International Conference on Blended Learning 2018

and

International Symposium on Educational Technology 2018

CONFERENCE PROGRAMME

31 July to 2 August 2018

OSAKA · JAPAN
ABOUT THE CONFERENCE

The International Conference on Blended Learning (ICBL) is an annual international conference with the main focus on blended learning – an integration of the traditional learning with innovative means, such as e-learning and open online learning, in order to create a new learning environment to enhance learning effectiveness and enrich learning experience. The purpose of ICBL is to bring together researchers and developers from education and computer science to advance the research of blended learning.

This year, ICBL 2018 is the 11th conference of the ICBL conference series. The main theme is Blended Learning: Enhancing Learning Success. Accepted papers are included in the conference proceedings published by Springer under its Lecture Notes in Computer Science series (LNCS), as volume 10949. Selected papers will be recommended to the Journal of Computing in Higher Education (SSCI listed, impact factor 1.440), the Journal of Computers in Education (ESCI listed), and the International Journal on Innovation and Learning (ESCI listed).

Commencing in 2008, ICBL with its predecessors the International Conference on Hybrid Learning (ICHL) had attracted delegates from many countries, including China, Hong Kong, Macau, Taiwan, Malaysia, Singapore, Thailand, Japan, Australia, Czech Republic, France, Germany, UK, Canada, and USA. All the conference proceedings have been published by Springer under its LNCS series. Previous conferences are highlighted below.

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<tr>
<th>Conference</th>
<th>Venue</th>
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<tr>
<td>1st ICHL 2008</td>
<td>City University of Hong Kong</td>
<td>13-15 August 2008</td>
<td>LNCS vol. 5169</td>
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<tr>
<td>2nd ICHL 2009</td>
<td>University of Macau</td>
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<td>3rd ICHL 2010</td>
<td>Beijing Normal University</td>
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<td>4th ICHL 2011</td>
<td>SPACE, University of Hong Kong</td>
<td>10-12 August 2011</td>
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<tr>
<td>5th ICHL 2012</td>
<td>South China Normal University</td>
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<tr>
<td>6th ICHL 2013</td>
<td>University of Toronto</td>
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<tr>
<td>7th ICHL 2014</td>
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<td>9th ICBL 2016</td>
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<td>10th ICBL 2017</td>
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<td>27-29 June 2017</td>
<td>LNCS Vol. 10309</td>
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ABOUT THE SYMPOSIUM

The International Symposium on Educational Technology (ISET) is an annual international symposium with the main focus on a wider scope of educational technology. The purpose of ISET is to bring together researchers and developers from education and computer science to advance the research and application of information and communication technology in education.

ISET 2018 is held together with ICBL 2018. Topics of interests broadly cover instructional technology, blended learning, e-learning and online learning, flipped classroom, learning analytics, MOOCs, open educational resources, and smart learning environment, with an aim to enhance learning outcome and enrich learning experience through the effective and innovative use of technology. Accepted papers are included in the symposium proceedings published by IEEE Computer Society Conference Publishing Services (CPS). Selected papers will be recommended to the Journal of Computers in Education (ESCI listed), and the International Journal on Innovation and Learning (ESCI listed).

The Symposium series started in 2015. ISET 2015 was held on 27-29 July 2015 at the Central China Normal University, Wuhan, China. ISET 2016 was held on 19-21 July 2016 at the Peking University, Beijing, China. ISET 2017 was held on 27-29 June 2017 at the City University of Hong Kong, Hong Kong, China. The Symposium Proceedings of previous years were all published by IEEE CS CPS and indexed in the IEEE Xplore, IEEE Computer Society Digital Library and Engineering Index (EI).
Kansai University has several campuses. ICBL 2018 and ISET 2018 are held in the **Senriyama Campus** of Kansai University.

You are advised to take public transportation to go to **Senriyama Campus** of Kansai University. Directions from Kansai International Airport is shown below.

**Taking Limousine Bus and trains (Total costs about ¥1,800 one way, about 1hr 30min)**

- Exit the arrival lobby on the first floor of the airport.
- Purchase the ticket (¥1,550) for Limousine Bus (Bound for Osaka station, Chayamachi, Shin-Umeda city, etc).
- Take the Limousine Bus #5 (Bound for Osaka station, Chayamachi, Shin-Umeda city, etc) and get off at “Shin-Hankyū Hotel” (About 1 hour).
- Please go to Hankyu Umeda Station, and take a train bound for Kita Senri of Hankyu Senri Line and get off at the KANDAIMAE station. (about 20 min / It costs ¥220)
- Take the South Exit of KANDAIMAE station to access the Senriyama Campus

**Taking Nankai Electric Railway (Total costs about ¥1,400 one way, about 1hr 30min)**

- Exit the 2nd floor, then follow the sign "Kansai Airport Station" of Nankai Line through walk way.
- Please take the Airport Express (bound for Nanba) to Tengachaya station. (About 50min / It costs ¥920)
- Transfer to bound for Kita-Senri of Sakaisuji Line of Osaka city subway then go to KANDAIMAE station from Tengachaya. (It costs ¥470 to Kandai-mae)
- Take the South Exit of KANDAIMAE station to access the Senriyama Campus

**Taking Taxi (Total costs about ¥25,000 one way, about 1hr 10min)**

ICBL 2018 and ISET 2018 are held in Centenary Memorial Hall (for all conference sessions) and Restaurant Circolo (for lunches and banquet), Senriyama Campus of Kansai University. Please refer to the campus map in the back cover for the location of the Centenary Memorial Hall and Restaurant Circolo.
All conference sessions are held at 2/F, Centenary Memorial Hall, Senriyama Campus of Kansai University, as listed below.

