of algorithms
- **enable researchers** from industry and academia to work together to undertake research with practical applications
- **act as a magnet** for leaders in academia and industry from around the world to engage with the UK in data science and its applications

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- Is the **national library** of the United Kingdom and the largest library in the world by number of items catalogued.
- A **Grade I listed building**, the library is a major research library, holding around 170 million items
- The Library's collections include around **14 million books**, along with substantial holdings of manuscripts and historical items dating back as far as 2000 BC.
- As a **legal deposit library**, the British Library receives copies of all books produced in the United Kingdom and Ireland, including a significant proportion of overseas titles distributed in the UK.

Schedule

Thursday 26th May
09:45-10:00 Opening & Introduction
10:00-11:00 Industry challenges I: *health and biology*
10:00-10:15 Orsolya Bali, B2i Healthcare - Empowering evidence-based medicine with semantic data analysis
10:15-10:30 Tony Burdett, EBI - Facilitating semantic alignment of EBI services
10:30-10:45 Jamie Ferguson, Kaiser Permanente - Current Challenges in Health Care Enterprises
10:45-11:00 Martin Romacher, Roche - Getting Semantic Technologies into the Business: Major issues and Key Success Factor
11:00-11:30 Coffee & posters/demos
11:30-12:30 Tutorial: "*Trends in Scalable Stream Processing: Parallelism & Programmability*" (Peter Pietzuch, Imperial College)
12:30-14:30 Lunch & posters/demos
14:30-15:30 Tutorial: *Randomised algorithms in databases* (Graham Cormode, University of Warwick)
15:30-16:00 Coffee & posters/demos
16:00-17:30 Industry challenges II: *energy/health*
16:00-16:15 Kejie Li, Biogen - Data challenges in the pharmaceutical industry
16:15-16:45 Laurent Pierre, EDF Energy - The challenges of deploying semantic technologies at EDF
16:45-17:15 Stephan Grimm, Siemens - Semantic-related challenges around data management & analytics
17:15-17:30 Discussion
19:00-22:00 Dinner (York & Albany)

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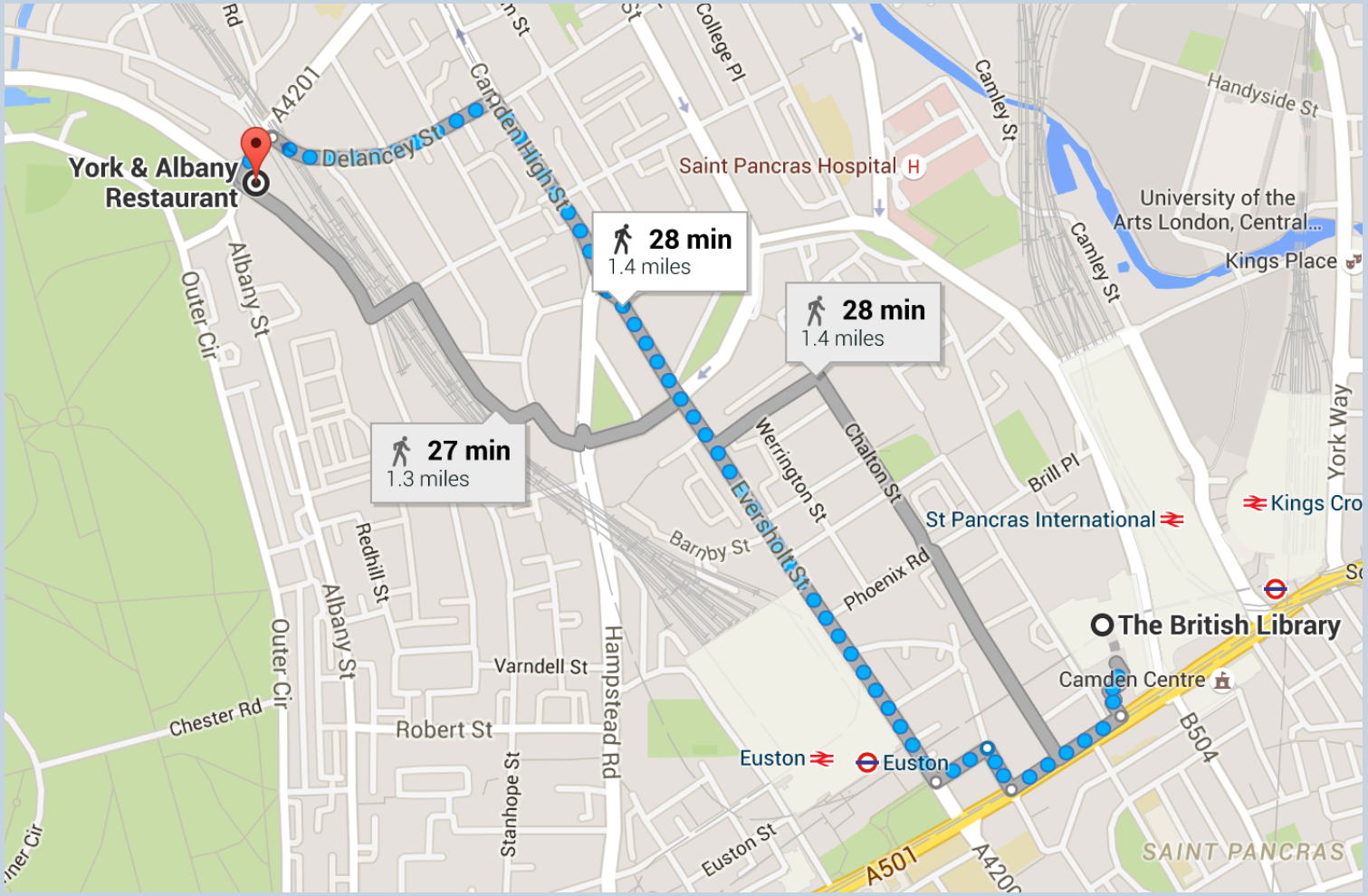
Schedule

