



Wireless Healthcare SIG

'The cupboard is bare: how technology can address key unmet needs in mental health'

13th October 2015

Hosted by Philips Research

Lunch jointly sponsored by:   Plextek

This SIG is championed by Rob Blake of Philips, Peter Ferguson of ARM, Collette Johnson of Plextek Consulting, Primrose Mbanefo of Accenture and Paul Winter of TTP

Venue: Philips Research Laboratories, 101 Cambridge Science Park, Milton Road, Cambridge, CB4 0FY

AGENDA

10:00 Registration & Refreshments

10.30 Introduction to the CW Wireless Healthcare SIG from Rob Blake of Philips Research

Session chaired by Peter Ferguson of ARM

10:40 'Dementia and Technology'

Tom Dening, Professor of Dementia Research, University of Nottingham

Tom will cover general issues around dementia and how technology can be of benefit to people living with dementia and people providing care for them. He will describe the types of technology that may be used in dementia and discuss some of the work that his department have been doing in Nottingham.

11:00 Q&A

11:05 'Living well with dementia – the work of the Alzheimer's Society'

Pauline Meakins, Information Worker, The Alzheimers Society

Alzheimer's Society is the UK's leading care and research charity for people with dementia and those who care for them. Dementia can happen to anyone and there's currently no cure. There are 850,000 people with dementia in the UK and the number is set to rise to 1 million by 2021.

At Alzheimer's Society, we believe passionately that life doesn't end when dementia begins. We are here for anyone affected by dementia, and we do everything we can to keep people with dementia connected to their lives and the people who matter most.

11:25 Q&A

11:30 Workshops, led by the four speakers and SIG champions

1. Community versus clinical monitoring: designing for different user interactions in this area – **Leo Poll** and **Rob Blake**
2. What technology can we take from other sectors to drive dementia tech forwards – **Ladan Baghai-Ravary** and **Primrose Mbanefo**
3. Collecting data from difficult subjects in mental health - the benefits and complexities – what are the big questions in data to answer? – **Pauline Meakins** and **Collette Johnson**
4. Understanding good clinical collaboration and a discussion of learning from delegates – **Tom Dening** and **Peter Ferguson**

12:15 Lunch and Networking

Session chaired by Paul Winter of TTP

13:00 'Uncovering unmet needs'

Leo Poll, Akendi UK

Technically everything is possible, meeting people's needs is where there real challenges are. How do you identify unmet needs when users cannot articulate their needs properly or are simply unaware of these for whatever reason? Trial and error is the standard approach but it really doesn't have to be that way. This talk will address this chicken and egg problem and will show that one of these actually comes first.

13:15 Q&A

13:20 'Challenges in developing an automated healthcare system'**Dr Ladan Baghai-Ravary, Aculab PLC**

The talk briefly outlines a project undertaken to develop a system to aid clinicians with diagnosis and monitoring of diseases affecting speech. The system was designed to analyse subjects' voices automatically, drawing on linguistic and engineering expertise, with the results of the analysis being directed to an appropriate researcher and/or clinician. This research involved collection of 25,000 subjects' voices over the telephone, initially focussing on subjects suffering from Parkinson's Disease. During this process a number of unforeseen issues became apparent, related to scientific and behavioural preconceptions. This talk focuses on these problems and other challenges often taken for granted by engineers and researchers.

13:35 Q&A

13:40 Feedback from the Workshops

13:50 Open Discussion and Live 'Ask the Experts' session, chaired by Collette Johnson of Plextek Consulting

Including live questions via Twitter, facilitated by **Primrose Mbanefo of Accenture**

Experts on the Panel will include:

- **Prof Tom Dening, University of Nottingham**
- **Pauline Meakins, The Alzheimers Society**
- **Anna Jackson, Cambridge Cognition**
- **Leo Poll, Akendi UK**

14:25 Fill in Evaluation Forms followed by Refreshments and Networking

15:00 Event Closes

With the permission of the speakers, presentations will be loaded to the Cambridge Wireless 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 & 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