**Registration**  Reception Area, 2/F, Centenary Memorial Hall, Senriyama Campus

**Opening Remark**  Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus

**Keynote Session**  Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus

**Parallel Session**  Rooms 1 to 5, 2/F, Centenary Memorial Hall, Senriyama Campus

**Panel Session**  Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus

**Closing Remark**  Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus

**Tea**  Hall 2, 2/F, Centenary Memorial Hall, Senriyama Campus

Floor plan of the Centenary Memorial Hall (2/F) :

Lunches and banquet are held at the Restaurant Circolo, 4/F, Shin-Kansaidaiagaku-Kaikan, South Building, Senriyama Campus.
### INTERNATIONAL CONFERENCE ON BLENDING LEARNING 2018

**CONFERENCE PROGRAMME**

*Registration commences on 30 July 2018 (from 15:00 to 18:00)*

#### 31 July 2018

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<td>08:30 – 09:15</td>
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<tr>
<td>09:15 – 09:30</td>
<td>Opening Remarks</td>
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</table>
| 09:30 – 10:30 | **Keynote Session 1**  
  The Challenge for Higher Education Reform in Japan  
  by Seven Samurai  
  *Prof. Noyuri Mina*  
  *Future University Hakodate, Hakodate, Japan*  
  (Venue : Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus) |                                              |
| 10:30 – 11:00 | Tea Break                                                                        |                                              |
| 11:00 – 12:00 | **Keynote Session 2**  
  The Trend of Education Innovation by Disruptive Technology  
  in Mainland China  
  *Prof. Li Chen*  
  *Beijing Normal University, Beijing, China*  
  (Venue : Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus) |                                              |
| 12:00 – 14:00 | Lunch Break                                                                       |                                              |
| 14:00 – 15:30 | **Parallel Session**  
  **ICBL 2018 : Content Development for Blended Learning**  
  *Chair : Oliver Au*  
  (Venue : Room 1, 2/F) | **Parallel Session**  
  **ICBL 2018 : Open Educational Resources**  
  *Chair : Simon K.S. Cheung*  
  (Venue : Room 2, 2/F) |
| 15:30 – 16:00 | Tea Break                                                                        |                                              |
| 16:00 – 17:30 | **Parallel Session**  
  **ICBL 2018 : Assessment for Blended Learning**  
  *Chair : Victor Lee*  
  (Venue : Room 1, 2/F) | **Parallel Session**  
  **ICBL 2018 : Computer-Supported Collaborative Learning**  
  *Chair : Yinghui Shi*  
  (Venue : Room 2, 2/F) |
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<td>09:00 – 09:30</td>
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| 09:30 – 10:30| **Keynote Session 3** Models of Blended Learning for Two Critical Populations: Adults Requiring Patient Education and Adults Retraining for Career Re-entry  
Prof. Jayshiro Tashiro  
University of Ontario Institute of Technology, Ontario, Canada  
(Venue: Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus) |
| 10:30 – 11:00| Tea Break                                                                                  |
| 11:00 – 12:00| **Keynote Session 4** Visualizing Student Learning Progression Pattern Using Neural Network and Hierarchical Clustering Analysis  
Prof. Siu Cheung Kong  
Education University of Hong Kong, Hong Kong, China  
(Venue: Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus) |
| 12:00 – 14:00| Lunch Break                                                                                |
| 14:00 – 15:30| **Parallel Session** ICBL 2018: Experience in Blended Learning (I)  
Chair: Yan Keung Hui  
(Venue: Room 1, 2/F)  
**Parallel Session** ICBL 2018: Improved Flexibility of Learning Processes  
Chair: Fu Lee Wang  
(Venue: Room 2, 2/F) |
| 15:30 – 16:00| Tea Break                                                                                  |
| 16:00 – 18:00| **Parallel Session** ICBL 2018: Experience in Blended Learning (II)  
Chair: Kwan Keung Ng  
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**Parallel Session** ICBL 2018: Pedagogical and Psychological Issues  
Chair: Miloslava Cerna  
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| 18:30        | Conference Banquet                                                                        |
### INTERNATIONAL CONFERENCE ON BLENDING LEARNING 2018

### CONFERENCE PROGRAMME

#### 2 August 2018

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<td>Tea Reception</td>
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<tr>
<td>11:00 – 12:00</td>
<td><strong>Panel Session</strong></td>
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<td><strong>Innovative Technologies and Practices for Learning Success</strong></td>
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<td><em>Prof. Horace H.S. Ip (chair)</em></td>
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<td><em>City University of Hong Kong, Hong Kong, China</em></td>
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<td><em>Prof. Harrison Hao Yang (co-chair)</em></td>
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<td><em>State University of New York at Oswego, USA</em></td>
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<td></td>
<td><em>(Venue : Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus)</em></td>
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<tr>
<td>12:00 – 12:30</td>
<td>Closing Remarks and Award Presentation</td>
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## INTERNATIONAL SYMPOSIUM ON EDUCATIONAL TECHNOLOGY 2018

