Executive Summary: EBTIC’s International iCampus workshop 2011 (IC’11)

Due to the wide interests from the research communities, Etisalat BT Innovation Centre (EBTIC) was invited to chair and organise, of a greater scale, the International iCampus Workshop (IC’11) held, in conjunction with the IEEE/IET Intelligent Environment Conference (IE’11), in Nottingham UK, 25-28 July 2011. The purpose of this IC’11 workshop, in response to the changing global educational landscape, is to gather like-minded researchers together to present and discuss the various topics of interest under the iCampus theme. This is meant to encourage new research ideas and cross-collaborations among the research communities internationally. In fact, with the success of the previous IEEE special session workshop (IC’10), the central theme of this year workshop is centred on the “Next Generation Learning Environments for the 21st Century”. In support of the theme, there is hence a particular focus on the iLearning domain of iCampus (in addition to the other domains of campus intelligence).

The programme structure of the workshop was planned to consist of two parts, as shown in Appendix III, namely (a) The iCampus theme in the IC’11 workshop, and (b) The iCampus initiative in the IC’11 workshop. The first part is meant to focus more on the front-end research in the field so as to keep up-to-date and foster discussion/collaboration among the interested research communities; the second part is meant to create a roundtable/panel discussion, among the delegates, so as to deliberate on the iCampus initiative and the next step forward. Three notable keynote speakers were invited to open up the different sessions in the workshop. (1) Andy Palmer (Director of Education and Skills, BT Group and board member of the Office for Standards in Education, Children’s Services and Skills – Ofsted, UK) commenced the “Educational Technology” track with a keynote on BT Education Beyond the Cloud, with the aim to introduce BT cloud education, which is essentially a cloud-based ICT solution for the education sector, including its ongoing pilot trials within the UK region. (2) Warren W. Sheaffer (Computer Science Chairman, Saint Paul College, USA) opened the “Immersive Education” track with a keynote on Implementing Mixed Immersive Reality Teaching and Learning in Environments: Lessons Learned, reviewing the pragmatic design, implementation and integration of the MiRTLE platform within Saint Paul College campus (USA) as well as its successes, challenges and directions for further development and research. (3) Aaron Walsh (Director of Immersive Education Initiative, USA) set out the panel discussion with an introduction of the Immersive Education Initiative in conjunction with a special session on Immersive Education for iCampus. To complement the workshop, three exhibition stands were set up to put forward the various industry showcases for the benefit of the delegates: (1) Immersive learning “iDesk” by Immersive Display Ltd, (2) Modularised educational technology “Buzz-Boards” by FortiTo, and (3) Augmented-reality for education “AR-shirt” by Ramberg Integral Communication. For further information about the proceeding of the workshop, please refer to Appendix IV for an extracted preface of the IC’11 edited (IOS press) book series on “Ambient Intelligence and Smart Environments”.

The overall IC’11 workshop has been successful with positive response received from the delegates. Based on the recommendation from the external independent review committee, Mr. Omran Al-Hammadi from the Khalifa University of Science, Technology and Research was also awarded the “Best paper award 2011”, by Professor Victor Callaghan – the honorary chairman of the IEEE/IET Intelligent Environments conference, on the paper entitled “Personalized uLearning in a smart anytime-anywhere campus environment”. The paper was the result of a collaborative KU-EBTIC research project entitled “Smart Student Mobile Companion”. In support of EBTIC’s overall iCampus concept and its workshop event, Professor Victor Callaghan has also previously commented that: “The nature of the iCampus concept is inherently multi-disciplinary and can have multi-applicability to other forms of intelligent environments. It is good to have EBTIC to set up the iCampus theme in this conference event”. In fact, the proposed initiative was deemed to be aligned with the current global research trend drivers and was viewed to be synergetic with the ongoing research activities and challenges in the international field. The research communities are hence looking forward to the continual contribution as well as participation in the latest research and innovation in the field, within the next EBTIC’s Annual International iCampus Workshop/Conference in the following year (IC’12).
APPENDIX I

