ROUND TABLE

INFORMS Roundtable Winter Meeting Agenda
February 19-20, 2012
Innisbrook Resort
Tampa Florida
Theme: Mobile Computing

<u>**Sunday, February 19th**</u>

3:15PM   *Gather for Interactive Cooking Demo*   *Edinburgh 10-11*

3:30PM   *Interactive Cooking Demo with Innisbrook fine chefs where you will learn how to prepare one of their signature appetizers; Crisp Spring Rolls with 4-hour braised short rib and vegetables with ginger sauce*

5:15PM   *Reception*   *Edinburgh 7-9*

6:00PM   *President's Welcome*   *Edinburgh West*

6:15PM   *Evening Session –   Dr. John B. Kenney*   *Edinburgh West*

The Connected Vehicle: The Next Frontier in Wireless Communication
A wireless revolution has transformed the way we communicate over the last decade. But, it has been slow to penetrate that treasured symbol of American independence, the automobile. Now that is changing. This talk explores the notion of the Connected Vehicle as the next frontier in wireless communication. While the car presents special challenges, for example driver distraction and signal distortion, it also affords special opportunities. We will not be content to simply enable cell phone applications in the car; we will turn the car itself into a communicating device that can save lives, help the environment, and make driving more fun. This talk focuses on an emerging peer-to-peer technology called Dedicated Short Range Communication (DSRC). Not reliant on cellular infrastructure, DSRC enables vehicles to communicate directly with each other and with roadside devices that can provide a wide variety of services. In most cases the driver is not directly involved in this machine-to-machine communication. The "non-killer" app for DSRC is collision avoidance; the US Department of Transportation estimates that DSRC can address over 80% of vehicle collisions involving non-impaired drivers, saving thousands of lives per year. And DSRC can enable a host of other services as well, from navigation/eco-driving to tolling to geo-location services (e.g. nearby restaurant/hotel/fuel offers). We will explore the current state of DSRC research, and plans for testing and deployment in the US and other

parts of the world. We will also discuss the complementary roles that DSRC and cellular communication will play in achieving the Connected Vehicle

Dr. John B. Kenney, Senior Research Manager, Toyota InfoTechnology Center
John directs a wireless communication research group and represents Toyota in the Vehicle Safety Communications consortium and in several international standards organizations. He is serving as General Co-Chair of the ACM VANET (Vehicular Internetworking) workshop for 2011 and 2012. His particular research interests are in communication protocols and channel congestion control. Prior to his work at Toyota ITC, he spent more than 20 years researching telecommunications and Internet technologies for Tellabs, and as an Adjunct Professor at the University Of Notre Dame in Indiana. He holds BSEE and Ph.D. degrees from Notre Dame and an MSEE degree from Stanford University.

7:30PM   Dinner   *Edinburgh 7-9*

Monday, February 20th

7:00AM   Breakfast   *Edinburgh 7-9*

8:00AM   Roundtable Introductions   *Edinburgh West*

8:30AM   Session 1 – Ted Gifford   *Edinburgh West*

Mobile Computing in Truckload Freight Operations
In 2010, Schneider National completed conversion of its 13,000 tractor fleet to a new in-cab Mobile Computing Platform and is currently completing implementation of corresponding software and systems capabilities to leverage this new technology. In addition to built-in features such as GPS navigation, text-to-voice, vehicle performance monitoring, motion-sensing user interfaces, internet access, and training content delivery, Schneider has developed significant capabilities for context-aware workflow and automated interaction with its central Transportation Management System (TMS) and associated back-office subsystems. In this talk, we will describe the overall systems architecture and system capabilities, challenges addressed during development and implementation, and opportunities for future enhancements.

Ted Gifford, Distinguished Member of Technical Staff, Schneider National Inc.
Ted is currently responsible for strategic development projects in areas related to analytics and operations research. Previously, he served as Vice President of Engineering & Research, leading an organization comprised of groups engaged in supply-chain and transportation engineering, industrial engineering, statistical analysis, operations research modeling, business consulting, and development of decision support software tools.   Prior to joining Schneider, his roles included Director of Quantitative Research at a global investment advising firm, Senior Software Architect at Symantec Corporation, and President of a software development and consulting firm. Ted has B.A. and M.A. degrees in Mathematics from the University of California and an M.S. in Operations Research from Georgia Institute of Technology.