### SYMPOSIUM PROGRAMME

*Registration commences on 30 July 2018 (from 15:00 to 18:00)*

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<td>09:30 – 10:30</td>
<td><strong>Keynote Session 1</strong>&lt;br&gt;The Challenge for Higher Education Reform in Japan by Seven Samurai&lt;br&gt;<em>Prof. Noyuri Mima</em>&lt;br&gt;Future University Hakodate, Hakodate, Japan&lt;br&gt;(Venue: Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus)</td>
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<td><strong>Keynote Session 2</strong>&lt;br&gt;The Trend of Education Innovation by Disruptive Technology in Mainland China&lt;br&gt;<em>Prof. Li Chen</em>&lt;br&gt;Beijing Normal University, Beijing, China&lt;br&gt;(Venue: Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus)</td>
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<tr>
<td>12:00 – 14:00</td>
<td>Lunch Break</td>
</tr>
<tr>
<td>14:00 – 15:30</td>
<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018 : Instructional Technology (I)&lt;br&gt;<em>Chair: Morris Jong</em>&lt;br&gt;(Venue: Room 3, 2/F)</td>
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<tr>
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<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018 : Learning Analytics and Educational Big Data&lt;br&gt;<em>Chair: Billy Wong</em>&lt;br&gt;(Venue: Rooms 4 &amp; 5, 2/F)</td>
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<td>16:00 – 18:00</td>
<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018 : Instructional Technology (II)&lt;br&gt;<em>Chair: Lap-Kei Lee</em>&lt;br&gt;(Venue: Room 3, 2/F)</td>
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<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018 : e-Learning and Online Learning&lt;br&gt;<em>Chair: Chiaki Iwasaki</em>&lt;br&gt;(Venue: Rooms 4 &amp; 5, 2/F)</td>
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### INTERNATIONAL SYMPOSIUM ON EDUCATIONAL TECHNOLOGY 2018

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**1 August 2018**

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<tr>
<td>09:30 – 10:30</td>
<td><strong>Keynote Session 3</strong>&lt;br&gt;Models of Blended Learning for Two Critical Populations: Adults Requiring Patient Education and Adults Retraining for Career Re-entry&lt;br&gt;<strong>Prof. Jayshiro Tashiro</strong>&lt;br&gt;<em>University of Ontario Institute of Technology, Ontario, Canada</em>&lt;br&gt;(Venue: Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus)</td>
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<td>10:30 – 11:00</td>
<td>Tea Break</td>
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<tr>
<td>11:00 – 12:00</td>
<td><strong>Keynote Session 4</strong>&lt;br&gt;Visualizing Student Learning Progression Pattern Using Neural Network and Hierarchical Clustering Analysis&lt;br&gt;<strong>Prof. Siu Cheung Kong</strong>&lt;br&gt;<em>Education University of Hong Kong, Hong Kong, China</em>&lt;br&gt;(Venue: Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus)</td>
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<td>12:00 – 14:00</td>
<td>Lunch Break</td>
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<td>14:00 – 15:30</td>
<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018: Smart Learning Environment (I)&lt;br&gt;<strong>Chair: Ivan Lai</strong>&lt;br&gt;(Venue: Room 3, 2/F)</td>
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<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018: MOOCs and Open Educational Resources&lt;br&gt;<strong>Chair: Kai Tai Tang</strong>&lt;br&gt;(Venue: Rooms 4 &amp; 5, 2/F)</td>
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<tr>
<td>15:30 – 16:00</td>
<td>Tea Break</td>
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<tr>
<td>16:00 – 18:00</td>
<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018: Smart Learning Environment (II)&lt;br&gt;<strong>Chair: Jacky Keung</strong>&lt;br&gt;(Venue: Room 3, 2/F)</td>
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<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018: Flipped Classroom and Flexible Learning&lt;br&gt;<strong>Chair: Jason MacLeod</strong>&lt;br&gt;(Venue: Rooms 4 &amp; 5, 2/F)</td>
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<td>09:00 – 10:30</td>
<td><strong>Parallel Session</strong>&lt;br&gt;ISET 2018 : Blended Learning and Hybrid Learning&lt;br&gt;<em>Chair: Petra Poulava</em>&lt;br&gt;(Venue: Room 3, 2/F)</td>
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<tr>
<td>10:30 – 11:00</td>
<td>Tea Break</td>
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<tr>
<td>11:00 – 12:00</td>
<td><strong>Panel Session</strong>&lt;br&gt;Innovative Technologies and Practices for Learning Success&lt;br&gt;<em>Prof. Horace H.S. Ip (chair)</em>&lt;br&gt;<em>Prof. Harrison Hao Yang (co-chair)</em>&lt;br&gt;City University of Hong Kong, Hong Kong, China&lt;br&gt;State University of New York at Oswego, USA&lt;br&gt;(Venue: Hall 1, 2/F, Centenary Memorial Hall, Senriyama Campus)</td>
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<tr>
<td>12:00 – 12:30</td>
<td>Closing Remarks and Award Presentation</td>
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KEYNOTE SESSION 1

The Challenge for Higher Education Reform in Japan by Seven Samurai

Noyuri Mima
Faculty of Systems Information Science
Future University Hakodate, Hakodate, Japan

Abstract. In June 1996, seven researchers in their mid-thirties, who were computer related scientists, were gathered and entrusted to make a new university from scratch. As a result, the learning environment to be introduced in this keynote was developed, and the school building was awarded the Architectural Institute of Japan Prize. The philosophy behind the university's spirit became "Open space, Open mind."