Friday 27th May
09:00-09:15 Review
09:15-10:00 Industry challenges III: *data management infrastructure*
09:15-09:30 Michael Schmidt, Metaphacts - Graph database applications: Mastering the heterogeneity challenges
09:30-09:45 Zhe Wu, Oracle - How can RDF and OWL coexist with Property Graph
09:45-10:00 Douglas Santry, NetApp - The Effects of Modern Storage Trends on Databases
10:00-11:00 Breakout sessions
11:00-11:30 Coffee & posters/demos
11:30-12:30 Tutorial: *Ontology based data access (OBDA)* (Ian Horrocks, University of Oxford)
12:30-14:30 Lunch & posters/demos
14:30-15:30 Breakout sessions
15:30-16:00 Future directions & close
16:00- Excursion (to be confirmed)

Dinner – York & Albany



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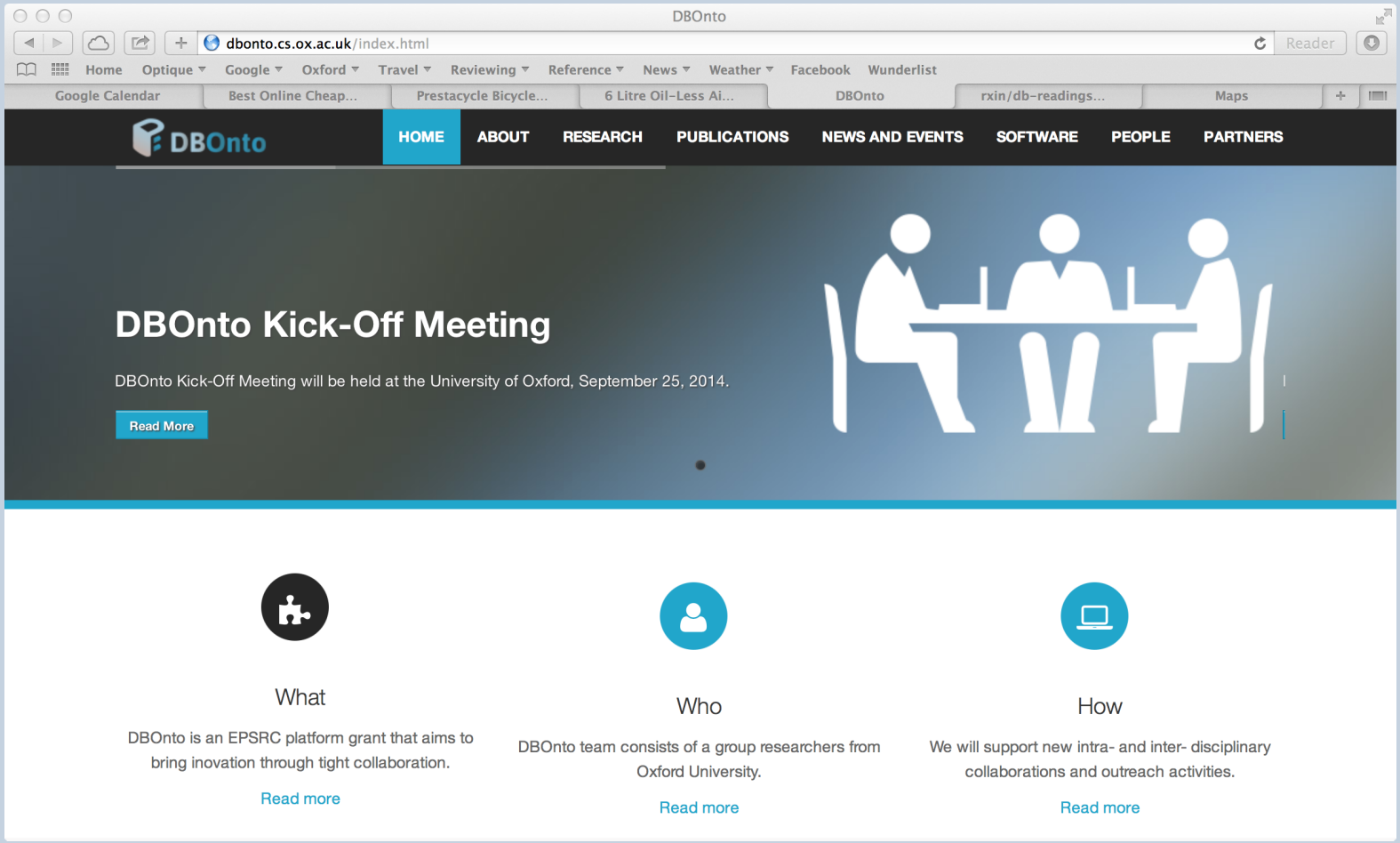

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