		Date 4 March 2015								
	1	Г іте 9.15 - 6.00								
	Place of Mee	ting Te Papa, Icon room, Wellington								
sensors in the environment										
	8.45 - 9.15am	Reception & Coffee								
	9.15 - 9.20	Welcome – MC Steve Thompson								
	9.20 - 9.30	Introduction to UK delegates								
	9.30 - 9.40	Opening address UK High								
		Commissioner, Jonathan Sinclair								
	9.40 - 10.30	Session 1								
	10.30 - 11.00	Networking break								
	11.00 - 11.50	Session 2								
	11.50 - 12.20	Networking break								
	12.20 - 12.25	KiwiNet – Innovation Challenge								
		Concept								
	12.25 – 1.15	Session 3								
	1.15 – 2.10	Networking Lunch								
CallaghanInnovation	2.10 - 3.00	Session 4								
2 Kinghan	3.00 - 3.15	Greeting by Wellington Mayor,								
& KIWINET		Celia Wade-Brown								
UK Science	3.15- 3.55	Session 5								
& Innovation Network	3.55 – 4.00	Summary								

Session 1

- **1. Matt Fordham,** Evident Ltd: Realising the value of sensors; matching technology with needs of people and organisations
- 2. Subhas Mukhopadhyay, Massey University: Smart Sensing and Intelligent Systems
- **3. Richard Curtis,** Opus Research: A multi-disciplined approach to sensors and data capture
- **4. John Kennedy, GNS Science: Sensor system development at GNS Science: from materials science to industrial**
- **5.** Don Elder, Canterbury Seismic instruments: Data acquisition challenges and solutions for multi-sensor environments
- 6. Boon-Chong Seet, AUT: Sensor Networks for Ambient Intelligence and Smart Environments

Session 2

- 1. Prof. Charles Waker, AUT: A sense of Place
- **2. Ken Gratten UK:** Fibre optic and optical systems for the measurement of physical and chemical parameters
- **3. Paul Drummond,** Trimble: Trimble in New Zealand: Technology and applicable markets overview; Including a case study on structural monitoring system in the award winning new Trimble NZ office.
- 4. Winston Seah/Ramesh Rayudu, Victoria: Connecting Things in the Internet
- 5. Andrew Slater, BUPA (NZ) Vigil Monitoring: How sensors in the home (particularly the elderly in social housing) can support wellness/health outcomes and reduce social isolation
- 6. Jacqui Horswell ESR: Biosensor-based diagnostics of environmental contamination

Session 3

- 1. Olga Korostynska, UK: Real-time sensors for water quality monitoring
- **2. Adrian Dorrington,** University of Waikato: 3D sensing with Time-of-Flight cameras.
- **3. Kevin Hastie,** Buildmedia: From macro to micro data visualisation for Infrastructure, Environmental & Products
- **4. Adam Swanson**, Callaghan Innovation: The development of fibre Bragg grating humidity sensors
- 5. Ashton Partridge, Manufacturing Systems Ltd: Polymer based Sensors

and Solar Roofing

6. Jenny Rains/Haydn Read/Tim Packer Wellington City Council: Wellington as a Living Lab

Session 4

- 1. Joe Ryan, VRgo Ltd, Bristol, UK: Wireless sensor modules
- 2. Kevin Wang, University of Auckland: Wireless sensor networks for ambient monitoring and automation
- **3. Geoff Henshaw,** Aeroqual Ltd: Next generation sensor technologies for monitoring urban air quality.
- 4. Ian Short, Institute for Sustainability UK
- **5. Roger Ford,** Waiora Pacific: Takiwa3 Environmental Telemetry Management System
- **6. Julian Carver,** LINZ: Use of sensors in a spatial data infrastructures for smarter cities

Session 5

- 1. Andy Higgs: Visualising urban data in 3-D
- 2. Ian Platt, Lincoln Agritech Ltd: Time Domain Reflectometry Sensors for Monitoring Civil Structures
- **3. Kriv Naicker,** Huawei Auckland: The smart way to utilise a Governance Model in a Smart City sensor environment
- 4. Jacqui Horswell ESR: Biosensor-based diagnostics of environmental contamination
- 5. Ed Hyde, Qroius: TBA
- 6. Alex Mason, UK: Sensors in Water, Environmental monitoring, Communications, Medical, and Energy.

