SMU SUMMER INSTITUTE ON ANALYTICS FOR BUSINESS, CONSUMER AND SOCIAL INSIGHTS
Welcome to the SMU Summer Institute on Analytics for Business, Consumer and Social Insights 2013 organized at the Singapore Management University (SMU) from 3 – 5 August 2013.

The Summer Institute this year consists of three related events:

The 2013 Workshop on Business, Consumer and Social Insights (BCSI 2013). This event will go from 8:30am Saturday, August 3, and conclude on Monday at 4:00pm. There will be a BCSI 2013 dinner on Saturday evening for workshop participants. In addition, BCSI participants will be invited to attend a reception on Sunday night that kicks off the 2013 Metaheuristics International Conference (MIC 2013), which is also a part of the Summer Institute.

BCSI 2013 @ A*STAR (Singapore’s Agency for Science, Technology and Research) will be held on Monday, August 5. This is a sponsored visit to A*STAR, and it will involve presentations from leading researchers at the Institute for High Performance Computing, as well as a research methods tutorial on video and image analytics. Registration begins at 9:30am with the program to start at 10:00am. It will conclude by no later than 4:00pm.

The 2013 Metaheuristics International Conference (MIC 2013) will begin on Sunday evening, with a reception.

These events will be held at SMU’s Administration Building in the downtown district of Singapore, and at A*STAR at One North in Fusionopolis. Dress is smart casual and comfortable for Singapore’s warm weather.

BCSI 2013 is intended to promote new research and the sharing of new ideas on interdisciplinary topics involving data analytics as a way to showcase research directions in Computational Social Science. Submissions at the working paper stage of development were invited on topics in which data analytics and empirical research methods are the focus, although other methods (analytical modeling, algorithms, experimental work, etc.) are welcome also. These include consumer behaviour in network environments; digital entertainment, information goods and media markets; electronic auctions and markets; Facebook and Twitter applications; and airlines, financial services and hospitality applications. They also include innovative ‘big data’-based experimental designs; Internet search and pricing; intellectual property rights; location-based and mobile systems; online ads; prediction markets; social commerce and social networks; political and social sentiment analytics; and Statistics, Econometrics, Management Science, Operations Research and Computer Science methods for big data.

A related purpose is provide a forum for learning targeted to postgraduate students from the Asia Pacific and Southeast Asian areas. The workshop will showcase speakers who will present tutorials on research methods and research designs for big data contexts, data mining and visual analytics, and the use of innovative methods to help them achieve successful outcomes in their research.

Robert J Kauffman
Associate Dean (Research) and Deputy Director (Living Analytics Research Centre)
School of Information Systems
Singapore Management University
Summer Institute Overview

August 3 - 4, 2013: Workshop on Analytics for Business, Consumer and Social Insights (BCSI 2013)
Co-Chairs: Robert J. Kauffman, Singapore Management University, Singapore
Shantanu Dutta, University of Southern California, USA
Pulak Ghosh, Indian Institute of Management, Bangalore, India
Guo Zhiling, Singapore Management University, Singapore
Lau Hoong Chuin, Singapore Management University, Singapore
Yang Yinping, Institute of High Performance Computing, A*STAR and Singapore Management University, Singapore
Alejandro Zentner, University of Texas, Dallas, USA

August 5, 2013: BCSI @ A*STAR (Agency for Science, Technology and Research)
Co-Chairs: Yang Yinping, Institute of High Performance Computing, A*STAR and Singapore Management University, Singapore
Robert J. Kauffman, Singapore Management University, Singapore

August 4-8, 2013: Metaheuristics International Conference (MIC 2013)
Chair: Lau Hoong Chuin, Singapore Management University, Singapore
Gunther Raidl, Vienna Univ. of Technology, Austria
Pascal Van Hentenryck, Brown University, USA
Professor Arnoud De Meyer is the fourth President of Singapore Management University. Previously, he was Director of Judge Business School at the University of Cambridge where he was Professor of Management Studies and Fellow of Jesus College. He was associated for 23 years with INSEAD where he held various senior academic and administrative positions, including founding Dean of INSEAD’s Asia Campus in Singapore.

