

Location Based Systems/Services SIG
'Empowering people: measuring imperceptible movements'

19th March 2015

Hosted by **Cambridge Judge Business School**



This SIG is championed by **David Bartlett, Omnisense, Nicolas Graube, CSR, Andrew Matthews, Nokia Technologies and Geoff Smithson, Cambridge Consultants**

Venue: **Cambridge Judge Business School, Trumpington Street, Cambridge, CB2 1AG**

AGENDA

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- 13:30** Registration and networking with refreshments
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- 14:00** Introduction to Location based Systems/Services from **Andrew Matthews, Nokia Technologies**
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- 14:10** Welcome from host, **Sadia Cuthbert**, MBA Projects Manager, **Cambridge Judge Business School**
Session chaired by SIG Champion, Nicolas Graube, CSR
- 14:20** **'Health; a Wicked Problem as cannot afford to ignore'**
Mike Trenell, Professor of Movement & Metabolism, NIHR Senior Research Fellow & Director, **MoveLab, Newcastle University**
Mike will explore both health as a Wicked Problem and the potential for Technology to help support us all make better everyday choices.
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- 14:40** Q&A
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- 14:45** **'Athlete Monitoring in Team Sports: Past, Present & Future'**
Paul Neilson, Head of Business Operations, **Prozone**
Drawing on experience from Prozone, this presentation will discuss the origins of athlete tracking and monitoring in elite sport, and how both data creation and application have evolved over the last 15 year period - driven by technology change and analytical innovation.
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- 15:05** Q&A
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- 15:10** **Refreshments and networking**
Session chaired by SIG Champion, Geoff Smithson, Cambridge Consultants
- 15:40** **'Body worn sensors: The struggle from data deluge to useful information'**
Paul Baxter, Principal Engineer, **Cambridge Consultants**
Body worn sensors are becoming increasingly common in the fields of health and fitness - but they can provide an excess of noisy data none of which directly measures what users want to know. In this talk I will discuss the challenges in using mathematics and statistics to combine data from multiple body worn sensors to obtain usable information, enabling technique training, performance monitoring and personal fitness development.
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- 16:00** Q&A
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- 16:05** **'Mobile human data from real world environments'**
Deborah Jones, Head of Sales - Clinical Research, **Equivital**
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- 16:25** Q&A
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- 16:30** Panel session with all speakers chaired by **SIG Champion, David Bartlett, Omnisense**
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- 17:10** **Complete evaluation forms**
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- 17:15** **Event closes**
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With the permission of the speakers, presentations will be loaded to the CW website on the day following the event

Profile of organisers

Cambridge Wireless (CW)

CW is the leading international community for companies involved in the research, development and application of wireless and mobile, internet, semiconductor and software technologies. With 400 members from major network operators and device manufacturers to innovative start-ups and universities, CW stimulates debate and collaboration, harnesses and shares knowledge, and helps to build connections between academia and industry. CW's 19 Special Interest Groups (SIGs) provide its members with a dynamic forum where they can network with their peers, track the latest technology trends and business developments and position their organisations in key market sectors. CW also organises the annual Future of Wireless International Conference and Discovering Start-Ups competition along with other high-quality industry networking events and dinners. With headquarters at the heart of Cambridge, UK, CW partners with other international industry clusters and organisations to extend its reach and remain at the forefront of global developments and business opportunities. For more information, please visit www.cambridgewireless.co.uk

Profile of host

Cambridge Judge Business School

Cambridge Judge Business School is a department of the University of Cambridge. Since its inception in 1990, the School has forged a reputation as a centre for as a centre of rigorous thinking and of high – impact transformative education. We are situated within one of the world most prestigious universities and in the heart of the Cambridge Cluster, the most successful technology entrepreneurship cluster in Europe. The school has a world class faculty of around 55 members representing all continents, whose research interests span the globe and the full spectrum of business issues. Cambridge Judge Business School attracts students of the highest calibre from around the globe to its world-class programmes. For further details about our programmes please refer to our website on www.jbs.cam.ac.uk

Profile of SIG Champions

David Bartlett, Omnisense

David Bartlett has specialist knowledge in the fields of location technology, wireless communications and digital imaging. Omnisense supplies real-time location and tracking systems (RTLS), technology and services based on its patented sparse-wideband (SWB) technology. The technology is extremely reliable and the entire system can be deployed without need for wired infrastructure (wireless). As such the system can be deployed rapidly and is fully transportable to different sites. For further information please visit www.omnisense.co.uk