Workshop poster

on

The international iCampus workshop (IC’11)
The educational landscape is changing; some have termed it as the “climate change” in education. The students of today engage with the learning environment differently from the students of yesterday. The traditional landscape is often perceived as “formal”, “passive”, “direct”, and “push” learning environment designed largely for the knowledge consumers; and the modern landscape is often perceived as “informal”, “active”, “collaborative”, “social”, and “pull” learning environment designed not only for the knowledge consumers but also for the knowledge creators. The attempt to redefine the educational landscape has gathered a lot of interests in the recent years to create and/or adapt the education environments for the 21st century. Various terms, such as “School 2.0 Architecture”, “Virtual Campus”, “Education 3.0”, “Entertainment”, “Hyperconnected Learner”, “mLearning”, and many others, have since been coined to signify and describe this paradigm shift in the campus environment.

To keep up with the changing landscape, this IC’11 workshop will address the various topic-of-interests with regard to the next generation intelligent campus environment. A new paradigm of thinking pertaining to a holistic intelligent campus (iCampus) environment encompasses (but is not limited to) several themes of campus intelligence, such as iLearning, iSocial, iGreen, iHealth, iManagement, and iGovernance. But in this year IC’11 workshop, there would be an additional focus on the iLearning theme of iCampus, with the following tracks:

**Workshop tracks**
- Immersive Education Spaces
- Educational Technology for Learning

The aim of the workshop is to gather like-minded individuals to share and discuss as well as be informed of the current frontiers of research in this domain. All interested participants are welcome to join us in this International “Intelligent Campus” (IC’11) workshop to be co-located with the “Intelligent Environments” (IE’11) conference. For more information, please visit [www.IntelligentCampus.org/IC11](http://www.IntelligentCampus.org/IC11).
APPENDIX II

Call for participation (CFP)
on
The international iCampus workshop (IC’11)
The global educational landscape is changing, due to the continual advancement of technologies. This paradigm shift in education is imminent and has since gathered a lot of interests, among the academics and the industry, in an attempt to bridge the technological gap in the educational sector. To cope with the changing education environment, this iCampus workshop aims to address the various research area-of-interests in order to create a holistic next-generation intelligent campus environment that is suited for the 21st century. It encompasses (but is not limited to) several themes of campus intelligence, such as iLearning, Social, iGreen, iHealth, iManagement, and iGovernance.

The central theme of this year IC’11 workshop is on the “Next Generation Learning Environments for the 21st Century”. In support of the theme, there is hence a particular focus on the iLearning domain of iCampus (in addition to the other domains of campus intelligence). Two special workshop tracks are also created, namely the “Immersive Education” track and the “Educational Technology” track, as detailed below.

Workshop tracks

Track I: Immersive Education Spaces

There is a growing interest in the use of virtual and mixed-reality environments for online teaching and learning. Immersive Education gives participants a sense of “being there” even when attending a class or training session in person isn’t possible, practical, or desirable, which in turn provides educators and students with the ability to connect and communicate in a way that greatly enhances the learning experience. Originally available only to university students, the next generation of Immersive Education is focused on a broad spectrum of academic and non-academic users (higher education, K-12, and corporate training).

This track will address core topics on the use of Virtual and Mixed Reality Intelligent Environments for online education and training applications (e-learning). The scope will be fairly broad and will look at a range of innovative uses of virtual reality immersive environments. This could range from using and developing virtual environments through to practitioners with experience of teaching online and developing new approaches and pedagogies, including underpinning theories, human factors, pedagogy and design/evaluation strategies, case studies and more technical/scientific research topics. Submissions that have experimental results derived from virtual or mixed-reality immersive education test-beds are especially encouraged.

Track II: Educational Technology for Learning

Education is becoming important in modern knowledge-based economies. Perkinson, the Principal Education Specialist for the International Finance Corporation (part of the World Bank Group) estimated that the value of the global education market is a little over US$2.5 trillion and the international student population worldwide was 115 million, growing at a rate of approximately 15% per annum. As with other areas of life, technology has the potential to transform how education is delivered, received and practiced. Advances in technology have never been at a greater pace that those being experienced today, and has the promise of revolutionising working practices and changing the world of education.