9:30AM   Session 2 – Kate Brass   *Edinburgh West*

The Architectures for Business-Critical Mobile Applications
With the widespread use of tablets and smart phones, it's easy to assume that the key technical issues around mobile technology have been resolved. For some business critical applications, however, the game is different. An example is the utility field crew responsible for building and maintaining the electrical grid. These users deal with problems that are complex and have to be addressed on site – so the app needs to work whenever and wherever it is needed.
Architectural challenges include large and rapidly-changing data sets, availability of wireless communications, and usability in a challenging work environment. We'll look at those challenges and some solutions, based on a number of real-world utility examples.

Kate Brass, Ecomagination Program Manager, GE Energy
Kate leads the ecomagination initiative for GE Energy. GE Energy's ecomagination portfolio has grown to over $10 Billion dollars in annual revenues under Kate's leadership, representing more than ½ of the total revenues for the overall GE ecomagination program. She leads the businesses efforts with respect to defining the ecomagination product portfolio, developing strategic customer relationships and large energy and conservation demonstration projects. She represents the environmental interests of the business with respect to national and international government affairs, global research efforts, new technology commercialization, internal greenhouse gas reduction programs and the impact and implication of carbon regulation on the growth of the business.   Kate holds a Bachelors degree in Finance and Economics and a Masters in Environmental Management and Policy. She has more than 20 years of experience in sales, marketing, communications and strategic planning.

10:30AM   Break.

11:00AM   Session 3 – Tico Ballagas   ***Edinburgh West***

New Designs for Long Distance Family Interaction
 According to the AARP, about half of grandparents in the USA live more than two hundred miles away from their grandchildren. How do families cope with this separation? In the summer of 2008, I worked with a group of researchers in Nokia Research Center Palo Alto to begin exploring how new tools for 'Family Communication' could help families with young children to maintain their relationships over a distance. Our view was that young children and elders have the most time and desire to connect, but current technologies did not meet their needs. Our work includes field research and development of over a dozen technology prototypes over the course of 3 years of research. Here, I will focus on a few projects that leverage storybook reading as a way to interact with very young children over a distance, which we refer to as 'connected reading'. The prototype designs range from mobile form-factors to web-based experiences. Through the talk, I will highlight which aspects of the designs led to longer richer interactions with long-distance children and how they helped distant family members promote children's learning.

Dr. Rafael 'Tico' Ballagas, Senior Research Scientist - User Experience, Nokia Corporation
Tico is a Principal Scientist at Nokia Research Center, Palo Alto. His research is focused on applying human-centered iterative design processes to ubiquitous computing. He is interested in rapid prototyping tools, evaluation methods, and most importantly building novel ubiquitous computing

applications and services that address real human needs. At Nokia, Tico has been working to improve family communications through novel experiences over video conferencing. Tico has been working in the mobile industry since 1997, originally as a member of the development team of Motorola's PageWriter 2000 – the world's first two-way pager – which has been ranked #13 on PC World's "The 50 Greatest Gadgets of the past 50 Years". He earned his Doctorate in computer science at RWTH Aachen University in Germany with a focused on improving the design of pervasive computing experiences, and culminating in the creation of REXplorer, a pervasive game for young tourists that "sounds like magic" (NY Times). He completed his B.S. with highest honors in electrical engineering from Georgia Tech, and M.S. from Stanford University.

12:00PM   Lunch   *Edinburgh 7-9*

1:00PM   Recognition of Kenneth Chelst,   *Edinburgh West*
Winner of 2011 INFORMS President's Award

The 2011 INFORMS PRESIDENT'S AWARD was awarded to Ken for his pioneering work in developing a unique educational curriculum that introduces young Americans to operations research and for his essential public safety policy and operational analysis, which has guided city leaders and police, firefighter, and emergency service executives through difficult challenges they face in towns and cities across the United States.