Philips Research Laboratories

Philips are deployed across a wide spectrum of business activities that embrace the key platforms of Philips dedication to providing Healthcare, Wellbeing, Lifestyle and Innovation based products, systems and services. For further information please visit: www.philips.com

Profiles of SIG Champions

Rob Blake, Philips Research UK

Robert Blake is a Senior Scientist at Philips Research, Cambridge. Philips has recently established their UK Research presence in the town, showing a commitment to Research, the UK and Cambridge. At Philips, Robert has worked on mobile and wireless applications, focussing on usability and acceptability issues relating to the technology. Initially he worked on location and context aware applications, using mobile phones and Bluetooth to deliver services to users. Robert was involved in the early days of Near Field Communications (NFC) where he worked on applications for this new technology and built some of the first NFC-enabled mobile phone prototypes. A

major focus of the work was building and promoting novel contactless applications, including using NFC to establish a Bluetooth connection. More recently he has been investigating the application of mobile and wireless technology for home healthcare and wellbeing. One of the projects he is working on is SAPHE (Smart and Aware Pervasive Health Environment), aiming to provide a next generation telecare system for improving the quality of people's lives. Robert holds a MEng in Software Engineering from Imperial College London and is fluent in German. In his spare time he enjoys photography and is a keen cyclist. For more information please visit: www.research.philips.com

Peter Ferguson, ARM

Peter is a Principal Project Manager in ARM, Cambridge. Peter has lived in Cambridge for 15 years. He has a MSc and PhD in Medical electronics. Peter has held key Technical and management responsibility for development projects including the world's first Self-Adhesive Physiological monitor and the delivery of over 20 Global Smartphones. In his recent career Peter has provided mobile technology consulting for the NHS, UK Health research and government hospitals in China. As a Champion of the Cambridge Wireless Healthcare SIG Peter's objective is to demonstrate and present the application of Global Mobility Health for ARM and its partners. For more information please visit: www.arm.com

Collette Johnson, Plextek Consulting

Collette works for Plextek Consulting in medical business development, helping companies with their strategic positioning relating to product development. Previous to working at Plextek she worked at NHS innovations with a lead role in bringing together industry and clinical organisations for product adoption and also was the programme lead for the national SBRI healthcare programme, whilst in this role she focussed on the mHealth and telehealth space and developed a network bringing together, industry, clinical and academic stakeholders. She also worked in a strategic role in healthcare at Cambridge Consultants for world leading corporate organisations and highly innovative start-ups. For more information please visit: www.plextek.com

Primrose Mbanefo, Accenture

Primrose is based in Cambridge and works for Accenture Mobility Delivery, part of Accenture Digital. Accenture is a global management consulting, technology services and outsourcing company, with more than 323,000 people serving clients in more than 120 countries. Primrose is part of Accenture Digital's health initiatives. She provides engineering insight and delivers embedded software solutions for offerings developed by these initiatives. For more information please visit: www.accenture.com

Paul Winter, TTP

Paul Winter is a programme manager and RF engineer in the Communications and Wireless group at TTP. He has led numerous projects in commercial, industrial and healthcare sectors developing connected devices and precision instrumentation. Paul has a heritage in developing products integrating multiple wireless standards including GPS, GPRS, Wi-Fi, Bluetooth and proprietary ISM band radios, deployed within multi-sensor systems for in-home and on-body applications, often coupled to 'Cloud' based analysis and visualisation services. In healthcare Paul has applied aspects of wireless, antennas and electronics to a number of medical devices including inhalers, glucose testing and point of care diagnostic instruments. Paul has also led several incubation projects for TTP's Carbon Trust Incubator, covering a wide range of cutting edge technologies. Paul joined TTP in 2006; prior to this he worked as a radio engineer for Global Communications developing high volume consumer in-home satellite and digital TV distribution equipment, as well as portable equipment for the 'on-location' broadcasting industry. Paul has a Masters degree in Electrical & Electronic Engineering from the University of Wales, Cardiff. He is a member of the Institute of Engineering and Technology, the Royal Academy of Engineering and is a Chartered Engineer. For more information please visit: www.ttp.com

Profiles of Speakers and Panellists

Prof. Tom Dening MA MD FRCPsych, Centre for Dementia, University of Nottingham

Tom Dening was appointed in October 2012 as Professor of Dementia Research at the Institute of Mental Health, University of Nottingham and Honorary Consultant in Old Age Psychiatry, Nottinghamshire Healthcare NHS Trust.

