12th IEEE International Conference
on Advanced Learning Technologies
ICALT 2012

Rome, July 4-6 - 2012
Preface

ICALT 2012

After twelve editions - ICALT2001, Madison, USA; ICALT2002, Kazan Russia; ICALT2003, Athens, Greece; ICALT2004, Joensuu, Finland; ICALT2005, Kaohsiung, Taiwan; ICALT2006, Kerkrade, The Netherlands; ICALT2007, Niigata, Japan; ICALT2008, Santander, Spain; ICALT2009, Riga, Latvia; ICALT2010, Sousse, Tunisia; ICALT2011, Athens, Georgia, USA and ICALT2012, Rome, Italy - ICALT can be considered without any doubt the yearly event that allows at best understanding what is going on at the frontiers of the advanced learning technologies.

ICALT2012 is a veritable “world championship” as evidenced by the 490 submissions from 51 countries, the full papers acceptance rate (19%) the increasing interest in all different forms of participation (PhD consortium, workshops), including the “European Project Track”. Of course, as always, all submissions were peer-reviewed in a triple-blind review process by an international panel and decisions were taken based on the assessed research quality.

ICALT is, therefore, a privileged showcase worth scanning in great detail, even with the aid of text analysis tools like the one integrated in LIFE. Thanks to this tool we conducted an analysis on titles of papers accepted for the main track. Although limited to the detection of word occurrences the analysis allowed outlining a very interesting landscape. The most frequently used word has been, of course, “learning”; a result that, given the context, is not particularly significant. Much more interesting is the fact that only a small percentage of the occurrences (between 5% and 10%) appear to be related to the term “technology enhanced”. This fact together with the very rare use of the term “eLearning” tells us that the focus of current research is on “learning” and on “education”, another very popular term indeed. Quite rare on the other hand are terms like “training” or “teaching”.

Despite such attention to “learning” very rare is the use of the word “pedagogy”. On the other hand much more popular are terms like “approach/methods/strategies” and model/frameworks”, “complemented by mechanism/principles”. Another interesting aspect is that “learning” appears to be centered on the “student/learner”, while a much less relevance is assumed by the more neutral term “user”, and by the term “teacher”.

“Learning”, then, is perceived as “collaborative, social, realized” in a “network/group/community” . Very rare the use of the term “CSCL” that appears to be considered quite “old-fashion”. A so strong focus on collaborative learning is counterbalanced by a less strong attention on individual and personalization. In fact rare is the use of words like “recommendation/styles/adaptive/automatic/tutoring”.

The attention at individual level is still on “cognition/reflection/thinking”. Not very popular are other personal ingredients like: “affect, motivation, engagement, satisfaction, enjoyment, creativity”. A result that is partially contrasted by other evidences: the strong interest in “games” (one of the most popular subject of ICALT2012) and the emergence of the term “experience”, counterbalanced by the relatively limited use of words like “content/resource/information/semantic/ontology/SCORM” while more popular appears to be the term “knowledge”. As far as technologies are concerned an interesting aspect is the rare use of the term “platform”, while very popular are the term “environ
ment” and “system” to suggest a stronger attention to complexity (although this latter term does not appear very often) and organicity of present era and learning processes. Still relevant the use of the term “tool”, less those of terms “application” and “device”. As far as the channel are concerned, “mobile” phone is the most popular one, followed by “web”, “video” and “text”. The virtuality (“virtual/digital/on-line”) as expected is more popular than the physicality. This latter appear to be very “dispersed” in many terms (“pervasive/ubiquitous/tangible/tabletops/sensors/embedded/embodied”). Technologies are mainly used to “support/enhance” at large, much less specifically focused on “tutoring, authoring and mining” (all terms rarely used).

Another theme that seems to deserve a lot of attention is still the “analysis”, mainly to “assess” and “evaluate” but also to “monitor” (an emergent term). Interesting we found few references to performance and impact. “Context” and “scenario” are not very popular terms and this may indicate an “almost-laboratorial character” of most of the selected studies. Real contexts are not often referred to: the most popular one is the “university”, followed by “school” and workplace”. Not any longer strong is the focus on “classroom”. “Courses” are the most considered processes, more specifically devoted to “science” and “languages” (being “English” and Chinese” the most popular once). Terms that are surprisingly rare are “trust, quality, storytelling, visualization, divide, inclusive”, all terms that we believe will acquire an increasing relevance in the future. Rare are also terms like “skills, literacy and competence”. To conclude this very quick ‘narrative’ we would like to point out the centrality that is increasingly assumed by the word “design”, that we believe could represent the truly cornerstone of future learning supported by technologies.

Of course, the above picture emerges as a result of the convolution of authors’ efforts and reviewers’ point of views, but we trust that it mirrors the present state of art and the emerging trends with a quite high degree of fidelity. All this, however, would have not been possible without the invaluable assistance of the program committee and the international referees, who are named on another page and that we acknowledge here.

At this point there is nothing left but waiting for the next year and see where our efforts will lead the domain.

Enjoy ICALT2012!

Ignacio Aedo, Rosa Maria Bottino, Nian-Shing Chen, Carlo Giovannella, Kinshuk, Demetrios G. Sampson

(Editors)

July 2012
invited speeches

Adrian Cheok
Director of the Mixed Reality Lab,
National University of Singapore
Keio University Graduate School of Media Design

Is Director of the Mixed Reality Lab and Associate Professor in the Department of Electrical and Computer Engineering, National University of Singapore. He was appointed to be a Full Professor of Graduate School of Media Design, Keio University, from April 2008. He received several outstanding awards: A-STAR Young Scientist of the Year Award 2003, the SCS Singapore Young Professional of the Year Award 2004, Fellow in Education, World Technology Network in 2004, and Microsoft Research Award for Gaming and Graphics in 2005. He was also awarded the Young Global Leader 2008 by World Economic Forum.