New Zealand Speakers

Julian Carver jcarver@linz.govt.nz

Julian has led the Canterbury Spatial Data Infrastructure programme at LINZ for the last two years, and prior to that was the establishment CIO at the Canterbury Earthquake Recovery Authority. He is also working with Auckland Council and the council controlled organisations (Auckland Transport etc) with a business case for 'Digital Auckland' which is likely to include consideration of sensor technologies.

Richard Curtis, Business Development Manager, Opus Research Richard.Curtis@opus.co.nz

Richard will present on: "A multi-disciplined approach to sensors and data capture"

Paul Drummond, Trimble NZ Paul_Drummond@trimble.com

Paul was educated at the University of Canterbury New Zealand and holds an MSc (hons) and BA from the Department of Geography. Since then Paul has 15 years' experience with Trimble across a range of portfolios and positions including geospatial, infrastructure and monitoring in technical and sales roles, and has worked in both New Zealand and USA.



Currently Paul is Regional Sales Manager (Oceania and Japan) for Infrastructure portfolio with Global Sales Segment responsibilities for Monitoring. Paul is also a Positioning Program board member for the CRC-SI. Paul has specific interest in monitoring structures with Trimble sensors and data logging products.

Paul will speak on: Trimble in New Zealand: Technology and applicable markets overview; Including a case study on structural monitoring system in the award winning new Trimble NZ office (commendation at The Institute of Structural Engineers Structural Awards 2014).

Don Elder, Canterbury Seismic Instruments don.elder@csi.net.nz

Don is CEO of Canterbury Seismic Instruments. CSI uses a sensing instrumentation and data acquisition platform that has a number of unique benefits in almost any sensing application. Our earthquake recording instruments underpin most of NZ's Geonet seismic network and our instrumentation



systems are installed in locations and networks worldwide, in a range of sensing environments from airports and hospitals to buildings and bridges to dams and landslides, using a wide range of sensor types. We are interest in partners who can use and complement our technology to help accelerate our growth in NZ and internationally.

Matt Fordham, Evident Ltd Matt@evident.co.nz

Matt will present on "Realising the value of sensors; matching technology with needs of people and organisations"

Geoff Henshaw, Aeroqual Ltd geoff.henshaw@aeroqual.com

Geoff will speak on : Next generation sensor technologies for monitoring urban air quality.

Aeroqual is interested in working with companies, institutes and government agencies to develop technology, channel and regulatory partnerships for new air quality monitoring technologies.

Ed Hyde, Qrious <u>ed.hyde@qrious.co.nz</u>

Ed is CEO of Qrious, which is a data and analytics business specialising in the bringing together of different datasets to create unique and valuable insights. Examples of work include traffic management, retail footfall, predictive models for customer churn and work in the software and apps space. Qrious are also doing work in local government, agriculture and media.

Subhas Mukhopadhyay, Massey University S.C.Mukhopadhyay@massey.ac.nz

Subhas is working as a Professor of Sensing Technology, Massey University, New Zealand. His fields of interest include Smart Sensors and sensing technology, instrumentation techniques, wireless sensors and network, numerical field calculation, electromagnetics etc. He has published over 300 papers in different international journals and conference proceedings, written two books and twenty five book chapters



and edited Eleven conference proceedings. He has also edited twenty books with Springer-Verlag and Eleven journal special issues. He has organized many international conferences as either General Chairs/co-chairs or Technical





Programme Chair. He has delivered 227 presentations including keynote, invited, tutorial and special lectures. He is a Fellow of IEEE (USA), a Fellow of IET (UK), A Fellow of IETE, a Topical Editor of IEEE Sensors journal, an associate editor of IEEE Transactions on Instrumentation and Measurements, and a Technical Editor of IEEE Transactions on Mechatronics. He was a Distinguished Lecturer of the IEEE Sensors Council from 2010 to 2013. He chairs the IEEE IMS Technical Committee 18 on Environmental Measurements.