There was a lot of turbulence in the process of creating a new university. Many dark clouds were disturbing us. The way to create a university was very steep and required us to overcome many obstacles. Finally though our university evolved through innovation and foresight that never comes from a plan prepared by a think tank specializing in the creation of a university. I believe we became the "Seven Samurai" in Higher Education reform in Japan.

The first thing we did when we started designing the university was to ask ourselves about the meaning of learning. What is learning? No matter how much we teach, people may not necessarily learn. "Learning" is a different issue from "teaching." We started rethinking about learning.

In this keynote I will give an autobiographical account of our unique university that has been designed and implemented from scratch and, of course, is still in operation. The focus is not only to look back at past developments, but also to extract essences and principles for designing sustainable learning environments. I will discuss the design of the learning environment as a whole, and argue that the challenge of effective design should be expanded from the conventional blend of real and digital classroom environments to a new perspective that coordinates space, activity and community.

Biography. Professor Mima studied computer science at the University of Electro-Communications (UEC), education at the Harvard Graduate School of Education, Harvard University, and cognitive psychology at the Graduate School of Education, the University of Tokyo. She earned the Ph.D. from UEC.

Prof. Mima was a member of planning committee of Future University Hakodate and National Museum of Emerging Science and Innovation (Miraikan). After the foundation of those, she became a professor at the university (2000 - present) and a deputy director at the museum (2003- 2006). In 2008, Prof. Mima established Science Support Hakodate, a voluntary association for promoting science communication and developing science literacy of citizens. She also established Hakodate Herb Study Group for developing regional brand products by enhancing industry-academia-government-citizen collaboration in 2010.
In 2013, Prof. Mima was appointed as a member of the governors of NHK (Japan Broadcasting Corporation) for three years. The governors are approved by both houses of the Diet on behalf of the people of Japan and are appointed by the Prime Minister. She is also member of several government councils related to education, science and technology, and trustee of Nissan Global Foundation. Prof. Mima was awarded the Science and Technology Prize 2014 of the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology.

Her research has focused on promoting human resources, communication, and networking from a wide range of knowledge and experience in computer, education, and cognitive science.
KEYNOTE SESSION 2

The Trend of Education Innovation by Disruptive Technology in Mainland China

Li Chen
School of Educational Technology
Beijing Normal University, Beijing, China

Abstract. Disruptive technology is challenging traditional education management and education service way as changing pedagogy in teaching and learning. This speech presents how typical education innovations driven by disruptive technology is improving education, and reveals how traditional education system hinders application of disruptive technology in education. The speech is based on a comprehensive study, aimed to provide policy-level suggestions on how to rebuild education system, supporting innovative education practice by disruptive technology. The study adopted ethnography as methodology with case study as the main method. With analysis model of three dimensions - teaching and learning, education management, and education service, the research team chose over a hundred innovative education cases influenced by disruptive technology in mainland China. The research team find out how education innovation cases improve the education, and what kinds of features of system can breed and support effective education innovation by interviewing innovators and collecting evidences. At the end of the study, the research team found out that traditional school system is not suitable for education in knowledge Economy era. Now education system is integrating into society. It is significant that we have to rebuild a new system to support personalized learning, refined management and social participation.

Biography. Professor Chen is a vice president of Beijing Normal University and the executive director of Beijing Institute for The Learning City at Beijing Normal University. She is the president of Society of International Chinese in Educational Technology (SICET) and the president of China Association for ICT in Education for K12.

Prof. Chen is the leader of master program and PhD program of Distance Education in Beijing Normal University. She is in charge of the course The Foundation of Distance Education for undergraduate student in educational technology.

Her research is mainly focusing on interaction principle in distance education and policy research in lifelong learning. She is deeply engaged in policy consulting in distance education and lifelong learning. She has authored and published more than 10 books and 100 papers.
KEYNOTE SESSION 3

Models of Blended Learning for Two Critical Populations – Adults Requiring Patient Education and Adults Retraining for Career Re-entry

Jayshiro Tashiro
Faculty in Information Technology Security and Computer Science
University of Ontario Institute of Technology, Ontario, Canada

Abstract. For the past two decades, we have studied the emergence of educational technologies, courseware, and learning management systems within American K-12, undergraduate, graduate, and professional development programs. Our approach focused on perspectives grounded in theories of cognition and learning as well as in behavioral change. However, while technologies and systems facilitating blended learning have been implemented, we still have much to learn and, perhaps more importantly, there are critical adult populations that remain underserved by educational outreach. We have observed increased focus on education of two critical populations in the United States: (1) adult patients, especially those with chronic illnesses that consume the major portion of healthcare resources; and (2) adults with education at or below a high school level who have difficulty finding employment during shifts in global economic patterns demanding higher-level skills for technology-oriented jobs.

In this keynote, we will present models of blended learning that have at least some evidence base for improving educational outcomes. These models can be mapped to different types of educational levels and programs, with a particular focus on how blended learning could improve both patient and adult basic education. Our approach involves an analysis focused on cognition and learning. This approach reflects how and why different models for blended learning should be adapted for individuals at different developmental stages. For example, how do we create blended learning models that best suit elementary and secondary level school children, which are appropriate for undergraduate students, which for graduate students, and which are most likely to succeed with different types of adult learners for improved health care, professional development, or career re-entry? In closing, we will present a set of recommendations for how and why to develop new models of blended learning that integrate educational technologies in a sensible and evidence-based manner.