Multi Modal Sensory Human Communication in the Internet Society

This presentation outlines new multisensory communication supporting embodied and creative learning using social and physical contact and fun together with internet media. We aim to develop new types of learning environments using all the senses, including touch, taste, and smell. This talk will describe a ubiquitous computing environment based on an integrated design of real and virtual worlds. We discuss some different research prototype systems for interactive, playful, and creative learning. The presentation will also explore means to empower children (as the future leaders) in developing countries as innovators by nurturing their creativity with design and creative thinking using new media technologies. We believe this is an excellent way for children to be developers and innovators of the future.

Ton de Jong
Faculty of Behavioral Sciences,
University of Twente

is full professor of Educational Psychology at the University of Twente, Faculty of Behavioral Sciences and chair of the department of Instructional Technology. From 2003-2008 he has been director of the Dutch national research school (approx. 100 persons staff and 100 PhD students) on Educational Science. He was project manager of the EC-telematics SERVIVE project (SimQuest), of the EC (5th framework) KITS project (KM Quest) and Co-Lab project and (7th framework) SCY project and of the SURF ZAP project (interactive visuals for psychology). He has won the European Academic Software Award 2000 (EASA) for SimQuest and the same award in 2004 for ZAP. Ton de Jong was coordinator of a multi-university project sponsored by the Dutch NSF on modelling discovery behaviour, of a Dutch-German (NWO-
DFG) project on external representations in multimedia environments, and currently of a Flemish-Dutch (FWO-NWO) project on games for mathematics learning. Ton de Jong is (co-)author of over 100 journal papers and book chapters and was the editor of three books on the editorial board of seven ISI journals and associate editor for Instructional Science and for the Journal of Engineering Education. He has published in Science and is currently on the advisory board of Science Magazine (NSF Sponsored) project “Science in the classroom” that intends to annotate papers in Science so that they become accessible for (under)graduate students. Ton de Jong has been appointed fellow of the American Educational Research Organization (AERA)

**Engaging learners in complex learning experiences with technology**

Upcoming technologies, such as simulations, remote labs, games, and modelling tools have stimulated the development of more student-directed, engaging, situated, and motivating learning environments. These technologies also enable the realization of learning in international, collaborative, and open settings. This may result in communities that share resources and learn by working towards a common conclusion or product. In this presentation I will highlight the results of a number technology-based projects that share a focus on designing scaffolds for, individual and collaborative, inquiry and design-based learning. Scaffolds are necessary to assist students and make the learning experience effective, but scaffolds need to be carefully designed so that they provide students with sufficient support but at the same time leave enough freedom for the student. Scaffolds can be offered through the technology itself or they can be offered

![Harold Jarche](image)

Harold Jarche
Chairman of Internet Time Alliance

is a 21st century work redesigner who passionately believes in the integration of work and learning. People have connected with Harold over the past decade, through his blog (jarche.com) and consulting practices, for innovative ideas on leadership, networked business, and social learning. He also distills heady topics like complexity theory into practical advice. A graduate of the Royal Military College, Harold served over 20 years in the Canadian Army in leadership and training roles. Harold has held senior positions at the Centre for Learning Technologies and e-Com Inc. He is a co-author of The Working Smarter Fieldbook with his colleagues at The Internet Time Alliance. His preferred workplace is on his bicycle, where he gets his best ideas.

**Principles for Collaborative Work**

The challenge for 21st century businesses is not saving 20th century jobs that will be automated and outsourced anyway, but focusing on creating more opportunities for creative work. For institutions, employers, educators and workers, that means giving
up control and co-creating a new social contract for the creative, networked economy. For all businesses this means integrating learning into the workflow. There are practical models and frameworks that all businesses can use to connect work and learning. Harold Jarche will challenge some traditional ideas about workplace learning. Our current models for managing people, training and knowledge-sharing are insufficient for a workplace that demands emergent practices just to keep up. Formal training has only ever addressed 20% of workplace learning and this was acceptable when the work environment was relatively stable. Knowledge workers today need to connect with others to co-solve problems. Sharing tacit knowledge through conversations is an essential component of knowledge work. The effective use of social media enable adaptation, and the development of emergent practices, through conversations. As our work environments become more complex due to the speed of information transmission via ubiquitous networks, we need to adopt more flexible and less mechanistic processes to get work done. Workers have many more connections, to information and people, than ever before. But the ability to deal with complexity lies in our minds, not our artificial organizational structures. In order to free our minds for complex work, we need to simplify our company learning structures.

Liina-Maria Munari
Project Officer, ‘Cultural Heritage and Technology Enhanced Learning’, DG Information Society and Media

is a senior administrator and project officer at the European Commission, DG Information Society, Unit E3 (technology-enhanced learning and cultural heritage). In addition to project management, she is coordinating the strategy and policy work related to ICT and learning in the unit. She is a political scientist specialised in EU and international politics and has been with the unit since 2006.