Jacqui Horswell, Environmental Science Research Jacqui.Horswell@esr.cri.nz

Dr Jacqui Horswell is an environmental microbiologist and science leader at ESR and leads the Centre for Integrated Biowaste Research. She has a wealth of experience of the New Zealand waste and land management sectors, having worked with them on her research for over 17 years. Jacqui's research interests include biosensors and pathogen survival and mobility and more recently how mixtures of contaminants interact and impact soil biological processes.

Kriv Naicker, Huawei Technologies kriv.naicker@huawei.com

Kriv will present on "The smart way to utilise a Governance Model in a Smart City sensor environment". As sensors are the lowest level in the collection of information in a Smart City environment, the allocation and sharing of data among the different interested enterprises and agencies will enable a truly integrated Smart City. Huawei as a leading Smart City S olution provider understands that the sensor collection and the data sharing is the core strategy of a true Smart City.

Ashton Partridge, CSO, Manufacturing Systems Ltd, Albany, and Assoc Prof, Chemical and materials Engineering, The University of Auckland ashton.partridge@msltd.co.nz

With a background in synthetic organic chemistry, my career has focused on the development of polymer products. The polymers have ranged from commodity polymers (PS, PMMA,PC, TPOs, TPUs) to conducting polymers (polypyrrole,

polyterthiophene, polyanaline), the products have ranged from sensors to solar. Manufacturing Systems Ltd has developed a novel polymer processing technology which allows production of polymer products at high speed and high resolution. 2015 should see the first of these products on the market which will include a novel sensor array for the detection of biological species in solution, and a novel building integrated solar thermal and photovoltaic roofing product that is estimated to collect the total power requrements for an average domestic dwelling.







Por

Ian Platt, Lincoln Agritech Ian.Platt@lincolnagritech.co.nz

Lincoln Agritech have developed new forms of Time Domain Reflectometry (TDR) equipment to measure the moisture content and structural integrity of earth foundation materials used in large civil engineering structures including roads, dams, levees and building foundations. Two major forms of these sensors are under development 1) a noninvasive portable sensor capable of imaging and estimating



the percentage value of moisture content within materials - e.g. basecourse moisture content under road seal, and 2) long line - up to 1 km - sensors buried in structural foundation material to monitor its structural parameters. We will discuss the development both of these sensors along with results of field trials.

Jenny Jenny.R	Rains, ains@wcc	•	-	y Services	Welli	ngton	City	Council
Haydn Read: Mgr Strategic Asset Planning WCC Tim Packer: Sales Manager, Government Agriculture, NEC Ltd					£	Absolutely POSITIVELY ME NEKE KI PÖNEKE WELLINGTON CITY COUNCIL WELLINGTON CITY COUNCIL		

Dr. Boon-Chong Seet, Department of Electrical & Electronic Engineering, AUT bseet@aut.ac.nz http://www.aut.ac.nz/profiles/boon-chong-seet