Professor De Meyer has a Master of Science in Electrical Engineering, MBA and PhD in Management from the University of Ghent in Belgium. He also pursued his studies as a visiting scholar at the Sloan School of Management, Massachusetts Institute of Technology (USA). His research interests are in manufacturing and technology strategy; the implementation of new manufacturing technologies; the management of R&D; how innovation can be managed more effectively; project management under conditions of high uncertainty; management and innovation in Asia; the globalisation of Asian firms; the management of novel projects; and e-readiness in Europe.

Professor De Meyer has been consultant to a number of companies throughout Europe and Asia. Currently, he is an external director of Dassault Systèmes SA (France), as well as a board member of the National Research Foundation, Singapore International Chamber of Commerce and Temasek Management Services.

Professor Rajendra K. Srivastava is the current Provost and Deputy President at Singapore Management University (SMU). Prior to joining SMU, he was the Roberto C. Goizueta Chair in Marketing and Digital Commerce, Goizueta Business School, Emory University where he also served as Senior Associate Dean for Academic Programs. Before joining Emory, Raj held the George Kozmetsky Chair and served as Senior Associate Dean for Academic Affairs, Research and Collaborative Programs (including Executive Education) at the University of Texas at Austin. He has also served as Visiting Professor at London Business School, Indian School of Business (Hyderabad) and Helsinki School of Economics (Aalto University).

Widely considered a marketing thought leader, prolific researcher and an ‘evangelist’, Professor Srivastava has an interdisciplinary background and outlook integrating operations, finance and marketing expertise that reinforce a unique perspective on managing business processes and corporate performance.

A seasoned international speaker, especially on marketing metrics, and is also recognised for his pioneering work linking marketing processes and market-based assets to financial performance and shareholder value.

Professor Srivastava has consulted and delivered executive education programs for many multinational organisations from wide-ranging industries. ESADE, one of the top global centres of management education and the leading Spanish Business School in MBA and Executive Education, recently conferred on him the “Life Time Achievement Award: Academy of Marking Brand SIG”. Other accolades include the Alpha Kappa Psi Award (1984), Paul Root/MSI Award (1998), Maynard Award (1998), Mahajan Award (2004) and the AMA/Sheth Foundation Award (2006) given by the American Marketing Institute for his contributions to marketing thinking and practice.

Professor Steven Miller is founding dean of the School of Information Systems at Singapore Management University, a position he has held since December 2002. He is also recently appointed as Vice Provost (Research). Since joining SMU, he has concentrated on developing all aspects of the School of information Systems, including undergraduate and post-graduate educational programmes, research strategies and capabilities, interactions with external stakeholders, and the school’s relationship with Carnegie Mellon. Through LiveLabs, iCity Lab, the Living Analytics Research Centre (a five-year collaborative effort between SMU and Carnegie Mellon University), Professor Miller has played a significant role in establishing business, consumer and social analytics as a university-wide area of excellence.

He earned a bachelor of engineering degree in systems science and engineering from the University of Pennsylvania. He holds a master of science in statistics as well as a PhD in engineering and public policy from Carnegie Mellon University.
SMU SUMMER INSTITUTE ON ANALYTICS FOR BUSINESS, CONSUMER AND SOCIAL INSIGHTS

Robert J. Kauffman (IT & Strategy)
Professor of IS, Associate Dean (Research), and Deputy Director (LARC)
School of IS, Singapore Management University
rkauffman@smu.edu.sg


Lau Hoong Chuin (Computer Science)
Associate Professor of IS, and Deputy Director (LARC)
School of IS, Singapore Management University
hclau@smu.edu.sg

He studies: analytics for service improvements, including health care, transport and hospitality; autonomous agents and multi-agent systems; optimization, algorithms and DSS; supply chains and e-commerce; and the CS-OR interface. A recent work is: Gunawan, A., Lau, H.C. The master physician scheduling problem *J. Oper. Res. Soc.* 64(3) (2013) 410-425.