ICT and learning in Europe - the EC perspective

The European Commission has been supporting ICT research and innovation for learning for the last 20 years. However, the use of ICT in learning has not reached the desired levels in schools, organisations or other learning contexts and it seems to be hard to bridge the gap between ICT research and innovation and the current learning and teaching practices. In this talk the different options and avenues for action to raise the profile of ICT in learning in increase its use will be explored and projected to the future planning and strategies of the European Commission.
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José Janssen
Zoran Jeremic
Russell Johnson
Desiree Joosten-ten Brinke
Jelena Jovanovic
Mike Joy
Katerina Kabassi
Tuomo Kakkonen
Michail Kalogiannakis
Marco Kalz
George Katsionis
Jalal Kawash
Mizue Kayama
Igor Keleberda
Andreas Kerren
Liesbeth Kester
Mohammed K. Khalil
ChanMin Kim
MinKyu Kim
So Mi Kim
Ralf Klamma
Rainer Knauf
Stephen Konya
Marguerite Koole
Millos Kravcik
Birgit Krogstie
Vivekanandan Suresh Kumar
Chin-Hwa Kuo
Mart Laanpere
Pierre Laforcade
Chung Hsien Lan
Monica Landoni
Mikel Larranaga
Effie Law
Chien Ching Lee
Chien Sing Lee
Jaeho Lee
Krittaya Leelawong
Anne Lejeune
Steve Leung
Shu-Sheng Liaw
Beatrice Ligorio
Kenneth Y T Lim
Chih-Lung Lin
Oscar Lin
Andreas Lingnau
Jacques Lonchamp
Steve Love
Vanda Luengo
Kathryn MacCallum
Veronika Makarova
Sujie Man
Alla Manako
Stefania Manca
Nikos Manouselis
Stephen Marshall
Estefania Martin
Ken Masters
Rory McGreal
Jonathan McKeown
Ingrid Mellone
Anne Mendenhall
Ruben Miguez Perez
Bakhtiar Mikhak
Anastasios Mikropoulos
Marcelo Milrad
Hiroyuki Mitsuhara
Atasi Mohanty
Ana I. Molina
Pablo Moreno-Ger
Yasuhiko Morimoto
Roberto Moriyon
Sahana Murthy
Rob Nadolski
Jad Najjar
Minoru Nakayama
Antonio Navarro
Wolfgang Nejdl
Sasa Nesic
Muriel Ney
Hiroaki Ogata
Takashi Onoyama
Manuel Ortega Canero
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George Palaigeorgiou
Chris Panagiotakopoulos
Ioanna Papadimitriou
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Iraklis Paraskakis
Abelardo Pardo
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Diana Perez-Marin
Claudine Piau-Toffolon
Panayiotis Pintelas
Elvira Popescu
David Raymond
Miguel Angel Redondo
Symeon Retalis
Teresa Roselli
Chiara Rossitto
Pavel Rusakov
Patricia Santos
Juan M. Santos-Gago
Frederick Kwaku Sarfo
Maya Satratzemi
Ulrik Schroeder
Hassina Seridi
Ramesh Sharma
Ji Shen
Vyacheslav Shitikov
Jin Gon Shon
Melody Siadaty
Rory Sie
Jose Luis Sierra
Jane Sinclair
Daniel Spikol
Krassen Stefanov
Slavi Stoyanov
Jarkko Suohon
Kateryna Synytsya
Yasuhsa Tamura
Pierre Tchounikine
Stefan Trausan-Matu
Guglielmo Trentin
Anna Trifonova
Grammatiki Tsaganou
Nikolaos Tselios
Shian-Shyong Tseng
Nikos Tsianos
Thrasyvoulos Tsiatsos
Setsuo Tsuruta
Hakan Tuzun
Maomi Ueno
Alexander Uskov
Keisha Varma
Guillermo Vega Gorgojo
Cecee Vlk
Aisha Walker
Feng-Hsu Wang
Martina Weicht
Dunwei Wen
Gary Wills
Martin Wolpers
Iwan Wopereis
Ros Yahaya
Jie Chi Yang
Stephen J.H. Yang
Yu-Ren Yen
Hsiu-Ping Yueh
Larissa Zaitseva
Massimo Zancanaro
Amal Zouaq
The conference will be held at the CNR (National Research Council) headquarters in Piazza Aldo Moro. The building, that dates back to the fascist period, is located 15 minutes from Termini Station and near La Sapienza University City.

The main conference hall, "Convegni" hall is located in the basement of the old wing of the building. It can be accessed from via dei Marrucini.

The “Bisogno” hall is located on the 1st floor of the Pentagon building. It can be easily accessed from the secondary entrance of the CNR’s headquarters located in via dei Ramni, 19. The "Conference", "Golgi" and "Silvestri" halls are also located in the in Pentagon building on the 2nd floor.

Lunches and coffee breaks are served in the Arangio Ruiz hall located close to the Convegni hall.
conference venue map

The 12th IEEE ICALT

Access via dei Marrucini
Access via dei Ramni 19

Basement
First floor
Second floor

Convegni hall

Bisogno hall
Conference hall
Silvestri hall
Golgi hall
Travel to the conference venue

From Leonardo da Vinci Airport of Fiumicino
There is about one train every 30 minutes (at .08 and .38). Travelling time forecasted is about 32 minutes. One way ticket cost is 14€. Further information on the daily time-schedule are available on the following web site: www.ferroviedellostato.it. Once arrived at Termini Station, you may reach the CNR's headquarters either by bus (bus 492), or on foot. Walking distance is about 1,5 km and forecasted traveling time approximately about 15 minutes following the itinerary indicated on the picture.

From Ciampino Airport
Take one of the Terravision busses going from Ciampino Airport to Termini station (stop in via Marsala 22); one-way ticket cost: 6 euro – average time forecasted: 70 minutes. www.terravision.eu. Once arrived at Termini Station, you may reach the central site of CNR either by bus (bus 492), or by foot. The distance is of about 1,5 km and travelling time forecasted about 15 minutes following the itinerary indicated on the map below.

From Termini Station
From the central station you may reach the central site of CNR either by bus (bus 492), or by foot. The distance is of about 1,5 km and travelling time forecasted about 15 minutes following the itinerary indicated on the map here below.

By car
Once you get the Grande Raccordo Anulare (GRA), go ahead until the Roma-L'Aquila highway (A24), take exit n.14 direction "Roma centro-Tangenziale est". After about 7 Km you will get the Tangenziale ring, take it direction "Stazione Tiburtina". Then, take "via Tiburtina" exit and go direction "centre of the city" ("direzione centro"). After about 3 Km, living Pzzale del Verano on the left, you have to take Via Cesare de Lolli. At the end of Via Cesare de Lolli, if you turn on the right you will get in via Marrucini (the entrance of the Convegni Hall is on the left), while if you go straight ahead you get in via dei Ramni (the secondary entrance of CNR is on the right).
Presentation guidelines

Keynotes/Invited Speeches
Presentation time for keynote/invited talks will be 45 minutes plus 15 minutes for questions and discussion

Full Papers (F)
Presentation time for full papers will be 20 minutes plus 5 minutes for questions

Short Papers (S)
Presentation time for short papers will be 12 minutes plus 3 minutes for questions

Posters (P)
Poster Boards will be 200 cm tall and 80 cm wide

European Projects Track (EuT)
Presentation time for EuT papers will be 10 minutes plus 2 minutes for questions

Featured Panels (P)
Panels will last for 1h 10’ - 1h 30’ depending on the panel.