This track offers all stakeholders a forum to present and explore research advances in education technology within an intelligent campus environment. Educational technology is a wide-ranging and fast moving discipline ranging from laboratory technology through to advanced mobile learning systems and involves a wide variety of pedagogy and cultural issues. Stakeholders range from students, through teachers to companies marketing educational devices and services. The aim of this track is to provide an opportunity for those involved in educational technology, in its broadest sense, to share ideas, insights and experiences. This is multi-disciplinary call to researchers in all relevant subjects and not restricted to pervasive/ubiquitous computing or technologies.

Important dates


Date for registration Early registration date: 18th May 2011 Date for IC’11 workshop Workshop dates: 25th to 26th July 2011

Contact information

For further information or other enquiries, please kindly contact rika.nauck@bt.com or visit our webpage at: http://www.IntelligentCampus.org/IC11.

Workshop partner

The international IC’11 workshop on the intelligent campus (iCampus) is part of the International iCampus Initiative.

And the “Immersive Education” workshop track is in partnership with the Immersive Education Initiative (European Chapter).

Instructions for Authors

The workshop will consist of both short/long paper and presentation sessions. The submitted papers should be of no more than 6 pages (short paper) or 12 pages (long paper), and presentations of about 20 minutes. All accepted papers will be published by IOS Press, as part of the IEEE International Conference on Intelligent Environments (IE’11) proceedings.

The format of the papers should follow the IOS guidelines (http://www.iospress.nl/authco/instruction_crc.html) and be submitted via the IC’11 workshop submission system (https://cmt.research.microsoft.com/IC2011/). Note that at least one author for each accepted paper must register and present the paper, via online or onsite, in the workshop.
APPENDIX III

Programme structure on
The international iCampus workshop (IC’11)
# Part I: The international iCampus Workshop (IC’11)

**Theme: Next Generation Learning Environments for the 21st Century**

## IC-1A: Welcome address

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 to 09:10</td>
<td>Welcome introduction to the International iCampus Workshop 2011 (IC’11)</td>
<td>Jason Ng, Chief Scientist, Etisalat British Telecom Innovation Centre, UAE</td>
</tr>
</tbody>
</table>

## Track I – Educational Technology for Learning

**Track Chairs: Minjuan Wang and Victor Callaghan**

## IC-2A: Opening session

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:10 to 09:20</td>
<td>OPENING: Introduction to the “Education Technologies for Learning” track</td>
<td>Minjuan Wang, Professor of Educational Technology, San Diego State University, USA</td>
</tr>
<tr>
<td>09:20 to 09:50</td>
<td>KEYNOTE: BT Education Beyond the Cloud</td>
<td>Andy Palmer, Head of Learning and Skills, BT Learn Anytime, BT Group, UK</td>
</tr>
</tbody>
</table>

## IC-2B: Track session

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:50 to 10:10</td>
<td>1. Teaching Next Generation Computing Skills; The Challenge of Embedded Computing</td>
<td>Minjuan Wang, Victor Callaghan, Malcolm Lear, and Martin Colley</td>
</tr>
<tr>
<td>10:10 to 10:30</td>
<td>2. Personalized uLearning in a Smart Anytime-Anywhere Campus Environment</td>
<td>Omran Al Hammadi, Mohamed Jamal Zemerly, and Jason W.P. Ng</td>
</tr>
<tr>
<td>10:30 – 11:00</td>
<td>Tea/Coffee Break</td>
<td></td>
</tr>
<tr>
<td>11:00 to 11:20</td>
<td>3. Smart Mobile Assessment Tool</td>
<td>Ahmed Al Dhanhani, Rabeb Mizouni, Hadi Otrok, and Jason W.P. Ng</td>
</tr>
<tr>
<td>11:20 to 11:40</td>
<td>4. iNet: An Intelligent Network as a Personal Assistant in an iCampus Environment</td>
<td>David Benavides, Erik Fuentes, and Victor Zamudio</td>
</tr>
<tr>
<td>11:40 to 12:00</td>
<td>5. Facilitating Access to Educational Content through Smarter Educational Environments</td>
<td>Lewis Reilly, Leam Delaney, Juan C. Augusto, John Kennedy, and Malcom Hutchison</td>
</tr>
<tr>
<td>12:00 to 12:20</td>
<td>6. An Efficient Data Reduction Technique for Single and Multi-Modal WSNs</td>
<td>Mohamed O. Abdel-All, Rabie A. Ramadan, Ahmed A. Shaaban, and Mohamed Z. Abdel-Meguid</td>
</tr>
<tr>
<td>12:20 to 12:40</td>
<td>7. Similarity Pattern Mining in Intelligent Office Environments</td>
<td>Saifullizam Puteh, Caroline Langensiepen, and Ahmad Lotfi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:40 – 13:40</td>
<td>LUNCH</td>
<td></td>
</tr>
</tbody>
</table>
## Track II – Immersive Education Spaces