Boon-Chong Seet received his PhD in Computer Engineering from Nanyang Technological University, Singapore, in 2005. Upon graduation, he worked as a research fellow under the Singapore-Massachusetts Institute of Technology Alliance (SMA) Program at National University of Singapore. In 2007, he was awarded a visiting scholarship by the Technical University of Madrid, Spain, to pursue research under an EU-funded project



on multidisciplinary advanced research in user-centric wireless network enabling technologies (MADRINET). Since December 2007, he is a faculty member in the Department of Electrical & Electronic Engineering at Auckland University of Technology (AUT), New Zealand, where he is currently a senior lecturer (above the bar). His research activities span the fields of mobile and wireless networking, computing, and communications, with last 7 years working on various aspects of *wireless sensor networks* and their applications to *ambient intelligence* (AmI) and *smart environments*, including smart grids and smart buildings. Please refer to his <u>homepage</u> for more details on his profile and research activities. Kevin Wang, Electrical and Computer Engineering, The University of Auckland. kevin.wang@auckland.ac.nz

Kevin is working with Prof. Zoran Salcic from the same department and also A/Prof. Nawawi Chouw from Civil Engineering (UoA) on the following topics:

- 1. Wireless sensor network for intelligent home automation.
- 2. Pervasive healthcare system using body area network and Ambient intelligence system.
- 3. Hazard detection/protection using wireless sensor network.

Kevin's primary research focus is on designing situational-aware Ambient Intelligence (AmI) applications using distributed sensor and actuator networks. He has devoted himself to various AmI applications using various types of sensor networks. He worked with a number of local industries in developing distributed embedded systems for smart house/building automation and intelligent traffic sensing systems. He joined the Department of Electrical and Computer Engineering, The University of Auckland, since 2009. He is currently one of the main supervisors in the Embedded Systems Research Group, focusing on miniaturised sensor nodes for structural health monitoring, bio-chemical sensors for experiment automation, and distributed industrial automation.

Professor Charles Walker, AUT charles.walker@aut.ac.nz

Charles Walker is a founding director of Colab, an entrepreneurial and future-focused centre for creative and emerging technologies, based at AUT University. He is particularly interested in innovation that cuts across traditional boundaries between education, business, science and technology sectors. He will talk about applying Colab's multi-disciplinary research expertise - in design, computing, data visualisation, gamification and partnership-building - to smart city projects.

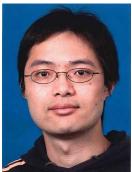


Adrian Dorrington, CTO of Chronoptics Ltd, University of Waikato <u>a.dorrington@chronoptics.com</u>

Adrian Dorrington is the CTO of Chronoptics Ltd, a company working to improve the quality and capability of Time-of-Flight cameras, an emerging 3D sensing technology. The company is a spinout of the Time-of-Flight camera research group he has led, as a Senior Lecturer at the University of Waikato, for the past decade. He was awarded his PhD in 2001 and has held post-doctoral fellowships from the Foundation for Research, Science, and Technology at the University of



Waikato, and from the National Research Council (USA) at the NASA Langley Research Center.



Dr. John Kennedy, GNS Science <u>J.Kennedy@gns.cri.nz</u>

Dr. John Kennedy is a Principal Scientist at the National Isotope Centre, GNS Science. He received his PhD in Physics in 1999 specialising ion beam physics and worked as a Post Doctoral fellow in Belgium and France before moving to New Zealand in 2001. He is currently investigating metal and metal oxide nanoparticle growth and their structural, electrical, optical and magnetic properties, metallic nanoclusters and multiferroics nanostructures. John leads the GNS Science core science programme of ion beam applications which focuses on research and development of materials modification processes and sensor systems for industry and environment sectors.

AndrewSlater,Vigilmonitoringandrew.slater@vigilmonitoring.com

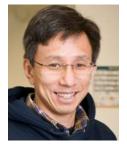
Our interest is around how sensors in the home (particularly the elderly in social housing) can support wellness / health outcomes and reduce social isolation.

Roger Ford, Waiora Pacific Roger@innovise.co.nz

Waiora Pacific is at the leading edge of spatiotemporal, cloudbased GIS. Waiora Pacific's Takiwa3 technology is an environmental telemetry management system where real-time environmental data and metadata from multiple sites are transmitted and calculated on the fly into 3D and 4D models. The Takiwa3 security and administration module allows collaboration while maintaining control over organisations, projects and users down to a layer and/or an individual geometry.