He studied Medicine at Newcastle University and trained in Psychiatry in Cambridge and Oxford. From 1991 to 2012, he was a Consultant Psychiatrist in Old Age Psychiatry in Cambridge. From 1999 to 2002 Tom was seconded part-time to the Department of Health as a Senior Professional Adviser, including work on the National Service Framework for Older People. From 2002 to 2011, he was the Medical Director of the Cambridgeshire & Peterborough NHS Foundation Trust.

His interests include the epidemiology of mental disorders in older people, treatment of dementia and depression in older people, psychiatric services, dementia and technology, care homes and other clinical topics. He is one of the editors of the Oxford Textbook of Old Age Psychiatry, the leading international work in this field. He has also published papers on neuropsychiatry, psychiatric symptoms and the history of psychiatry.

For further information, please visit www.nottingham.ac.uk/dementia

Pauline Meakins, Information Worker, Alzheimer's Society

Pauline Meakins joined the Alzheimer's Society in April 2014 and is responsible for promoting the work of the Alzheimer's Society and their local services throughout Cambridgeshire, having worked for the Royal Society of Chemistry as head of public engagement for fourteen years. Her mother was diagnosed with Alzheimer's disease eight years ago. For further information please visit www.alzheimers.org.uk

Dr Leo Poll, President, Akendi UK/Europe

Technically everything is possible, making it work for people is where the real challenges are. Addressing these challenges from an end-user perspective in a way that makes business sense is what drives Leo. With more than 20 years of experience in Innovation driven Experience Research and Design he is able to bring an ability of strong lateral thinking combined with broad domain knowledge of applications/markets and technical enablers. Previous to his role at Akendi, Leo worked for the mobile phone division of Philips in Le Mans, France, managed numerous international projects whilst employed by Philips Electronics UK, was a member of the global 'Connectivity Programme' board of Philips Research, (Co-)founded Ryppel Ltd, Eversfield Innovation Ltd, Galileo Software Adviesbureau v.o.f. For more information please visit www.akendi.co.uk

Dr Ladan Baghai-Ravary, Aculab PLC

Dr Baghai-Ravary comes from a multidisciplinary background, having led a number of speech signal processing and recognition technology projects within academia and the telecommunications industry. She has conducted phonetic and linguistic research at the Universities of Oxford and Sheffield, and is now based at Aculab plc.

Her work on 'real-world' systems includes a Voice Output Communication Aid (VOCA) for people with cerebral palsy, Parkinson's Disease voice analysis, and commercial telephone-based speech recognition and text-to-speech systems, as well as a 'Big Data' audio mining, and MRI image processing.

Dr Baghai-Ravary has over 45 academic publications including journals, a book chapter and a monograph entitled "Automatic Speech Signal Analysis for Clinical Diagnosis and Assessment of Speech Disorders", published by Springer. For more information please visit www.aculab.com

Anna Jackson, Business Manager, Cambridge Cognition

Anna has spent over 20 years in Senior Management in Lifesciences and is now a Business Manager for Cambridge Cognition.

Cambridge Cognition provide research products that are highly sensitive and proven for measuring brain function across cognitive domains. The company also provides support for clinical trials and has a product, Cantab Mobile, that is being used in Primary Care in the NHS differentiating between early Alzheimers and depression.

For more information please visit www.cambridgecognition.com

Delegate List

Name	Organisation	Company Profile	Workshop
Kais Al-Timimi	Datamation		2
Arushi Aneja	Philips Research		3
Ladan Baghai-Ravary	Aculab PLC		2
Chris Bale	Gateway Navigator		1
Michael Barkway	TTP	TTP	4
Anava Baruch	Design for Independence	Specialise in designing for people with Dementia, Alzheimer and brain injuries.	1
NimishKumar Bhatt	Livewire (UK) Ltd		4
Robert Blake	Philips Research Laboratories		1
Ken Blakeslee	WebMobility Ventures		3
Eliane Bodanese	Queen Mary University of London	QMUL EECS has leading research in Antennas, networks and IoT.	2
Chuck Boyer	The Soteria Group		4