*Track Chair: Michael Gardner*

### IC-3A: Opening session

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker/Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:40 to 13:50</td>
<td>OPENING: Introduction to the “Immersive Education Spaces” track</td>
<td>Michael Gardner, Director of Digital Lifestyles Centre, UK</td>
</tr>
<tr>
<td>13:50 to 14:20</td>
<td>KEYNOTE: Implementing Mixed Immersive Reality Teaching and Learning: Lessons Learned</td>
<td>Warren W. Sheaffer, Computer Science Chairman, Saint Paul College, USA</td>
</tr>
</tbody>
</table>

### IC-3B: Track session

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Authors/Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:20 to 14:40</td>
<td>The Intelligent Classroom: Beyond Four Walls</td>
<td>James Dooley, Victor Callaghan, Hani Haqras, Michael Gardner, Mohammed Ghanbari, and Damiyal Al-Ghazzawi</td>
</tr>
<tr>
<td>14:40 to 15:00</td>
<td>Virtual Classrooms: Making the Invisible, Visible</td>
<td>Tongzhen Zhang, Vic Callaghan, Ruimin Shen, and Marc Davies</td>
</tr>
<tr>
<td>15:00 to 15:20</td>
<td>Augmented Reality: A New alternative for Education in Emerging Countries</td>
<td>Marcos Reyes, Victor Zamudio, Rosario Baltazar and Carlos Lino</td>
</tr>
<tr>
<td>15:20 – 15:50</td>
<td>Tea/Coffee Break</td>
<td></td>
</tr>
<tr>
<td>15:50 to 16:10</td>
<td>Investigation into Learning Style based Grouping in e-Learning</td>
<td>Manbir Singh Mand and Fang Wang</td>
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</table>

### IC-3C: Panel session

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<tr>
<th>Time</th>
<th>Panel session</th>
<th>Speaker/Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:10 to 16:50</td>
<td>Introduction of the Immersive Education Initiative</td>
<td>Aaron Walsh, Director of Immersive Education Initiative, USA</td>
</tr>
<tr>
<td></td>
<td>Overview of iED Europe</td>
<td>Michael Gardner, Director of Digital Lifestyles Centre, UK</td>
</tr>
<tr>
<td></td>
<td>Q&amp;A session on Immersive Education for iCampus</td>
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</tr>
</tbody>
</table>

## Part II: The international iCampus Workshop (IC’11)

*The international iCampus initiative*

### IC-1B: Final session

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:50 to 17:30</td>
<td>Announcement of IC’11 Best Paper Award</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opening: Introduction of the iCampus initiative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roundtable/Panel discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closing: The next step forward</td>
<td></td>
</tr>
</tbody>
</table>

### Joint Conference/Workshop Reception

*18:00 – 20:30* Joint Conference/Workshop Reception

*Subject to change depending on time schedule & availability*
APPENDIX IV

Extracted preface of IOS Press:
Ambient Intelligence and Smart Environments (AISE) edited book series
International IC’11 Workshop on
The Intelligent Campus
~ iCampus ~

Theme: Next Generation Learning Environments for the 21st Century

Workshop Chairs:
General Chair: Jason W.P. Ng (Etisalat British Telecom Innovation Center, U.A.E)
IE Track Chair: Michael Gardner (University of Essex, U.K.)
ET Track Co-Chair: Minjuan Wang (San Diego State University, U.S.A.)
ET Track Co-Chair: Victor Callaghan (University of Essex, U.K.)