Winston K.G. Seah, Victoria University winston.seah@ecs.vuw.ac.nz

Winston K.G. Seah received the Dr.Eng. degree from Kyoto University, Kyoto, Japan, in 1997. Since Oct 2009, he has been the Professor of Network Engineering in the School of Engineering and Computer Science, Victoria University of Wellington, New Zealand. Prior to this, he has worked for more than 16 years in mission-oriented research, taking ideas from theory to prototypes, most recently, as a Senior Scientist (Networking Protocols) in the Institute for Infocomm Research (I2R),



Singapore. He is actively involved in research in the areas of mobile ad hoc and sensor networks, and co-developed one of the first Quality of Service (QoS)





models for mobile ad hoc networks. His latest research interests include wireless sensor networks powered by ambient energy harvesting (WSN-HEAP), wireless multi-hop networks, software defined networking, and nano-scale networks. He is a Senior Member of the IEEE. Homepage: http://www.ecs.vuw.ac.nz/~winston/.

Adam Swanson, Massey University & Callaghan Innovation Adam.Swanson@callaghaninnovation.govt.nz

Adam is a Massey university physics PhD student based at Callaghan Innovation. His thesis is on the development of sensors for optics-based strain, temperature and chemical sensing.



UK Speakers

1. Dr Alex Mason, Liverpool John Moores University, School of Built Environment. <u>A.Mason1@ljmu.ac.uk</u>

Alex is a member of the Built Environment and Sustainable Technologies (BEST) Research Institute. The research spans a good number of topics, including civil engineering, facilities management, materials development and testing. His area of research considers the use of sensors in a broad range of areas, including:

 Water monitoring (e.g. monitoring of water and waste water systems for contamination, examination of water pipelines for damage and leakage and underwater communication networks for sensor systems)



- Environmental monitoring (e.g. analysis of transportation exhaust emissions as well as monitoring of CO2 free modes of transport such as cycling to help assist optimisation of cycle hire schemes)
- Communications (e.g. development of wireless sensor networks which can be deployed rapidly with minimal set-up; applications have included facilities management, environmental monitoring, livestock monitoring and a broad range of asset tracking systems)
- Medical (e.g. development of a range of sensors for monitoring vital signs as well as tracking movement of people, both of which could be utilised in emergency situations to better co-ordinate disaster response).
- Energy systems (e.g. instrumentation of gasification/biogas systems as well as monitoring domestic level energy consumption for identification of performance improvements).

His research group also develops novel gasification and anaerobic digestion based systems and so Alex would be interested to try to establish links in respect of developing this area further.

Organisations to meet within New Zealand:

- Unitec Institute of Technology, Auckland (http://www.unitec.ac.nz/); establishment of new collaboration with Unitec
- Greenlane biogas, Auckland (http://greenlanebiogas.com/); exploration of opportunities in the energy from waste sector in terms of our sensor and current energy from waste systems.
- Water New Zealand, Wellington (http://www.waternz.org.nz/); explore need and co-operation for sensors in water area; our sensor systems are designed to be cost effective and operate continuously with minimal maintenance or other interaction, which could allow widespread monitoring of water across New Zealand.