James Brice	PA Consulting Ltd	We have worked at the heart of healthcare delivery for the last 20 years.	1
Marina Buswell	University of Hertfordshire	University	2
Michael Butler	Selex-ES	Large Defence supplier	2
Lily Cheng	The Rising Network		4
Steven Childerley	eklektek Ltd		3
Kevin Coleman	Alliantus		2
Christopher Cox	Chris Cox Communications	Technical consultancy and training in mobile telecommunications	1
Carl Crowe	Covnetics		3
Mark De Souza	CamverTech	Global High Tech early stage business development.	4
Tom Dening	University of Nottingham		4
John Dibb	KISS Communications	KISS Communications	3
Robert Driver	Cambridge Wireless		
Ben Ezard	Philips Research		1
Jade Fell	Engineering & Technology magazine	The Institution of Engineering and Technology	2
Peter Ferguson	ARM		4
Sarah Forson	KTN		3
Paul Fulton	Philips Research Laboratories		4
Graeme Gibson	Appsherpas Limited	delivering innovative smart city solutions enabling citizen engagement	1
Steve Gowers	TTP Group		1
Liza Greig	BBC		2
Rob Hargreaves	Sense Centric	Telecare and Safeguarding Products for Elderly, Mental Health & Neuro Trauma	1
John Harper	Rize app	We create and provide digital tools to support mental health.	4
Lindsay Harris	Rohde and Schwarz		3
Deborah Hayden	Anglia Ruskin University		1
Carl Hayton	Sentec	consultancy	4
Brian Head	BHC	Strategic and financial consultancy focusing on business change, evolution and growth	2
Gillian Huang	MediaTek	www.mediatek.com	3
Rachael Hurst	PA Consulting Group	Technology and Innovation Consultancy	1
Bill Ives	MobileWorks		1
Anna Jackson	Cambridge Cognition		4
David Jai-Persad	University of Greenwich		4
Peter Jarritt	Brain Injury Healthcare Technology Co-operative	The NIHR Brain Injury HTC is dedicated to identifying areas of unmet need in brain injury	1
Malkit Jhitta	RoodMicrotec	ASIC design, test, qualification and supply chain management services.	1
Collette Johnson	Plextek Consulting		3
Jamie Joint	Health Enterprise East Ltd	Innovation Hub for NHS for East of England	2
Ed Kay	MediaTek	MediaTek Inc. is a fabless semiconductor company that provides system-on-chip solutions for IoT	2

Neal Lathia	Emotion Sense / University of Cambridge	Healthtech Startup @ Accelerate Cambridge	3
Pantea Lotfian	Camrosh	Innovation & Foresight consulting	4
Lisa Loveridge			2
Primrose Mbanefo	Accenture		2
Niall McAlister	Olswang LLP	Olswang LLP	3
Pauline Meakins	Alzheimers Society		3
Michael Moody	SOLCAMB	Software development and user experience services for business.	4
Martyn Page	Aculab		2
Dana Pavel	TecVis LP	context-aware software solutions for personal wellbeing	3
Hendrik Pavel	UKTI East	Networking organisation to get you through doors in Europe.	3
Ivan Phelan	Sheffield Hallam University	We research art, design, media production, communication studies, computing and engineering.	2
Tim Phillips	TTP		1
David Pierce	Circuit Solutions (Cambridge) Ltd	Contract Electronics Manufacturing	4
Leo Poll	Akendi UK		1
Dan Rossner	PA Consulting		3
Astha Saxena	Philips Research		3
Lynda Sibson	Addenbrookes Hospital	NHS	1
Hiroyuki Takeuchi	NTT DOCOMO,INC. Europe Office		3
David Walker	Philips Research		2
Dick Wallis	Position Systems Limited	PSL has a range of products and services addressing critical problems in Infection Control, Fall Alerting, Medication Management and Cardiac Monitoring.	4
Paul Winter	TTP Group		
Ian Yin	Judge Business School	Business School	2