Nicolas Graube, CSR

Nicolas Graube is leading the advanced location algorithms group at CSR. Directly reporting to the Chief Innovation Officer, this group is tasked to cover all aspects of in-doors location technologies, present and future, within the organization. Expertise in the domain of location has been gained over a period of more than twenty years, starting at Cambridge EuroPARC in the early 90's, using Olivetti's Active Badges, then more recently providing Location Solutions in the Cellular domains (GSM,UMTS), and presently addressing in-doors challenges using both WiFi and Ble. Particular interest of the group is in the domain of usage of location with constrained infra-structure, in public and enterprise spaces, using stock hardware. For further information please visit www.csr.com

Andrew Matthews, Nokia Technologies

Andrew Matthews is senior business development manager responsible for creating commercial strategies for emerging technologies developed within Nokia Research Center in the UK, Switzerland and Russia. Andrew studied engineering and later went on to complete a PhD in ion implantation, receiving a Royal Society Fellowship to continue his research in RIKEN, Japan.

Following completion of his studies, Andrew has spent the last twenty years in international sales, product innovation and business management, focussing primarily on sensor and telecommunication technologies. During this period Andrew has held a variety of director level roles, providing strategic vision to companies ranging in size from startups to multi-nationals. For further information please visit research.nokia.com

Geoff Smithson, Cambridge Consultants

Geoff joined Cambridge Consultants as the Group Leader of the Sensing Systems Group in Jan 2007. Prior to that Geoff spent thirteen years working for a wireless communications consultancy specialising in the design and project management of a range of wireless products and systems and three years working for a high volume consumer electronics company. At Cambridge Consultants Geoff has undertaken a number of technical developments mainly involved with the design of radio location systems, radar systems, radio communication systems and a range of other sensors including optical based devices.

Geoff has a Ph.D. from the University of Bath where he developed a novel method of modelling the propagation characteristics of radio systems operating across the outdoor/indoor interface and a Bachelor's degree from the University of Leeds in Electrical and Electronic Engineering as part of an apprenticeship with Marconi Communication Systems in Chelmsford. For more information please visit www.cambridgeconsultants.com

Profile of speakers

Paul Baxter, Cambridge Consultants

I have over 15 years' experience working in mathematical signal processing, the last 3 of which have been at Cambridge Consultants. At Cambridge Consultants I have worked on a wide range of signal processing and sensor related projects, with an emphasis on obtaining useful and actionable information from whatever data sources are available. These have included developing an indoor pedestrian location monitoring system, several health and fitness projects for clients such as Adidas and the Gatorade sports science institute as well as work in sensor systems for the oil and gas industry. For more information please visit www.cambridgeconsultants.com

Deborah Jones, Equivital

Deborah Jones is Head of Sales for Clinical Research at Equivital, a Cambridge based company developing and providing technologies for mobile human monitoring and physiological data management solutions. Equivital's LifeMonitor is used and trusted by hundreds of organisations worldwide, and addresses the challenge of recording high quality data in sedentary, clinical and highly ambulatory real world environments.

Since completing her PhD and research career in real time physiological monitoring, Deborah has spent the last 15 years in business development within Life Science, with specific focus on physiological data acquisition solutions. For more information please visit www.equivital.co.uk

Paul Neilson, Prozone

Paul Neilson is a senior business manager at Prozone Sports, a global sports technology business providing data, performance solutions and consultancy for sports teams, leagues, federations and media partners worldwide. Since joining Prozone in 2008, Neilson has been an integral part of a leadership team which has developed new markets in sports analytics, whilst achieving sustained international growth and profitability.

Neilson's experience spans a number of facets of the sports performance industry encompassing elite performance and coaching, applied sports science, data analytics and sports equipment development. He has provided consultancy to elite athletes, sports teams and sports companies and has authored a number of papers published in international journals.

Neilson is also a lecturer on the Master of Advanced Studies in Sports Administration and Technology (MSA) programme at the International Academy of Sports Science and Technology (AISTS) based in Lausanne. He holds an engineering degree in Product Design and Manufacture (2000), and a PhD in Sports Technology from Loughborough University (2003). For more information please visit www.prozonesports.com

Mike Trenell, MoveLab, Newcastle University

Professor Mike Trenell is the founder and Director of MoveLab at Newcastle University, an NIHR Senior Research Fellow and Deputy Director of the RCUK Centre for Ageing and Vitality at Newcastle. He has a specialist interest in complex health problems and how lifestyle can be used to help achieve lifelong health and wellbeing. The complexity of health brings with it unique non-linear problems. The complexity of health and behavior also provides a great environment to explore the role of technology, eHealth and mHealth enabled service pathways to cloud based analytical platforms. For more information please visit movelab.org