Technical Programme Committee:
Benjamin Hirsch (Technische Universität Berlin, GER)
Diana Pérez-Marín (Universidad Rey Juan Carlos, ES)
Dorothy Furber Byers (Khalifa University of Science, Technology & Research, UAE)
Enrique Leon Villeda (Tecnalia Corporation, ES)
Fabrice Saffire (Etisalat British Telecom Innovation Center, UAE)
Fang Wang (Brunel University, UK)
Fernando Rivera-Illingworth (University of London, UK)
Hanno Hildmann (Etisalat British Telecom Innovation Center, UAE)
Jamal Zemerly (Khalifa University of Science, Technology & Research, UAE)
James Laffey (University of Missouri-Columbia, US)
John Shaffer (Affiliated Computer Services, US)
Juan Carlos Augusto (University of Ulster, UK)
Michael Ng (University of Southampton, UK)
Nayef Alsindi (Etisalat British Telecom Innovation Center, UAE)
Paul Bowman (BT Innovate & Design, UK)
Paul Yoo (Khalifa University of Science, Technology & Research, UAE)
Sabine Reljic (San Diego State University-University of San Diego, US)
Shumei Zhang (University of Ulster, UK)

Workshop Partners
The international IC’11 workshop on the intelligent campus (iCampus) is part of the International
iCampus Initiative. And the “Immersive Education” workshop track is in partnership with the
Immersive Education Initiative (European Chapter).

Conference/Workshop Sponsor
The IEEE/IET Intelligent Environment conference (IE’11) and the International iCampus workshop
(IC’11) are kindly sponsored by the Etisalat British Telecom Innovation Centre (EBTIC).
Introduction to the Proceedings of the International iCampus Workshop (IC’11)

The global educational landscape is changing; some have termed it as the “climate change” in education. This paradigm shift in education is imminent and has since gathered a lot of interests, among the academics and the industry, in an attempt to bridge the technological gap in the educational sector. To cope with the changing education environment, this iCampus workshop aims to address the various research area-of-interests in order to create a holistic next-generation intelligent campus environment that is suited for the 21st century. It encompasses (but is not limited to) several themes of campus intelligence, such as iLearning, iSocial, iGreen, iHealth, iManagement, and iGovernance.

The central theme of this year IC’11 workshop is on the "Next Generation Learning Environments for the 21st Century". In support of the theme, there is hence a particular focus on the iLearning domain of iCampus (in addition to the other domains of campus intelligence). Two special workshop tracks are also created, namely the “Immersive Education” track and the "Educational Technology" track, as detailed below.

Workshop tracks

ET Track I: Educational Technology for Learning
Education is becoming increasing important in modern knowledge-based economies. Perkinson, the Principal Education Specialist for the International Finance Corporation (part of the World Bank Group) estimated that the value of the global education market is a little over US$2.5 trillion and the international student population worldwide was 115 million, growing at a rate of approximately 15% per annum. As with other areas of life, technology has the potential to transform how education is delivered, received and practiced. Advances in technology have never been at a greater pace that those being experienced today, and has the promise of revolutionising working practices and changing the world of education.

This track offers all stakeholders a forum to present and explore research advances in education technology within an intelligent campus environment. Educational technology is a wide-ranging and fast moving discipline ranging from laboratory technology through to advanced mobile learning systems and involves a wide variety of pedagogy and cultural issues. Stakeholders range from students, through teachers to companies marketing educational devices and services. The aim of this track is to provide an opportunity for those involved in educational technology, in its broadest sense, to share ideas, insights and experiences.

IE Track II: Immersive Education Spaces
There is a growing interest in the use of virtual and mixed-reality environments for online teaching and learning. Immersive Education gives participants a sense of “being there” even when attending a class or training session in person isn’t possible, practical, or desirable, which in turn provides educators and students with the ability to connect and communicate in a way that greatly enhances the learning experience. Originally available only to university students, the next generation of Immersive Education is focused on a broad spectrum of academic and non-academic users (higher education, K-12, and corporate training).