Workshops (W)
Workshops will last between 1h 40’ and 2h 30’ depending on the workshop. Presentation time and questions time for workshops will be decided by the workshop chairs according to the available number of papers per workshop.

Tutorials (T)
All tutorials will last for 2 hours.

A/V Equipments
All equipments needed for presentations will be provided by the organization. Conference rooms will be equipped with laptops and video projectors. The presentations should be provided on DVD/CD or flash memories. Conference participants, who plan to use their own laptops, are strongly recommended to test their presentations in advance with the video projector of the room where their presentation has been scheduled.
# ICALT 2012 at glance

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<th>Silvestri</th>
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<td>10:00 - 11:00</td>
<td>Adrian Cheok (Key)</td>
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<td>11:25 - 13:00</td>
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<td>16:50 - 18:30</td>
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<tr>
<td>9:00 - 10:00</td>
<td>Harold Jarche (Key)</td>
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<td>13:00 - 14:00</td>
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<td>13:30 - 14:30</td>
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<tr>
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<td>Ton de Jong (key)</td>
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<td>10:30 - 13:00</td>
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<tr>
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<td>Poster session P3</td>
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<tr>
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The 12th IEEE ICALT
Wednesday, 4 July

8:00 - 9:00 Registration

9:00 - 10:00 Opening Ceremony

10:00 - 11:00 Keynote speaker

Adrian Cheok (Director of the Mixed Reality Lab, National University of Singapore - Keio University Graduate School of Media Design)

Multi Modal Sensory Human Communication in the Internet Society

11:00 - 11:25 Coffee break

11:25 - 13:00 Session 1

Don’t be so Serious 1: Games

S1a - Don’t be so Serious 1: Games

chair: Michael Derntl

Designing Educational Games by Combining other Game Designs
Telmo Zarraonandia, Paloma Díaz, Mario Rafael Ruiz, Ignacio Aedo

Helping Novice Programmers to Bootstrap in the Cloud: Incorporating Support for Computational Thinking into the Game Design Process
Navid Ahmadi, Mehdi Jazayeri, Monica Landoni

Integrating Cognitive Tasks in Game Activities
Dennis Maciuszek, Alke Martens

Comparing the Effects on Students’ Behavior of two hint Techniques Embedded in a Digital Game-Based Learning Tool
Kiira Hjert-Bernardi, Javier Melero, Davinia Hernández-Leo

Serious Games Integration in Companies: A Research and Application Framework
Aida Azadegan, Johann c.h.k. Riedel
### S1b - Methodology

**Chair:** *Rosa Maria Bottino*

<table>
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<td>58F</td>
<td>S1b</td>
<td>Breaking the Programming Language Barrier - Using Program Visualizations to Transfer Programming Knowledge in One Programming Language to Another</td>
<td>Johannes Holvitie, Teemu Rajala, Riku Haavisto, Erkki Kaila, Mikko-Jussi Laakso, Tapio Salakoski</td>
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<tr>
<td>362F</td>
<td>S1b</td>
<td>Evaluating the Role of Collaboration Scripts as Group Guiding Tools in Activities of Educational Robotics: Conclusions from Three Case Studies</td>
<td>Soumela Atmatzidou, Stavros Demetriadis</td>
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<td>132S</td>
<td>S1b</td>
<td>The Effects of Integrating Information Literacy into Science Instruction on Seventh-Grade Students’ Problem-Solving and Academic Achievement.</td>
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<td>76S</td>
<td>S1b</td>
<td>High-Level Model for Educational Collaborative Virtual Environments Development.</td>
<td>Rosa Reis, Paula Escudeiro, Benjamin Fonseca</td>
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### S1c - Search, Retrieve and Organize: Content

**Chair:** *Marco Temperini*

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<td>115F</td>
<td>S1c</td>
<td>Enriching Ontologies from Folksonomies for eLearning: DBpedia Case</td>
<td>Sana Hamdi, Alda Gancarski, Amel Bouzeghoub, Sadok Ben Yahia</td>
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<td>197S</td>
<td>S1c</td>
<td>Using Semantic Similarities to Instrument Informal Learning Activities in Ubiquitous Environments</td>
<td>Pierre-Yves Gicquel, Dominique Lenne</td>
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<td>49F</td>
<td>S1c</td>
<td>Automatic Retrieval of Educational ICT Tool Descriptions from the Web of Data</td>
<td>Adolfo Ruiz-Calleja, Guillermo Vega-Gorgojo, Eduardo Gómez-Sánchez, Carlos Alario-Hoyos, Juan I. Asensio-Pérez, Miguel L. Bote-Lorenzo</td>
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<td>380S</td>
<td>S1c</td>
<td>Supporting Teachers to Retrieve and Select Learning Objects for Personalized Courses in Moodle_LS Environment</td>
<td>Carla Limongelli, Filippo Sciarone, Marco Temperini</td>
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S1d - *Miscellanea 1: Sustain, Support, Enhance*

*chair: Maria De Marsico*

S1d - **A Sustainability Component for a First-Year Course for Information Technology Students**

*Stefan A. Robila*

S1d - **LPCEL Editor: A Web-Based Visual Authoring Tool for Learning Design**

*Jorge Torres, Jesús Reséndiz, Juan Manuel Dodero, Ignacio Aedo*

S1d - **A Semantic Approach for Improving Competence Assessment in Organizations**