- AgResearch, Palmerston North (http://www.agresearch.co.nz/); I have previously conducted some work with AgResearch in a different area; would like to see their views and opportunities for water and environment monitoring.
- Massey University, Palmerston North (http://www.massey.ac.nz/); in particular I have good links with Subhas Mukhopdhyay at Massey, and given his expertise in sensing (environmental and person monitoring) there will undoubtedly be some ideas and funded research opportunities to explore.
- University of Canterbury, Christchurch (http://www.canterbury.ac.nz/); in particular I wish to visit Professor Geoff Chase (expertise in structural monitoring and disaster relief) in addition to the UC wireless research centre (http://www.wrc.canterbury.ac.nz/) to look at collaboration opportunities in wireless sensor networks for remote monitoring. Particular items that I wish to consider are energy harvesting (how to keep sensor running without maintenance and finite battery sources) as well as use of sensor in hostile environments (e.g. inside materials and underwater).
- Tait Communications, Christchurch (http://www.taitradio.com/); Discussion and possibilities in relation to low power sensor systems for range of New Zealand centric issues (disaster/emergency response, water monitoring, etc.).
- Lincoln Agritech, Christchurch (http://www.lvl.co.nz/); Lincoln Agritech have significant experience in environmental monitoring topics and so will be looking to establish relationship in complementary areas.

Contacts made prior to visit so far include Wayne Holmes, Unitec Institute of Technology; Keith Betteridge and Shane Leath, AgResearch; Prof. Subhas Muhopdhyay, Massey University; Prof Geoff Chase, University of Canterbury; and Dr Ian Platt, Lincoln Agritech. Assistance with Greenlane biogas, Water New Zealand and Tait Communications would be much appreciated.

Of particular interest would be discussion and advice around how funding can be accessed for UK-NZ partnerships from the relevant organisations, particularly KiwiNet and Callaghan Innovation.

Alex will talk about his work at the workshop

2. Dr Olga Korostynska, Liverpool John Moores University, School of Built Environment. O.Korostynska@ljmu.ac.uk

Olga is a Senior Lecturer in Advanced Sensor Technologies at the School of Built Environment of Liverpool John Moores University (LJMU). She has a BEng and MSc in Biomedical Engineering from the National Technical University of Ukraine (KPI), PhD in Electronics and Computer Engineering from the University of Limerick, Limerick, Ireland for developing a personal gamma-radiation sensor using



thin/thick film technologies; and LLB from the University of Limerick, Ireland. Before LJMU she was an engineer in the National Telecommunication Institute in Ukraine; then a Postdoctoral Researcher in the University of Limerick. She was a Lecturer in Physics in Dublin Institute of Technology before being awarded a EU Postdoctoral Research Fellowship in LJMU to develop an electromagnetic wave sensor systems operating at microwave frequencies for real-time water quality monitoring. She has over 10 years lecturing experience in Ireland and UK at both undergraduate and postgraduate levels. She has coauthored a book, 11 book chapters, 2 UK patents and over 200 scientific papers in peer-reviewed journals and conference proceedings. She is also a member of the editorial board for two journals and a regular reviewer for more than 15 peer-reviewed international journals.

In 2012 Olga embarked on the "Water-Spotcheck" project to develop advanced real-time sensors for water quality monitoring. Water-Spotcheck resulted in new fundamental scientific knowledge, as well as a potentially commercially viable real-time water sensing platform. In New Zealand she will be looking at establishing links with industry who will be interested in pioneering the use of the electromagnetic sensing for real-time monitoring of water pollutants.

As a lecturer in a Master level course on Structural and Earthquake Engineering, Olga is also looking to establish a link with construction companies in designing and building earthquake resistant structures. Specific successful case studies would prove invaluable in planning of future sustainable infrastructure frameworks, where sensors would be incorporated into the buildings to monitor vibration, strain / stress, corrosion and other parameters that could be detrimental to the building structure performance.

Greenhouse gas emissions and the environment is also an area of research interest, in particular sensing of pollution gases, temperature, humidity, and establishing a link in the environment between the specific types of pollutants and their effect on nature.

Organisations to meet in New Zealand:

- Olga is interested to visit / establish collaboration with NIWA (John Quinn) to enhance the economic value and sustainable management of New Zealand's aquatic resources and environments.
- Other companies in the area of water sensing are Water New Zealand and AgResearch (Keith Betteridge and Shane Leath) in Palmerston North. The intent is to explore need and establish long-term co-operation for sensors in the area of water/soil pollution monitoring.
- Massey University's Professor. Subhas Mukhopdhyay, leading expert in the area of sensing.
- Professor Geoff Chase, University of Canterbury, Christchurch on structural monitoring and disaster relief, for potential collaboration.