Shantanu Dutta (Marketing)
Dave and Jeanne Tappan Chair in Marketing, and Professor of Marketing
Marshall School of Business, University of Southern California
sdutta@marshall.usc.edu


Pulak Ghosh (Statistics)
Professor of Quantitative Methods and IS
Indian Institute of Management, Bangalore, and LARC, Singapore Management University
pulak.ghosh@iimb.ernet.in

Guo Zhiling (IS & Management)
Associate Professor of IS  
School of IS, Singapore Management University  
zhilingguo@smu.edu.sg


Yang Yinping (Behavioral Science)
Programme Manager, Independent Investigator and Scientist, Department of Computing Science, Institute of High Performance Computing, Agency for Science, Technology and Research  
yangyp@ihpc.a-star.edu.sg

Her research interests cover: human and social factors in system design; intelligent agents; e-negotiation and e-commerce; cloud computing and IT services; and behavioral science and behavioral economics. A recent article is: Yang, Y., Singhal, S., Xu, Y. Alternate strategies for a win-win seeking agent in agent-human negotiations. J. Mgmt. Info. Sys. 29(3) (2012) 223–255.

Alejandro Zentner (Applied Economics)
Associate Professor of Finance and Managerial Economics  
Naveen Jindal School of Management, University of Texas at Dallas  
azentner@utdallas.edu

His research examines issues in the following areas: applied economics; media and entertainment markets; cross-media substitution and file-sharing; music and movies; and market structure and competition. A recent work is: Zentner, A., Liebowitz, S. Clash of the titans: does Internet use reduce television viewing? Review of Economics and Statistics 94(1) (2012) 234-245.
Abstract: Recent trends in data collection, algorithms, and computing have radically changed the practical role of operations research and have given rise to the phrase “business analytics.” I will discuss these trends and illustrate how they have changed how OR-based analytics is used in practice with illustrations from my own and others’ work. As these trends continue, business analytics methods that take advantage of techniques from OR and practice will need to evolve to better handle much closer interactions between descriptive analytics, predictive analytics, and prescriptive analytics.

Abstract: Economists question whether analytics can still deliver the kind of wide-ranging, profound impact that the introduction of the automobile or the semiconductor chip had, and point to data showing slowing productivity growth as evidence. Achieving the full potential of promising analytics for data-driven decisions, at individual and societal scale, while addressing their challenges and risks will require effective leadership, but the potential is vast. Today, we see many rapidly evolving, potentially transformative techniques on the horizon—fusion of physical, biological, material, social and behavioral sciences and other fields. A confluence of advances in computational speed, machine learning, and natural user interfaces (e.g., voice, gesture, etc.) is making it possible to automate many business activities that have long been regarded as impossible or impractical for machines to perform. This opens up possibilities for sweeping change in how businesses learn, organize and network with their customers. Sophisticated analytics techniques are used to enable market design of well-coordinated decomposable system where both humans and machines can socialize to “learn” from insight, modify behavior and adjust their own algorithms based on analyses of the data, enabling them to “see” relationships or links that a human might overlook.
Abstract: Data mining is a suite of techniques, combining statistics, machine learning, database, and business intelligence, for discovering and extracting interesting and previously known patterns from a large volume of data. Data mining has a huge potential to generate benefits to individuals, governments, and organizations. However, access to raw data, even statistics of data, could present a serious threat to individuals’ privacy since personal records contain private information. As a result, high quality data are difficult to obtain in real life, which presents the bottleneck to data mining. Regulations help but do not prevent accidental disclosures or disclosures caused by violation. This tutorial has two parts. The first part presents an overview on the tension and gap between data mining and data privacy, and an overview of privacy preserving techniques for data sharing and publishing. The second part presents case studies of data privacy in several applications of social media, namely, web log analysis, online transaction data, online rating data, social network analysis, and outsourced data management. Examples are used throughout to illustrate the main ideas.