*Matteo Gaeta, Francesco Orciuoli, Giuseppe Fenza, Giuseppina Rita Mangione, Pierluigi Ritrovato*

S1d - **SWift - A SignWriting Editor to Bridge between Deaf World and E-learning**

*Claudia Savina Bianchini, Fabrizio Borgia, Maria De Marsico*

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**S1e - Fighting against Babele: Languages**

*chair: Vincent Tam*

S1e - **Development and Evaluation of Peer Feedback in the English Quiz Game Design in Social Network**

*Jan-Pan Hwang, Ting-Ting Wu, Yong-Ming Huang, Yueh-Min Huang*

S1e - **E-Learning of English Phrasal Verbs via Pictorial Educidation and L1 Glosses**

*Yukiko Sasaki Alam, Yumiko Oe*

S1e - **Construction of Reading Guidance Mechanism on E-book Reader Applications for Improving Learners’ Comprehension Capabilities in English**

*Chun-Wang Wei, Zong-Han Hsieh, Nian-Shing Chen, Kinshuk*

S1e - **Open Access to Mobile Assisted Language Learning supported by the Mobile2Learn Framework**

*Demetrios G. Sampson, Panagiotis Zervas*

S1e - **An Extendible and Ubiquitious e-Learning Software for Foreigners to Learn Chinese on iOS-Based Devices**

*Vincent Tam, Ralph L.F. Cheung*

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**13:00 - 14:00 Lunch**
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<td>Framework for Intervention and Assistance in University Students with Dyslexia</td>
<td>Carolina Mejia Corredor, Ramón Fabregat Gesa</td>
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<td>Online After-School Learning for Bridging the Digital Divide</td>
<td>Lih-Juan ChanLin, Hong-Yen Lin, Tze-Han Lu</td>
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<td>79</td>
<td>The Need for Technological Innovations for Indigenous Knowledge Transfer in Culturally Inclusive Education</td>
<td>John Loewen, Kinshuk</td>
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<td>Digital Educational Objects for an Inclusive Learning: Survey and Guidelines for the Experience in Eskola 2.0</td>
<td>Mari Luz Guenaga, Iratxe Mentxaka, Susana Romero, Andoni Eugiluz</td>
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<td>Integrating Navigational and Structural Information in SCORM Content Aggregation Modeling</td>
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<td>320</td>
<td>Identification of LMSs Instructional Languages: an Analysis Process</td>
<td>Aymen Abedmouleh, Lahcen Oubahssi, Pierre Laforcade, Christophe Choquet</td>
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<td>The Impact of the Reality Television Camera on Undergraduate Engineering Students: A Qualitative Case Study</td>
<td>N. Clarke, W.A. Clarke, A.L. Nel</td>
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<td>Facebook for CSCL, Latin-American Experience for Professors</td>
<td>Rocael Hernández, Hector R. Amado-Salvatiera, Christian Guetl, Mohammad Smadi</td>
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<td>379</td>
<td>Contribution of Learning Technology in the Implementation of the First Year of Medical Studies in France: Example of What Was Done at Bordeaux Medical School</td>
<td>Jean-Marc Dubois, Jérôme Gabet, Pierre Dubus</td>
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Devising ICT in Engineering Education Based on the University Academia Expectations

Diana Andone, Radu Vasiu

Software Engineering Aids to Accelerate Educational Technologies

Sridhar Chimalakonda, Kesav V. Nori

e-Learning Course Educational Linux for High School students in Brazil
Rafaela Lunardi Comarella, Ricardo Azambuja Silveira, Ronaldo Lima Rocha Campos, Araci Hack Catapan

Discussion Models in Seamless Online Learning Integrated Discussion (SOLID) Environment: Selection vs. Performance
Sheng-Yi Wu, Huei-Tse Hou, Sherry Y. Chen, Eric Zhi Feng Liu, Wu-Yuin Hwang

14:30 - 16:20 Session 2

S2a • Emerging and Distance e-Assessment
chair: Ignacio Aedo

Complex Learning Resources Integrated with Emerging Forms of e-Assessment: an Empirical Study
Mohammad AL-Smadi, Margit Hoefler, Gudrun Wesiak, Christian Guetl

Analysis of the Validity of e-Assessment and Self-Assessment in Formal Assessment in Electrical and Electronics Engineering Studies through a Case Study
Juan Carlos G. de Sande, Juan Ignacio Godino-Llorente, Víctor Osma-Ruíz, Nicolás Sáenz-Lechón

An eMarking Tool for Paper Based Evaluations
Jorge Villalon

Design and Implementation of Remotely Supervised Video-based Distance Examinations
Rastsislau Datsenka, Ivo Stankov, Karl Kurbel

Logical and Physical Sensors-Based Online Assessment Security Support
Juliana Augusto Stocco, Joice Lee Otsuka, Delano Medeiros Beder

Gislaine Cristina Rosales, Regina Araújo Borges
### S2b • *Virtual People: Interacting with Agents*

**Chair:** Yacine Atif

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<td>Virtual Coaching for Change Management</td>
<td>Amina Zaghibib, Philippe Pernelle, Thibault Carron</td>
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<td>Stergios Tegos, Stavros Demetriadis, Anastasios Karakostas</td>
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<td>396S</td>
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<td>K. Robert Lai, Chih-Yueh Chou, Chung Hsien Lan</td>
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<td>413S</td>
<td>Authoring Educational Games Through Affective Teachable Agent</td>
<td>Ailiya, Chunyan Miao, Zhiqi Shen</td>
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<td>100S</td>
<td>Conversational Learning Design in Future Classrooms</td>
<td>Yacine Atif</td>
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### S2c • *Children World ... and not only*