Biography. Professor Tashiro received the BA from Kenyon College (Gambier, OH, USA) in 1973, with majors in Biology and Chemistry. He earned the Ph.D. from Syracuse University (Syracuse, NY, USA) in 1980, with an emphasis in Physiology and Biostatistics. At the age of 48, he gave up a tenured chair at Northern Arizona University and went back to school to study nursing, earning the BSN from Northern Arizona University in 1999 (Flagstaff, AZ, USA). Prof. Tashiro has been a faculty member at Kenyon College (1980-1987), Bard College (1987-1990), Northern Arizona University (1990-2000), and CEO of an R&D company – Wolfsong Informatics, LLC (2000-Present). From 2005-2010, he served as a Full Professor in the Faculty of Health Sciences at University of Ontario Institute of Technology (UOIT), but then retired from the university to develop five research and development companies in Hong Kong and the United States (2010-2016).
For research partnerships, he maintains a role as Associate Graduate Faculty in the School of Graduate and Postdoctoral Studies, University of Ontario Institute of Technology (Oshawa, ON, Canada). In 2016, Prof. Tashiro became a faculty member and Education Technology Coach in the Pima Community College Adult Basic Education for College and Career Readiness.

His research has focused on the relationships between evidence-based learning and evidence-based practice in education, with total extramural funding for research and development grants now more than USD $20.6 million. At UOIT, he helped develop and implement the Heath Education Technology Research Unit, the Health Information Management Program, and Graduate Program in the Faculty of Health Sciences. Tashiro also built and evaluated courses and educational simulations that promote interprofessional collaborative patient-centered care. Recent work in Hong Kong and the United States led to the Maxit Education Systems hardware-software platform that provides new types of assessments of learning-skills outcomes at all levels of education. A particular emphasis has been development of teaching-learning-assessment systems that can track and analyze misconception development during learning. From 2000 to Present, Prof. Tashiro and his colleagues have developed suites of virtual clinical simulations that monitor learners’ choices during treatment of complex patients within the simulations. The principal focus of the monitoring system has been assessment of clinical judgment, with the software conducting automated analyses of choices made by the learner while working within a simulation.
Visualizing Student Learning Progression Pattern Using Neural Network and Hierarchical Clustering Analysis

Siu Cheung Kong
Department of Mathematics and Information Technology
The Education University of Hong Kong, HKSAR

Abstract. Motivating students to learn and continuous improvement of course materials are necessary and vital for the benefits of the students who participate in online courses. It is crucial to provide guidance on how to effectively use the course materials. This study aims to develop a method to identify progression patterns among students who successfully completed the course. This can help students to navigate through the course and instructors to understand more on how to organize the course materials. Traditional mining techniques such as prefix span can mine student’s platform usage patterns, yet, they do not provide a complete learning progression sequence of how course materials are related to one another. To collectively identify the learning progression pattern of successful candidates, this study proposes a descriptive model using a neural network with hierarchical clustering method. We fragment the learning path of successors into triplets and use a neural network to learn their inter-relationship in an unsupervised manner. The inter-relationship can then be visualized through fixing pre-test as the start point of the sequence to post-test as the endpoint based on the hierarchical clustering results. We have applied this technique to 3 classes of students in a statistics course. The learning sequence of successful learners revealed by the proposed method are similar across cohorts.

Biography. Professor Kong currently is Professor of the Department of Mathematics and Information Technology; and Director of Centre for Learning, Teaching and Technology, the Education University of Hong Kong. Prof. Kong holds a doctorate from the Department of Computer Science of the City University of Hong Kong. His research interests include pedagogy in the digital classroom (including information literacy education and IT in science and inquiry-based learning), policy on technology-transformed education and the professional development of teacher for learner-centered learning in seamless learning environments, IT in mathematics education, programming for computational thinking development, and computational thinking education.
Prof. Kong has produced over 250 academic publications in his research areas. He has completed/conducted 75 research projects since joining the University (the then Hong Kong Institute of Education). Prof. Kong currently is the Editor-in-Chief of the international journal Research and Practice in Technology Enhanced Learning and Journal of Computers in Education. Prof. Kong was the President of the Asia-Pacific Society for Computers in Education from January 2014 to December 2015. He was also the Convener of Theory and Practice of Pedagogical Design for Learning in Digital Classrooms International Research Network under World Educational Research Association from December 2012 to December 2015. He is serving as the Principal Investigator of the Four-Year Project “Computational Thinking and Coding Education” in K-12 from April 2016 to April 2020.
PANEL SESSION

Innovative Technologies and Practices for Learning Success

Horace H.S. Ip (Chair)

City University of Hong Kong, HKSAR

Harrison Hao Yang (Co-chair)

State University of New York at Oswego, USA
ICBL 2018: Content Development for Blended Learning
Chair: Oliver Au

Study on Visual Learning Based on Network Environment
Kedong Li and Ying Li

Design and Implementation of an Immersive Virtual Reality Biological Courseware—Miraculous eyeball
Qingtang Liu, Shufan Yu, Luyu Lin, Suxiao Xu and Linjing Wu

Blended Learning Concept in Selected Tourism Management e-Courses with Focus on Content Development Including Recommender System
Miloslava Černá and Anna Borkovcová