1:30PM   Session 4 – David Becerra   *Edinburgh West*

Mobile Business Intelligence
Mobility has quickly gone from a "nice-to-have" to a "must-have" in companies of all sizes in all regions. Today's employees are analyzing an unprecedented amount of data, which is increasingly being consumed on mobile devices. The combination of data overload and smaller form factors have driven the need for more intuitive and engaging applications that communicate effectively. In this presentation, we will review best practices in mobile app design and demonstrate the future of business reporting as well as show how and why companies and sales organizations are using mobile information to separate their sales pitch from the competition.

David Becerra, VP of Strategy and Business Development, MeLLmo
David is responsible for developing and executing business development and partner programs. David comes to MeLLmo from Cake, a commercial editorial company, and has worked at the top interactive media agencies throughout Los Angeles. He brings a cutting-edge design aesthetic to the corporate world of business intelligence.

2:30PM   Session 5 – Fabrice Hoerner   *Edinburgh West*

The Next Frontiers of Mobile Applications and Services

Mobile applications and services have seen many important innovations in the last decade. In particular, the worldwide adoption of 3G has significantly impacted many different industries and the livelihood of people from around the world. In this talk, we will examine some of the latest trends in mobile communications and explore how some of the technologies may continue to change the way we work, play and relate to each other in the future.

Fabrice Hoerner, Technical Marketing, Qualcomm
Fabrice is part of Qualcomm's Technical Marketing team where he focuses on the Internet of Everything: advanced mobile technologies, middleware and applications that enable enriched, real-time interactions between people and their environment (for example homes, cars or retail stores). Prior to joining Qualcomm, Fabrice worked for Orange Business Services, leading major sales initiatives on a key energy account: Suez (now GDF Suez, the world's largest utility). Prior to that Fabrice supervised business intelligence projects for France Telecom.   Fabrice received an MBA from the University of Chicago, Booth School of Business, with a concentration in Strategic Management and Economics and holds a Master's Degree from Ecole Superieure d'Electricite (Supelec) with a concentration in Information Systems and Networks.

3:30PM   Break

4:00PM   Session 6 – Anand Ranganathan   Edinburgh West

Stream Processing for Scalable, Real-Time, Smarter Planet Applications

With the widespread instrumentation of our planet with different kinds of sensors, large volumes of data are being produced on a continuous basis. A number of domains such as transportation, healthcare, energy management, water management, etc. are now associated with both real-time and static data. Applications in these domains combine real-time sensor data with static data (such as maps, medical ontologies, etc.), and provide useful information to end-users. Some of the major challenges in this domain include i) scalability, in terms of processing large volumes of real-time and static data; ii) extensibility, in terms of being able to add new kinds of analyses on the data rapidly, and iii) user interaction, in terms of being able to support different kinds of one-time and continuous queries from the end-user. In this talk, I shall demonstrate the use of IBM InfoSphere Streams, a scalable stream processing platform, for tackling these challenges. I will specifically focus on transportation. I will describe a prototype system that generates dynamic, multi-faceted views of transportation information for the city of Stockholm, using real vehicle GPS and road-network data. The system also continuously derives current traffic statistics, and provides useful value-added information such as shortest-time routes from real-time observed and inferred traffic conditions.

Anand Ranganathan, Research Staff Member, IBM TJ Watson Research Center
Anand is part of the IBM Infosphere Streams research team and has been involved in applications of stream processing technologies in a variety of domains, including

transportation, telecommunications, cybersecurity and finance. A key theme of his research has been in exploring the knowledge management, software engineering and user interaction challenges in developing modular, reusable, component-based applications. He finished his PhD at the Department of Computer Science in the University of Illinois at Urbana-Champaign in 2005. He received his BTech in Computer Science and Engineering from the Indian Institute of Technology in Chennai in 2000. His broad research interests include data management, Web 2.0, ubiquitous computing, distributed systems, services computing, the Semantic Web, artificial intelligence and software engineering.

7:00PM   *Informal Networking Dinner (Dutch treat)*   *Market Salamander Grille*