**Chair:** Andreas Lingnau

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<td>Andreas Lingnau, Betsy van Dijk, Hub Kockelkorn, Jeldrik Schmuch, Ian Ruthven</td>
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<td>Exploring Children Preferences regarding Tangible and Graphical Tools for Introductory Programming: Evaluating the PROTEAS Kit</td>
<td>Sapounidis Theodosios, Stavros Demetriadis</td>
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<td>430F</td>
<td>Counting Sounds: An ICT Musical Approach for Teaching the Concept of the Angle in Kindergarten</td>
<td>Tharrenos Bratitsis, Konstantinos Tatsis, Anna Amanatidou</td>
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<td>191F</td>
<td>The Effects of Cognitive-Affective Interaction Strategy on Novices’ Creative Performance in Game Design Project</td>
<td>Li-Chun Wang, Ming-Puu Chen</td>
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### S2d • *All about Methodologies*

**Chair:** Paloma Diaz

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Engineering Social Networks Using the Controllability Approach Applied to E-Learning
Seid Maglajlic

Using a Text Mining Tool to Support Text Summarization
Eliseo Reategui, Miriam Klemann, Mateus David Finco

Effects of Computerized Collaborative Concept Map Approach on Students’ Learning Achievements and Cognitive Loads
Gwo-Jen Hwang, Hui-Chun Chu, Yi-Rong Liang

The Effect of Utilizing the Learning Skill of Highlighting and Constructing a Map in a Networked Hyperlink Condition on Learning Performance
Yu-Hsuan Lee, Gwo-Dong Chen, Liang-Yi Li, Nurkhamid, Cheng-Yu Fan, Kuang-Hung Chiang

S2e • Doctoral Consortium

Adaptive Competence-Based System in an E-learning Platform: Adapting Support Tasks to Students
Juan Manuel Vaca, J. Enrique Agudo, Mercedes Rico

Classroom 3.0: The Real World Meets the Virtuality through Ambient Sensing in Education
Roberto Vergallo

Metrics Development for Measuring Virtual University Social Responsibility
Azam Esfijani, Elizabeth Chang

Modelling Global Pattern Formations for Collaborative Learning Environments
Corrado Grappiolo, Yun-Gyung Cheong, Rilla Khaled, Georgios N. Yannakakis

School of the Future: Using Augmented Reality for Contextual Information and Navigation in Academic Buildings
Silviu Vert, Radu Vasiu

Stimulating the Development of a Disposition through Games-Based Learning
Sylke Vandercruysse, Jan Elen, Geraldine Clarebout

Towards a Synthesis of Learning Methodologies, Technologies and Software Product Lines
Sridhar Chimalakonda, Kesav V. Nori

Using Social Networking and Virtual Reality to Harness Creativity in Students in E-learning Situations
Diana Ragbir, Perman, Mohan
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<td>S3a - Recommendation ... and Emotion</td>
<td>Sébastien Louvigné, Neil Rubens, Fumihiko Anma, Toshio Okamoto</td>
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<td>Enhancing Collaborative Filtering of Learning Resources with Semantically-Enhanced Social Tags</td>
<td>Simon Boung-Yew Lau, Chien-Sing Lee</td>
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<td>Harnessing Collective Intelligence in Personal Learning Environments</td>
<td>Mohamed Amine Chatti, Ulrik Schroeder, Hendrik Thüs, Simona Dakova</td>
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<td>A Hybrid Tag-Based Recommendation Mechanism to Support Prior Knowledge Construction</td>
<td>Jun-Ming Chen, Yeali S. Sun, Meng Chang Chen</td>
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<td>Sentiment Classification in Turn-level Interactive Chinese Texts of ELearning Applications</td>
<td>Feng Tian, Huijun Liang, Longzhuang Li, Qinghua Zheng</td>
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<td>Workshop BLA</td>
<td>Bootstrapping Learning Analytics</td>
<td>Fridolin Wild &amp; Felix Mödritscher</td>
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<td>• Comparing LMS Usage Behavior of Mobile and Web Users</td>
<td>Felix Mödritscher, Gustaf Neumann, Claudia Brauer</td>
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<td>• Evaluating the Learning Effect of Adaptive Digital Educational Games with Eye-Tracking</td>
<td>Effie L-C Law</td>
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<td>• ERP Approach: What Could We Learn From?</td>
<td>Piero Arico, Fabio Aloise, Carlo Giovannella</td>
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The 12th IEEE ICALT
- Visualizing Learner Activities with a Virtual Learning Environment: Experiences from an In Situ Test with Primary School Children
  Anne Lejeune, Viviane Gueraud

- Coverage Metrics for Learning-Event Datasets Based on Client-Side Monitoring
  Derick Leony, Raquel M. Crespo, Mar Pérez-Sanagustín, Hugo A. Parada G., Luis de La Fuente Valentín, Abelardo Pardo

- Visualization of Wiki-Based Collaboration through Two-Mode Network Patterns
  Felix Mödritscher and Wolfgang Taferner

**Panel**

- “Smoothing the path to TEL 2020: ways to recognise and take account of, or reduce, differences in TEL perspectives, and develop shared goals and roadmaps”
  Fabrizio Giorgini eXact learning solutions, Tore Hoel Oslo University College, Paul Lefrere Open University UK, Ambjörn Naeve KHT Stockholm, Katharina Freitag im-c, Peter Scott Open University UK

**S3b**

- **Environments**
  chair: Luca Simeone

  - Embedding Observation Means into the Learning Scenario: Authoring Approach and Environment for Simulations-Based Learning
    Anne Lejeune, Viviane Gueraud

  - Developing Virtual Learning Environment 2.0 Using Web Services Approach
    Fang-Fang Chua, Eng-Soon Tay

  - Learning about Art History by Explorative Search, Contextual View and Social Tags
    Max Arends, Martin Weingartner, Josef Froschauer, Doron Goldfarb, Dieter Merkl