Abstract: These days, there is much discussion and interest in Bayesian statistics due to the new capabilities and low costs associated with iterative collection of data from 2.0 sources, such as the Internet, social media, and mobile phones. This session will cover Bayesian statistician from a beginner's perspective, by starting with the basic premises — random variables with probability distributions that reflect the parameters of some population or sample under study. The probability measures the extent to which an analyst believes something to be true about a variable. As new data are observed, new beliefs emerge, and can be characterised based on Bayes Theorem, the fundamental rule for updating the probability associated with the new beliefs, in the presence of new data. The presentation will also provide some background on how Bayesian statistics correspond with traditional methods in the “frequentist approach.” The discussion will cover the way that Bayesian methods take advantage of prior information in constructing Posterior probabilities and the extent to which inferences are made on the basis of data that have already been observed in the world, as opposed to data that are likely but not guaranteed to be observed if many data samples can be obtained. The session will cover Bayesian statistics as a fundamental new approach that is especially relevant to research that is being conducted in the Living Analytics Research Centre (LARC) at Singapore Management University, as well as of broader interest as a new information analytics tool for the social sciences.

Abstract: With the rapid growth of social multimedia information, video and image analytics has great potentials for changing the way how to accurately convey business information, how to comprehensively understand consumers, and how to efficiently gain social insights. The tutorial focuses on image and video analytics technologies and their key applications on business intelligence and management science. It will: 1) Explore the power of visual media (video, image and related online platforms) in terms of their impacts on marketing and other management domains; 2) Examine current commercial systems and research prototypes, focusing on comparing and analyzing their advantages and the disadvantages; 3) Review key challenges and technical issues in building real systems; 4) Discuss how to develop methodical approaches and systematic frameworks for analyzing and modeling visual information to meet the marketing and other managerial challenges; and 5) Make predictions about the road that lies ahead for the scholarly exploration and business/industrial practices.
## 2013 WORKSHOP ON ANALYTICS FOR BUSINESS, CONSUMER AND SOCIAL INSIGHTS

**VENUE**
Singapore Management University, Administration Building  
Level 6, Function Room 6-1, 81 Victoria Street, Singapore 188065

**Time** | **Programme**
---|---
0800-0830 | Registration / Breakfast
0830-0845 | **Workshop Welcome**  
Rob KAUFFMAN  
Summer Institute and BCSI 2013 Chair; Associate Dean (Research, SIS); Deputy Director (LARC, Singapore Management University)  
Steven MILLER  
Vice Provost (Research), Dean (School of Information Systems)  
Singapore Management University
0845-0930 | **Keynote: An OR Perspective on the Past, Present and Future of Business Analytics**  
Michael TRICK, Senior Associate Dean (Education), Tepper School of Business  
Carnegie Mellon University
0930-1000 | Morning Break
1000-1130 | **Research 1A: Faculty and Research Scientists’ Presentations (45 mins per paper)**  
Function Room 6-1, Executive Media Theatre & Executive Seminar Room 5-1
1130-1200 | **Mobile Analytics: The Ongoing Revolution in Consumer Sense-Making**  
Archan MISRA, Associate Professor of IS, Director (LiveLabs)  
Singapore Management University
1200-1315 | Lunch  
University Lounge
1315-1430 | **Tutorial 1: Data Mining Versus Data Privacy in Social Media Research**  
WANG Ke, Professor of Computer Science  
Simon Fraser University
1430-1445 | Afternoon Mini-Break
1445-1615 | **Research 1B: PhD Students’ Presentations with Mentors (30 mins per paper)**  
Function Room 6-1, Executive Media Theatre & Executive Seminar Room 5-1
1615-1630 | Afternoon Mini-Break
1630-1800 | **Research 1C: Faculty and Research Scientists’ Presentations (45 mins per paper)**  
Function Room 6-1, Executive Media Theatre & Executive Seminar Room 5-1
1830-2100 | **Workshop Dinner**  
Indulge at Park Restaurant, Grand Park City Hall