Slide-based Lecture Notes as a Student-Centered Alternative to Textbooks for Non-native English Speakers
Oliver Tat Sheung Au, Raymond Man Hong Wong and Lap-Kei Lee

ICBL 2018: Assessment for Blended Learning
Chair: Victor Lee

Enhancing Teacher Assessment Literacy Using a Blended Deep Learning Approach
Wing Shui Ng, Haoran Xie and Fu Lee Wang

Evaluation of the Use of Mobile Devices for Clinical Practicum in Nursing Education
Kam Cheong Li, Linda Yin-King Lee, Suet-Lai Wong, Ivy Sui-Yu Yau and Billy Tak-Ming Wong

A Meta-analysis of the Peer Evaluation Effects on Learning Achievements in Blended Learning Environment
Panpan Cui and Lanqin Zheng
Automatic Assessment via Intelligent Analysis of Students’ Program Output Patterns
Chung Keung Poon, Tak-Lam Wong, Chung Man Tang, Jacky Kin Lun Li, Yuen Tak Yu and Victor Chung Sing Lee

ICBL 2018: Open Educational Resources
Chair: Simon K.S. Cheung

Design Guidelines for Mobile MOOC Learning—An Empirical Study
Jiyou Jia and Bilan Zhang

Perceived Usefulness of Open Educational Resources Between Full-Time and Distance-Learning Students
K.S. Cheung

Students’ Evaluation of SkELL: The ‘Sketch Engine for Language Learning’
Yoko Hirata and Yoshihiro Hirata

Performance Evaluation of ICT based Teaching and Learning in Higher Education
Yunxiang Zheng, Haozhen Li and Tianxiang Zheng

ICBL 2018: Computer-Supported Collaborative Learning
Chair: Yinghui Shi

A Mobile Synchronous Peer-Tutoring System for Elementary Students’ Learning in Chinese Language Arts
Mengping Tsuei and Hsiu-Wen Huang

The Effects of Smart Classroom-Based Instruction on College Students’ Learning Engagement and Internet Self-efficacy
Yinghui Shi, Changling Peng, Shimeng Wang and Harrison Hao Yang

Learners’ Experiences on Role-playing Collaborative Learning Supported by ELS: A Case Study of Virtual Company Program
Ting Qiu, Hailyuan Liu and Enshan Yin
Seamless Co-Reading System for Collaborative Group Learning  
Chih-Tsan Chang, Cheng-Yu Tsai, Yuen-Ju Li, Hung-Hsui Tsai and Pao-Ta Yu

ICBL 2018 : Experience in Blended Learning (I)  
Chair : Yan Keung Hui

An Expert System Approach to Support Blended Learning in Context-aware Environment  
Cixiao Wang and Feng Wu

Learning English through the Adaptive Model of e-Learning Reflecting Learner’s Sensory Characteristics  
Katerina Kostolanyova and Ivana Simonova

Enhancing Learning Success through Blended Approach to Learning and Practising English Grammar: Research Results  
Ivana Simonova

Cultivating Situational Interest in Blended Learning Environment  
Yan Keung Hui, Chen Li, Sheng Qian and Lam For Kwok

ICBL 2018 : Experience in Blended Learning (II)  
Chair : Kwan-keung Ng

Application of Gamification to Blended Learning in Elementary Math Instructional Design  
Ruonan Hu and Junjie Shang

Developing Digital Campus by Application-Driven : Experience and Challenges in Mainland China  
Yu Jiang, Lizhen Jiao and Lingyu Xu

College Students’ Acceptance and Willingness towards Blended Learning Experience  
Jinrui Dai and Yushun Li

The Influence of Culture on the Use of Information Technology in learning in Hong Kong’s Higher Education  
Kwan-Keung Ng, Ching-Hong Luk and Wai-Ming Lam
A Digital Storytelling Group Assignment for Fostering Sense of Belonging of First Year Students  
Andrew Kwok Fai Lui, Maria Hiu Man Poon and Sin Chun Ng

**ICBL 2018 : Improved Flexibility of Learning Processes**  
*Chair : Fu Lee Wang*

Personalized Word Learning for ESL Students via Integration of Implicit and Explicit Profiles  
*Fu Lee Wang, Di Zou and Haoran Xie*

The Application Model of Wearable Devices in Physical Education  
*Rong Miao, Qian Dong, Wen Yong Weng and Xi yuan Yu*

Develop the Interactive Feedback Portfolio System with iBeacon Technology Applied in Flipped Classroom Learning Activities  
*Hung-Hsu Tsai, Xin-Yu Hou, You-Ming Yong, Kuo-Ching Chiou and Pao-Ta Yu*

Promoting English Pronunciation via Mobile Devices-based Automatic Speech Evaluation (ASE) Technology  
*Xiaobin Liu, Chunxiao Zhu, Jianli Jiao and Manfei Xu*

**ICBL 2018 : Pedagogical and Psychological Issues**  
*Chair : Miloslava Cerna*

A Case Study to Promote Computational Thinking: The Lab Rotation Approach  
*Jin Cai, Harrison Hao Yang, Di Gong, Jason MacLeod and Yao Jin*

Parental and Teacher Influence on Secondary Students’ Information Literacy  
*Sha Zhu, Di Wu, Liqin Yu, Harrison Hao Yang, Jason MacLeod and Huan Li*

Development of Computer Competence Courses in Seniors – shift from learning space with computer-based activities to virtual platform - case study  
*Miloslova Cerna and Libuse Svobodova*

Enriching Learning Experience - Older Adults and Their Use of the Internet  
*Blanka Klimova, Petra Poulova, Pavel Pražák and Ivana Simonova*
PARALLEL PAPER SESSIONS

ISET 2018: Instructional Technology (I)
Chair: Morris Jong

Comparative Study on Networking Simulation Tools using Correlation Analysis
Everly M. Chua, Avigail P. Magbag, Alma Theresa D. Manaloto, Mary Jane C. Rabena, Maria Rosario D. Rodavia and Rodolfo C. Raga Jr.