  - DIY GIS: A Constructionist, Educational Toolkit for Architecture Students
    Luca Simeone, Giorgia Lupi, Paolo Patelli, Salvatore Iaconesi, Oriana Persico
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<td>Frameworks and Related Observations</td>
<td>Emmanuel G. Blanchard</td>
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<td>Is It Adequate to Model the Socio-cultural Dimension of E-learners by Informing a Fixed Set of Personal Criteria?</td>
<td>Emmanuel G. Blanchard</td>
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<td>A Conceptual Framework for the Analysis of the Use of Advanced Communication Technologies in Higher Education: The Institutional Perspective</td>
<td>Joao Batista, Fernando Ramos</td>
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<td>359S</td>
<td>Students’ and Instructors’ Perceptions on Use of Information and Communication Technologies during Instruction in a Kyrgyzstan University</td>
<td>Gulshat Muhametjanova, Kursat Cagiltay</td>
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<td>Evaluation of Student Perceptions and Interests Using Spoken Tutorials in Online Courses</td>
<td>Eranki L.N. Kiran, Kannan M. Moudgalya</td>
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<td>Complex Learning: A Way for Rethinking Pedagogies and Processes in Technology-Enhanced Learning and Education</td>
<td>Laura Vettraino, Eleonora Guglielman, Marco Guspini, Valentina Castello</td>
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**Thursday, 5 July**

**9:00 - 10:00 Keynote speaker**

*Harold Jarche (Chairman of Internet Time Alliance)*

**Principles for Collaborative Work**

**10:00 - 10:30 Coffee break**

**10:30 - 13:00 Session 4**

**S4a • Tracking Learning Strategies 1**

*chair: Nelson Baloian*

**56F**

Learning Task-related Strategies from User Data through Clustering  
*Mihaela Cocea, George D. Magoulas*

**306F**

Toward a Complete e-Learning System Framework for Semantic Analysis, Concept Clustering and Learning Path Optimization  
*Vincent Tam, Edmund Y. Lam, S.T. Fung*

**213F**

An Investigation of Students’ Sequential Learning Behavioral Patterns in Mobile CSCL Learning Systems  
*Hung-Yuan Wang, Tzung-Jin Lin, Chin-Chung Tsai, Henry Been-Lirn Duh, Jye-Chong Liang*

**45S**

Face-to-Face vs. Computer-Mediated: Analysis of Collaborative Programming Activities and Outcomes  
*Delfina Mandrino, Ilaria Manno, Giuseppina Palmieri, Vittorio Scarano*

**63S**

Observations as a Method to Evaluate a Computer-Based Approach to Learning Algorithms  
*Ouafae Debdj, J. Ángel Velázquez-Iturbide, Natalia Esteban-Sánchez, Antonio Pérez-Carrasco*

**85F**

Design and Evaluation of Support Functions of Course Management Systems for Assessing Learning Conditions in Programming Practicums  
*Toshiyasu Kato, Takashi Ishikawa*

**137F**

Supporting Engineering Students Learning Wireless Network Planning Using Mobile, Positioning and Web Technologies  
*Nelson Baloian, Gustavo Zurita, Jonathan Frez, Marcelo Milrad*
### S4b · Monitoring and Visualization

**Chair:** Elvira Popescu

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<td>A System for the Automatic Analysis of Computer-Supported Collaborative Learning Chats</td>
<td>Stefan Trausan-Matu, Mihai Dascalu, Traian Rebedea</td>
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<td>404F</td>
<td>The Impact of Social Performance Visualization on Students</td>
<td>Mohammad Hassan Falakmasir, I-Han Hsiao, Luca Mazzola, Nancy Grant, Peter Brusilovsky</td>
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<td>365F</td>
<td>Towards Efficient Provision of Feedback Supported by Learning Analytics</td>
<td>Israel Gutierrez Rojas, Raquel M. Crespo García</td>
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<td>248S</td>
<td>Visual Analysis of Online Interactions through Social Network Patterns</td>
<td>André Silva, Alvaro Figueira</td>
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<td>315S</td>
<td>Instructor Support for Monitoring and Visualizing Students’ Activity in a Social Learning Environment</td>
<td>Elvira Popescu, Dan Cioiu</td>
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<td>186S</td>
<td>Data Collection Framework to the Learning Monitoring Using Logical Sensor Network</td>
<td>Gislaine Cristina Micheloti Rosales, Regina Borges de Araújo, Joice Lee Otsuka, Delano Berder</td>
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<td>334F</td>
<td>We Have No Feelings, We Have Emoticons ;)</td>
<td>Sarah León Rojas, Uwe Kirschenmann, Martin Wolpers</td>
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### S4c · Environments and Methodologies

**Chair:** Kiyoshi Nakabayashi

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<td>Interactions for Learning as Expressed in an IMS LD Runtime Environment</td>
<td>Michael Derntl, Susanne Neumann, Petra Oberhuemer</td>
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<td>80F</td>
<td>A Long-Term Evaluation of Educational Animations of Functional Programs</td>
<td>Jaime Urquiza-Fuentes, J. Ángel Velázquez-Iturbide</td>
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<td>207S</td>
<td>Extreme Apprenticeship Goes Blended: An Experience</td>
<td>Gabriella Dodero, Francesco Di Cerbo</td>
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<td>418F</td>
<td>Feedback in the Motor Skill Domain</td>
<td>Yulita Hanum P. Iskandar, Lester Gilbert, Gary B. Wills</td>
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<td>264S</td>
<td>An Investigation of the Exergames Experience with Flow State, Enjoyment, and Physical Fitness</td>
<td>Yu-Ching Lai, Shih-Ting Wang, Jie-Chi Yang</td>
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The Effects of Using Embodied Interactions to Improve Learning Performance  
276S  
Wan-Ju Lee, Chi-Wen Huang, Chia-Jung Wu, Shing-Tsaan Huang, Gow-Dong Chen

Application of Extensible Learning Support System Architecture to Collaborative Learning Environments  
74F  
Kiyoshi Nakabayashi, Yosuke Morimoto, Kumiko Aoki