End of Day 1
**2013 WORKSHOP ON ANALYTICS FOR BUSINESS, CONSUMER AND SOCIAL INSIGHTS**

**VENUE**  
Singapore Management University, Administration Building  
Level 6, Function Room 6-1, 81 Victoria Street Singapore 188065

<table>
<thead>
<tr>
<th>Time</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>0800-0830</td>
<td>Registration / Breakfast</td>
</tr>
<tr>
<td>0830-1000</td>
<td>Research 2A: PhD Students’ Presentations with Mentors (30 mins per paper)</td>
</tr>
<tr>
<td></td>
<td>Function Room 6-1, Executive Media Theatre &amp; Executive Seminar Room 5-1</td>
</tr>
<tr>
<td>1000-1030</td>
<td>Morning Break</td>
</tr>
<tr>
<td>1030-1200</td>
<td>Tutorial 2: Bayesian Statistics – Information Analytics for the Social Sciences</td>
</tr>
</tbody>
</table>
|         | Pulak GHOSH, Professor of Statistics  
|         | Indian Institute of Management, Bangalore                                  |
| 1200-1300 | Lunch                                                                     |
|         | University Lounge                                                         |
| 1300-1430 | Research 2B: Faculty and Research Scientists’ Presentations (45 mins per paper) |
|         | Function Room 6-1, Executive Media Theatre & Executive Seminar Room 5-1  |
| 1430-1445 | Afternoon Mini-Break                                                      |
| 1445-1615 | Research 2C: Faculty and Research Scientists’ Presentations (45 mins per paper) |
|         | Function Room 6-1, Executive Media Theatre & Executive Seminar Room 5-1  |
| 1615-1630 | Afternoon Mini-Break                                                      |
|         | Prabir SEN, Chief Management Scientist  
|         | Accenture Pte Ltd                                                         |
| 1700-1730 | Discussion of Keynote Presentation with Prabir Sen and Day 2 Wrap-Up     |
|         | Shantanu DUTTA, University of Southern California  
|         | Pulak GHOSH, Indian Institute of Management, Bangalore                    |
|         | Rob KAUFFMAN, Singapore Management University                             |
| 1730-1815 | Walkabout Tour in LARC and LiveLabs                                       |
| 1830-2030 | Reception                                                                 |
|         | BCSI / MIC Joint Reception                                                |
|         | University Lounge                                                        |

End of Day 2
# MONDAY 5 AUGUST 2013

## BCSI @ A*STAR DAY

<table>
<thead>
<tr>
<th>Time</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>0930-1100</td>
<td><strong>Registration / Breakfast</strong></td>
</tr>
<tr>
<td>1000-1030</td>
<td><strong>Welcome to the Institute of High Performance Computing at A*STAR</strong></td>
</tr>
<tr>
<td></td>
<td>Terence HUNG, Deputy Executive Director</td>
</tr>
<tr>
<td></td>
<td>Amy FOO, Director, Industry Development</td>
</tr>
<tr>
<td></td>
<td>Rick GOH Siow Mong, Department Director, Computer Science</td>
</tr>
<tr>
<td></td>
<td>YANG Yinping, Progr Mgr, Strat Social Sys; Scientist, Comput Social Cognition Group</td>
</tr>
<tr>
<td>1030-1200</td>
<td><strong>Tutorial 3: Video and Image Analytics for Business, Consumer and Social Insights</strong></td>
</tr>
<tr>
<td></td>
<td>SHEN Jialie, Assistant Professor IS</td>
</tr>
<tr>
<td></td>
<td>Singapore Management University</td>
</tr>
<tr>
<td>1200-1330</td>
<td><strong>Networking Lunch</strong></td>
</tr>
<tr>
<td></td>
<td>SE Asian Buffet, Penang Place Restaurant</td>
</tr>
<tr>
<td></td>
<td>Fusionopolis</td>
</tr>
<tr>
<td>1330-1430</td>
<td><strong>R&amp;D Highlights at A*STAR</strong> (20 min presentations by A*STAR researchers)**</td>
</tr>
<tr>
<td>1430-1450</td>
<td><strong>Sky Garden Tour</strong></td>
</tr>
<tr>
<td></td>
<td>Level 23</td>
</tr>
<tr>
<td></td>
<td>Fusionopolis</td>
</tr>
<tr>
<td>1450-1545</td>
<td><strong>R&amp;D Highlights at A*STAR</strong> (20 min presentations by A*STAR researchers)**</td>
</tr>
</tbody>
</table>