This track will address core topics on the use of Virtual and Mixed Reality Intelligent Environments for online education and training applications (e-learning). The scope will be fairly broad and will look at a range of innovative uses of virtual reality immersive environments. This could range from using and developing virtual environments through to practitioners with experience of teaching online and developing new approaches and pedagogies, including underpinning theories, human factors, pedagogy and design/evaluation strategies, case studies and more technical/scientific research topics.
Outline proceedings of paper tracks

In the first workshop track “Track I: Educational Technology for Learning”, invited speaker Andy Palmer (Director of Education and Skills, BT Learn Anytime, BT Group, UK) commenced the session with a keynote on BT Education Beyond the Cloud, with the aim to introduce BT cloud education, which is essentially a cloud-based ICT solution for the education sector, including its ongoing pilot trials within the UK region. Next, Teaching Next Generation Computing Skills: The Challenge of Embedded Computing by M. Wang et al., introduced a set of modularized educational technology in response to the imminent “internet of things” paradigm, including the launch of a new ‘Creative Assignment’ competition to promote the development of creative and more motivating embedded-computing assignments. Following that, the papers Personalized uLearning in a Smart Anytime-Anywhere Campus Environment by O. Al Hammadi et al. and Smart Mobile Assessment Tool by A. Al Dhanhani et al., put forward various novel ideas in the incorporation of m-learning educational technology within a smart campus environment. As an extension to that, iNet: An Intelligent Network as a Personal Assistant in an iCampus Environment by D. Benavides et al., presented a social communication platform, called iNet, that can act as a personal assistant to the students in a proactive and intelligent manner based on the interests of the individuals. Facilitating Access to Educational Content through Smarter Educational Environments by L. Reilly et al., then demonstrated a voice-activated library system that can provide the students, especially those with disabilities, an alternative means of accessing educational content and encompasses a mixed-initiative interaction strategy feature which gives both the user and the system the possibility to be proactive during the dialogue. To allow the educational campus to be intelligent, An Efficient Data Reduction Technique for Single and Multi-Modal WSNs by M. O. Abdel-All et al., as such, proposed the use of wireless sensor networks within its surrounding environment, with a new data-reduction approach which can potentially increase the overall lifespan of the network. With that, Similarity Pattern Mining in Intelligent Office Environments by S. Puteh et al., then went further by detailing how a set of non-intrusive sensors can be used, in conjunction with similarity pattern mining, to ascertain the corresponding behavioral activity within the intelligent environment over a period of time.

In the second workshop track “Track II: Immersive Education Spaces”, invited speaker Warren W. Sheaffer (Computer Science Chairman, Saint Paul College, USA) opened the session with a keynote on Implementing Mixed Immersive Reality Teaching and Learning in Environments: Lessons Learned, reviewing the design, implementation and integration of the MiRTLE platform within Saint Paul College campus (USA) as well as its successes, challenges and directions for further development and research. This is followed by The Intelligent Classroom: Beyond Four Walls by J. Dooley et al., focusing on the application of mixed reality and ubiquitous computing paradigms so as to enrich the teaching and learning experience including its associated deployments and innovations across the University of Essex campus (UK). With that, Virtual Classrooms: Making the Invisible, Visible by T. Zhang et al., compared the e-learning work at Shanghai Jiaotong University (China) and the virtual reality work at Essex University (UK), and proposed a novel solution comprising a virtualised learning model and architecture to help online learners and teachers to visualize important learning related information that had hitherto been invisible to users of online learning systems. Augmented Reality: A New alternative for Education in Emerging Countries by M. Reyes et al., then addressed the use of augmented reality as a viable educational strategy from the emerging countries’ perspective (in particular, within Mexico). As a wrap-up to the session, Investigation into Learning Style based Grouping in e-Learning by M. S. Mand and F. Wang, highlighted the human pedagogical factors behind the e-learning process by investigating the different learning styles, based on the VARK model, so as to create more effective learning groups for better collaborative learning.
The workshop committee would like to thank all the above authors and presenters for their valuable contributions in the workshop as well as the online and onsite delegates for their active participation and interesting discussions. We would also like to express our gratitude to Etisalat British Telecom Innovation Centre (EBTIC) for their generous support in the Intelligent Campus workshop (IC’11) and in the Intelligent Environment conference (IE’11).

Yours sincerely,
Jason W.P. Ng, Michael Gardner, Minjuan Wang, and Victor Callaghan
IC’11 organising committee