Comparison of Required Times and Awareness in Classes through Creation of Storytelling and Product Introduction Slides
Isao Miyaji

A Comparison of the Students’ Engagement in Participatory and Non-Participatory Simulations
Silvia Wen-Yu Lee, Jyh-chong Liang and Chin-Chung Tsai

The Classification of Teachers’ Knowledge of 1-to-1 Elementary Education
Fumiko Yagisawa and Tatsuya Horita

Addressing the Challenges in Engineering Classes: Harnessing Active Learning in a Robotics Course
Samuel Sau Kin Chan, Jie Geng, Morris Siu-Yung Jong and Darwin Tat Ming Lau

ISET 2018: Instructional Technology (II)
Chair: Lap-Kei Lee

A Virtual Reality Application For Primary School Mathematics Class
Ruixue Liu, Chu Liu and Youqun Ren

Support System for Discovering Laws of Motion in Learning Physics
Takuya Wada and Tomoko Kojiri
Question-based Idea Generation System for Writing Novels
*Atsushi Ashida and Tomoko Kojiri*

Course Design for “Critical Thinking” in the Freshman Curriculum and Associated Assessment Strategies for Actively Engaged Learners
*Mihoko Chiba, Toshiyuki Yamamoto and Makoto Miura*

Effects of Familiar Faces in Video Modelling on Learning Effectiveness
*Lap-Kei Lee, Andrew Kwok-Fai Lui, Oliver Au and Sin-Chun Ng*

What are the Differences among Pre-service Teachers of Diverse Achievement Levels in Their Online Instructional Design Collaboration?
*Ling Chen, Dan Yang, Shengquan Yu and Baoping Li*

Online Case-Based Instruction: The Effects of Online Case Discussion and the Potential Influencing Factors
*Tingting Yang, Heng Luo, Mingwei Li and Lan Zeng*

**ISET 2018: Learning Analytics and Educational Big Data**
*Chair: Billy Wong*

The Influence of Grouping/Non-grouping Strategies upon Student Interaction in Online Forum: A Social Network Analysis
*Bofan Sun, Mengqian Wang and Wenge Guo*

The Effects of Using E-portfolio Data at Kansai University Writing Center
*Yasuhiro Tada, Chiaki Iwasaki and Tsutomu Nakazawa*

Eye-tracking Data Analyzer (EDA) Developed for Educational Researchers: A Sample Module of LSA
*Meng-Jung Tsai, Po-Fen Hsu and Hung-Ta Pai*

Learning Analytics Intervention: A Review of Case Studies
*Billy T.M. Wong and Kam Cheong Li*

The Measurement and Determinants of Student Satisfaction of Education Informatization in Chinese Universities
*Jing-Lu Liu and Guo-Dong Zhao*
Design and Implementation of Virtual Simulation Teaching System of the Solar System  
Li Wei and Huimin Huang

Perceptions and Utilization of a Learning Management System: An Analysis from Two Perspectives  
Maria Rosario Rodavia and Rodolfo Raga

Diagnosing Individual University Students’ Information Literacy Problems with a Concepteffect Propagation-oriented System  
Chuthathip Srisuwon, Pattacharin Panjaburee and Niwat Srisawasdi

Real-Time and Non-digital Feedback E-learning Tool  
Scott Tancock, Yasmin Dahnoun and Naim Dahnoun

Development and Assessment of E-learning for Academic Writing: Learning Support of Writing Centers  
Chiaki Iwasaki, Yasuhiro Tada, Kaede Sasaki, Tomoki Furukawa, Yoshinori Yamada, Tsutomu Nakazawa and Tomoya Ikezawa

BlueJ-UML: Learning Object-Oriented Programming Paradigm using Interactive Programming Environment  
Jacky Keung, Yan Xiao, Qing Mi and Victor C. S. Lee

Developing a Chatbot for College Student Programme Advisement  
Chun Ho Chan, Ho Lam Lee, Wing Kwan Lo and Andrew Kwok-Fai Lui

A Research on the effect of Smartphone Use, Student engagement and Self-Directed Learning on Individual Impact: China Empirical Study  
Zhang Tao, Xiaoyang Yang, Ivan Ka-Wai Lai and Ka Yin Chau
Robots – Stimulating Interest and Motivating Learning in Science and Technology
Jun Long Zhang, Wei Wei Xu, Ting Yang, Ivan Ka Wai Lai and Leung Pun Wong

Development of a Digital Citizenship Computer Game with a Contextual Decision-making-oriented Approach
Preeyada Tapingkae, Patcharin Panjaburee and Niwat Srisawasdi

Postgraduate’s Personal Knowledge Management Using Cloud Services
Atichart Harncharnchai

Comparative Study on the Pedagogical Use of Interactive Spherical Video-based Virtual Reality
Jie Geng, Eric Tsun-Hin Luk, Morris Siu-Yung Jong and Yichao Jiang