• Sensing Technologies Group of Lincoln Agritech (I.Platt) on smart sensor and measurement technologies for industrial applications.

3. Prof Ken Grattan, City University, London k.t.v.grattan@city.ac.uk

Professor Grattan graduated with a first in Physics and a PhD in Laser Physics from the Queen's University Belfast. In 1978, he became a Research Fellow at Imperial College and in 1983, joined City University as a Lecturer in Physics. He was appointed Professor of Measurement and Instrumentation and Head of the Department of Electrical, Electronic and Information Engineering in 1991. Prior to August 2012, he was Conjoint Dean of the School of Engineering and Mathematical Sciences and the School of Informatics.



His research interests lie in the use of fibre optic and optical systems for the measurement of a range of physical and chemical parameters. He obtained a DSc from City University in 1992 for his sensor work.

Organisations to meet in New Zealand: several including Lincoln Agritech and other companies with an interest in sensors and sensor applications in the built environment; Massey University; other organizations. We seek collaborative, industry-focused R&D with both industries including SMEs and Universities seeking external funding

4. Joe Ryan, Vrgo Ltd, Bristol, UK joe@vrgochair.com

Joe Ryan is a resident at the Pervasive Media Studio in Bristol UK. His academic background is within game design and has worked for video game publishers and development studios. His interest in real world games that use mobile technology lead to an artist residency with Blast Theory. He is now developing a consumer device called VRgo that will be primarily used for movement within virtual reality. His team are creating a custom made wireless sensor module and development platform so the device works seamlessly with the most popular game engines. He



is interested in presenting his chair to both creative technologists and commercial parties that have an interest in new ways of hands free movement in VR.

Organisations to meet in New Zealand:

Academic institutions, content makers and developers of new VR technologies, including 8i, AUT Colab and Animation Reseach Ltd.

5. Ian Short, Chief Executive, Institute for Sustainability ian.short@instituteforsustainability.org.uk

The Institute for Sustainability is an independent charity established in 2009 to significantly accelerate the delivery of sustainable cities. The Institute works with a diverse range of partners in the UK and internationally to deliver innovative demonstration projects focussed on systemic solutions for cities and neighbourhoods. We have a broad range of innovation projects that focus on sensing and management from the building level through neighbourhoods and districts and up to city level.



The Institute works both with the demand side, those looking to buy innovation, and the supply side, to help bring high impact ideas to market.

Ian is interested in forging links with organisations in New Zealand looking to deploy smart city innovation and with those with solutions for smart cities that could be applied in the UK. Outcomes include sharing of best practice research and case studies, access to the best UK innovators and demonstration opportunities in the UK.

Two projects are worth mentioning that cover many of the areas to be covered in the Wellington workshop. The first is called Smart, Sustainable Districts where the Institute for Sustainability is working with 11 of the highest aspiration district scale developments across Europe to help them deliver district scale exemplars in both smart and sustainable. The second is the Smart London Innovation Networks where we are working with large developers, utility companies and the Mayor's office to source and co-develop best practice innovation in data capture, platforms, sharing, validation, analysis and modelling.

Organisations you would like to meet in New Zealand:

Continue dialogue with Christchurch City Council, Auckland City Council, New Zealand Centre for Sustainable Cities, Ministry of Business, Innovation and Employment.

Workshop Organisors

Steve Thompson, British High Commission Science Officer: <u>Steve.thompson@fco.gov.uk</u> Mobile: +6421 512 055



Seumas McCroskery, Innovation Manager, KiwiNet Seumas@kiwinet.org.nz Mobile: 021617752

Andrew Dawson, National Network Manager Sensors Andrew.dawson@callaghaninnovation.govt.nz Mobile: 0278082634