**END OF EVENT**
The 14th International Conference on Electronic Commerce (ICEC 2012) was held in August 2012 at Singapore Management University (SMU), in association with the School of Information Systems and the Living Analytics Research Centre (LARC). The theme of the conference was “Competing on Real-Time Data Analytics: Connecting the Virtual and Physical Worlds of Social Commerce,” which is uniquely tied to the activities of LARC and the recently-launched LiveLabs Urban Lifestyle Innovation Testbed Platform at SMU. The conference was also a part of SMU's Summer Institute on Analytics for Business, Consumer and Social Insights, which is part of the University’s Area of Excellence.

ICEC played host to over 120 participants from local and international universities, government agencies, research institutes and business firms. The conference was graced by the participation of three keynote speakers – Professor Vasant DHAR of the Stern School of Business at New York University, Professor Michael ZHANG of Hong Kong University of Science and Technology, and Dr. Jamshid VAYGHAN, Distinguished Engineer and Chief Technology Officer for IBM’s internal CIO organization.

The conference got underway with the first keynote speech by Professor DHAR, who gave a timely reminder of the prescient comment from Nobel Laureate, Herbert SIMON, who said: “What information consumes is rather obvious: it consumes the attention of its recipients. Hence, a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.” In his keynote, Professor DHAR noted that machine learning, a branch of artificial intelligence, is about algorithms that allow computers to evolve behaviors or discover models and theories based on empirical data. His core argument was that, in the rapidly emerging age of big data, machine learning is playing an increasing important role in uncovering interesting patterns hidden in troves of data. This is founded on the ability that researchers have through machine learning to formulate and test novel hypotheses intelligently. Hence, the approach is potentially transformative for how business decisions are made, and how business research will be conducted. Similar to the characterization that we have at LARC about data as the “digital trace of human life,” he further noted that we are in a truly advantageous position to build new theories about human behavior.

Professor Michael ZHANG promptly followed up with his keynote about the “Impact of Social Media on Individuals and Business.” He pointed out that for “the first time in history, researchers in many markedly different disciplines – Computer Science, Sociology, Statistics, Economics, Information Systems, Marketing, and recently Finance and Accounting – all are studying the same subject: social media.”
The conference continued into Day 2 with Dr. VAYGHAN discussing how organizations can succeed by crafting new business processes to support knowledge discovery in “fact-based analytics,” through the development of reliable and repeating intra-organizational design processes. His key argument was that big data analytics for business, consumer and social insights require organizational attention to the full life cycle of activities that are involved – from requirements specification and process design all the way through to big data maintenance and decision-making infrastructure renewal.

ICEC 2012 also hosted “Industry Day @ ICEC 2012,” which was organized by Mr. John BERNS of NCS (Singapore), who is also a co-founder of BigData.SG. This part of the program featured industry, government and academic panelists coming together to discuss varying topics on: consumer insights and customer intimacy; open data and business innovation; and human capital for the data science job market.

In conjunction with the conference, some ICEC attendees visited Singapore’s Agency for Science, Technology and Research (A*STAR), for a day of research presentations and demonstrations hosted by Dr. YANG Yinping. This activity resulted in follow-up visits, additional research exchanges, as well as newly-initiated research projects involving A*STAR’s research professional and member of the ICEC community of researchers and practitioners.

As a follow-up to ICEC 2012, a number of faculty colleagues are working to develop special issues of journals, to fast-track extended versions of the conference papers so they can be published in a fuller form and made available to interested people around the world. The targeted journals are Decision Support Systems, International Journal of Electronic Commerce and Electronic Commerce Research and Applications.
The Living Analytics Research Centre (LARC) seeks to make Singapore a premier location for the development and applied use of a new generation of consumer and social analytics for the network centric world. LARC is developing new concepts, methods, and tools that are experiment-driven, closed-loop, more real-time, and practical at societal scale. LARC aspires to transform and expand computational social science as well as to develop new applications that benefit individual consumers, private sector organizations, and the public sector.