ISET 2018: Smart Learning Environment (II)
Chair: Jacky Keung

Probing Undergraduates’ Game Self-efficacy and Visual Attention via Eye Movement Analysis
Chung-Yuan Hsu, Guo-Li Chiou and Meng-Jung Tsai

Development of Smartphone Application “Family Portfolio” for Parent Development
Tomomi Sato, Junko Araki, Satoru Konno and Shinichi Sato

The Use of 360-degree Movies to Facilitate Students’ Reflection on Learning Experiences
Shinichi Sato and Makoto Kageto

Computer-assisted Teaching Environment for Digital Signal Recognition Course Learning
Tingting Liu, Zengzhao Chen, Zhaoli Zhang, Hai Liu and Deli Kong

A Study on the Appearances and Functionalities of Education Robots for Attracting Students’ Attention and Interactive Interests
Si Yu Sun, Wei Wei Xu, Zhuo Hang Li, Kwan-Keung Ng and Ivan Ka-Wai Lai

A Gamification Technique for Motivating Students to Learn Code Readability in Software Engineering
Qing Mi, Jacky Keung, Xiupei Mei, Yan Xiao and W. K. Chan
Visualizing and Understanding the Hotspots and Trends of Mobile Learning
Shun Xu, Harrison Hao Yang and Sha Zhu

ISET 2018: MOOCs and Open Educational Resources
Chair: Kai Tai Tang

Teaching Practice of Combining MOOCs and Flipped Classroom on a College Course
Di Gong, Harrison Hao Yang and Jin Cai

Research on the Application of Flipped Classroom Model Based on MOOC in the Course PHP Dynamic Website Development
Bin Wang, Pei-Shun Liu and Xue-Fang Wang

Promoting Self-regulated Learning by Online Educational Resources
Tak-Lam Wong, Haoran Xie, Fu Lee Wang, Kai Tai Tang, Anthony Kong and Reggie Kwan

An Empirical Study on the Users' Continuance Intention about MOOC: Based on Attachment Theory
Xiaodong Zhu and Yafei Wang

Learning profiles, Behaviors and Outcomes: Investigating International Students’ Learning Experience in an English MOOC
Yueying Tan, Xue Zhang, Heng Luo, Ying Sun and Songer Xu

ISET 2018: Flipped Classroom and Flexible Learning
Chair: Jason MacLeod

The Collaboration of Flipped Classroom and Jigsaw Model to Improve the Student’s Character in Elementary School in Jakarta
Olifia Rombot, Ferry Doringin and Freddy Widya Ariesta

Designing a Teaching Model for the Flipped Classroom based on Pads
Zhiguang Zhang, Jieqi Zhang and Wu Cai
How Students Prepare in Flipped Classrooms: A Case Study in a Physiology Class
Sachika Shibukawa and Mana Taguchi

College Students’ Learning Outcomes in Flipped Classroom Instruction: A Literature Review
Yinghui Shi, Shimeng Wang, Yanqiong Ma, Jason MacLeod and Harrison Hao Yang

Application of Flipped Classroom in College Computer Experiment Course
Liya Gong, Rui Zhang, Lulu Wu, Manman Tian, Miao Wu and Weiping Zhang

Virtual Dulcimer Auxiliary Teaching System Based on Musical Instrument Digital Interface
Qingtang Liu, Shen Ba, Linjing Wu, Jingxiu Huang and He Li

The Design and Practice of the Flipped Classroom Teaching Model Based on the Pedagogy Wheel
Zhiguang Zhang, Jieqi Zhang and Manting Cai

ISET 2018: Blended Learning and Hybrid Learning
Chair: Petra Poulova

Blended Learning with Multimedia e-Learning in Organic Chemistry Course
Chui-Man Lo and Kwan-Yee Tang

Exploration and Practice Blended Ratio of Probability Theory and Mathematical Statistics Course
Yingrun Zhu, Xiaojun Liu, Xu Huang and Jie Gao

An Empirical Study on Factors Affecting Primary School Teachers’ Use of LCS
Peng Zhou, Dan Zhang, RanRan He and Jian Xu

Comparative Analysis of Online and Printed Form of Testing in Scientific Reasoning and Metacognitive Monitoring
Vlastimil Chytrý, Alena Nováková, Jaroslav Číčan and Ivana Šimonová

New University Students and Blended Learning Experience
Petra Poulova and Miloslava Cerna
ISET 2018: Institutional Policies and Strategies

Chair: Mihoko Chiba

The Supporting Environment Evaluation Model of ICT in Chinese University Teaching
Min Chen, Zhaoyang Yan, Caiyun Meng and Ming Huan

Development and Evaluation of Interface for Screen Operation for smooth Practical Training using ICT in Elementary and Secondary Education
Hiroshi Hazama, Yasuo Ebara and Tsukasa Ogasawara

Implementation of ICT in Education in Indonesia during 2004-2017
Hardika Dwi Hermawan, Danis Nurul Yunita and Nurhamsi Deswila

Connected Classroom Climate in Higher Education: A Scoping Review
Jason MacLeod and Harrison Hao Yang

A Comparative Study on Recent Educational Policy Changes of Primary and Secondary Schooling in Hong Kong and Macau
Haoran Xie, Wing Shui Ng, Di Zou and Fu Lee Wang