A joint collaboration between the Singapore Management University (SMU) and Carnegie Mellon University (CMU), LARC is physically anchored at SMU’s School of Information Systems in Singapore and at CMU’s Heinz College in Pittsburgh, Pennsylvania, USA. LARC brings together i) machine learning, ii) statistics, iii) social and behavioral science, iv) management science, and v) the science underlying network structures, in innovative but practical ways. LARC is working with industry partners to demonstrate its new approach to Experiment-Driven Closed-Loop Analytics. For example, LARC will help service providers learn how to provide context-relevant information and incentives to consumers at the right time, in the right way. LARC’s concepts, methods and tools will form a Living Analytics Technology Platform that external parties can license.

For more information about LARC, please visit larc.smu.edu.sg
SMU LiveLabs is a city-scale research testbed with progressive technologies for companies to run large-scale consumer behavioural trials and experiment with novel mobile services on real people in real environments.

Supported by the Singapore government and technology partners with a total investment exceeding S$20m, LiveLabs innovates in the areas of mobile computing, smartphone-based rich context sensing and real-time behavioural analytics capabilities via collaborative research with multinational technology giants.

LiveLabs will involve the deployment of globally unique large-scale (thousands of everyday consumers) lifestyle-centric research test-beds at multiple locations, including SMU’s downtown campus, major shopping malls, Sentosa and Singapore Changi International Airport.

LiveLabs specialises in mobile experimentation and research for building:

1. user-friendly mobile data collection and processing methods;
2. pervasive mobile sensing;
3. liveLabs Intervention Engine (proprietary mobile user interaction and experiment management systems).

For more information about Live Labs, please visit livelabs.smu.edu.sg
The Green Transformation Lab aims to create a more sustainable world today for the benefit of tomorrow.

The Green Transformation Lab is a joint initiative by SMU and DHL aimed at accelerating the evolution of sustainable logistics across Asia Pacific. Leveraging SMU’s multi-faculty academic excellence and DHL’s sustainability services, expertise and capability in supply chains, the Green Transformation Lab is focused on creating solutions that help companies transform their supply chains, becoming greener, more resource efficient and sustainable.

The Green Transformation Lab aims to:

• build and test new capabilities that empower organizations with knowledge, best practices and tools to achieve their sustainability goals;
• support transformation initiatives at both industry and organization levels through innovative methods and advanced technologies;
• raise awareness of greener and more sustainable operations.

Combining DHL’s sustainable logistics expertise with SMU’s academic rigor will help build green supply chain capabilities in Singapore for the benefit of the whole region. The Green Transformation Lab will be a catalyst for change, creating sustainable solutions for organizations and supply chains that lead to large-scale adoption and subsequent economies of scale.

The Green Transformation Lab team comprises of two full time directors. It taps on the multi-disciplinary expertise of SMU’s researchers and DHL’s sustainability experts to power a research collaboration that is likely to create many beneficial outcomes.

For more information about Green Transformation Lab, please visit smu.edu.sg/centres/gtl
SMU-TCS iCity Lab is a joint initiative where TCS’s $6 million investment in the iCity Lab at SMU lays the foundation for the research and development of cloud-based IT solutions for intelligent cities in Asia and Worldwide. The partnership combines TCS’s industry leading IT services expertise and culture of innovation with SMU’s globally recognized excellence in research and education. iCity Lab’s recognition extends more broadly to the world of business and management in both the public and private sectors.

Both SMU and TCS are known for their ability to integrate IT with business in ways that create innovative IT solutions that meet public and private sector management needs. The lab will work together with selected partnering cities in China, India and other rapidly-developing ASEAN countries to create urban management solutions.

For more information about SMU-TCS iCity Lab, please visit www.icitylab.com