S4d  
“Cheese”, Please: Video World  

chair: Panagiotis Zervas

Synote: Important Enhancements to Learning with Recorded Lectures  
102F  
Mike Wald, Yunjia Li

Vialogues: Videos and Dialogues Based Social Learning Environment  
172F  
Megha Agarwala, IHan Hsiao, Hui Soo Chae, Gary Natriello

Digital Storytelling at School: Engagement and Educational Benefits  
415S  
Nicoletta Di Blas, Paolo Paolini

Producing an Engineering Reality TV Show at a University: Key Learning Points  
361S  
N. Clarke, Willem A. Clarke, A.L. Nel

Using “Learning Video Portfolio” to Enhance Students’ Metacognition in Authentic Learning  
310F  
Ching-Yi Huang, Chi-Wen Huang, Chia-Jung Wu, Gwo-Dong Chen, Kuang-Hung Chiang

Effects of Video-Based Reflection Prompts on Learners’ Reflection Levels in a Context-Aware U-Learning Environment  
240F  
Xiu-Jun Yang, I-Chun Hung, Gwo-Jen Hwang, Nian-Shing Chen, Wei-Chieh Fang
### S4e • Environments: Evaluation and Quality

**Chair:** Ming-Puu Chen

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<td>Poster session + PhD Poster exhibition</td>
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#### GOLGI HALL

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<td>Evaluating Usability and Efficaciousness of E-Learning Systems: A Quantitative Model-Driven Approach</td>
<td>Yin-Leng Theng, Joanna Sin</td>
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<td>Opportunities and Challenges for Adaptive Collaborative Support in Distributed Learning Environments: Evaluating the GLUE! Suite of Tools</td>
<td>Anastasios Karakostas, Luis P. Prieto, Yannis Dimitriadis</td>
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<td>Technological Factors, User Characteristics and Didactic Strategies in Educational Virtual Environments</td>
<td>Antonis Natsis, Ioannis Vrellis, Nikiforos M. Papachristos, Tassos A. Mikropoulos</td>
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<td>Constructing the Relationship between Individual Differences of Faculty Members and the Continuance Intension of Using Learning Management Systems</td>
<td>Ghada M. Alnifie</td>
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<td>The Study of Self-Assessment with Prompts, Learning Journal and Referencing through Sharing for Regulation of Cognition and Their Effect on Web-Based Programming Learning</td>
<td>Rustam Shadiev, Wu-Yuin Hwang, Jung-Lung Hsu, Chia-Ling Chang, Ray Yueh-Min Huang</td>
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### P2 • Pervasive Computing, Design@large and Gaming

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<td>Fostering Students’ Creativity through Video Game Development</td>
<td>Ximena López, Carlo Fabricatore</td>
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<td>Pedagogy: Designing Digital Magazines for the iPad - Trends and Challenges of a New Medium in the Light of Established Graphic Traditions</td>
<td>Jonathan Hounshell</td>
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An Approach of Building an Engaging Virtual Authentic Environment for Classroom Learning
Po-Hsiang Huang, Chia-Jung Wu, Gwo-Dong Chen

Sharing Laboratories across Different Remote Laboratory Systems
Pablo Orduña, Javier García-Zubia, Diego López-de-Ipiña, Philip H. Bailey,
James L. Hardison, Kimberly DeLong, V. Judson Harward

Real-World Relevant Learning with Android Smartphones
Kai Qian, Dan Lo, Yi Pan, Yanqing Zhang, Xiaolin Hu, Liang Hong

Math is not only for Science Geeks: Design and Assessment of a Storytelling Serious Video Game
Michail Giannakos, Konstantinos Chorianopoulos, Letizia Jaccheri

High-Interactive Gaming Learning: Bring Different Learning Benefits to Team Players and Individual Players
Chi-Wen Huang, Cheng-Yu Fan, Yu-Ling Chi, Chia-Jung Wu, Gwo-Dong Chen

Instinctive Game Environment: Exploring the Application of Natural Interfaces for Supporting Game-Based Learning
Carlos González, David Díez, Paloma Díaz, Ignacio Aedo

Semantic Enrichment of an ECEC Platform Knowledge Base
Victor M. Rorís, Rubén Míguez, Juan M. Santos

14:30 - 15:30 Keynote speaker

Liina-Maria Munari (Project Officer ‘Cultural Heritage and Technology Enhanced Learning’, DG Information Society and Media)
ICT and Learning in Europe - the EC Perspective

15:30 - 16:00 Coffee break

16:00 - 17:00 Session 5

S5a. Focus on People and Learning
chair: Tassos A. Mikropoulos

Addressing the Challenges of Survey Fatigue for Life-Long User Modelling: Initialising Baseline Models Using Community Psychometric Values
Victoria Macarthur, Owen Conlan

Computer Support for Reflective Learning in the Workplace: A Model
Birgit R. Krogstad, Michael Prilla, Daniel Wessel, Kristin Knipfer, Viktoria Pammer
A Long-Term Evaluation of Educational Animations of Functional Programs
Jaime Urquiza-Fuentes, J. Ángel Velázquez-Iturbide

S5b - Classification and Tutoring Systems
chair: Kinshuk

An Ontology Model for Building, Classifying and Using Learning Outcomes
Aikaterini Kalou, Georgia Solomou, Christos Pierrakeas, Achilles Kameas

A Group Oriented Intelligent Tutoring System For Rocket Engineers and Researchers
Yonghuang Zheng, Feng Tian, Renhou Li, Longzhuang Li

Fermat: Merging Affective Tutoring Systems with Learning Social Networks
Ramón Zatarain Cabada, María Lucía Barrón Estrada, J. A. Beltrán V., F. L. Cibrian R., Carlos Alberto Reyes García, Yasmín Hernández Pérez

European Projects Track
chair: Liina-Maria Munari

Social Network Analysis of European Project Consortia to Reveal Impact of Technology-Enhanced Learning Projects
Michael Derntl, Ralf Klamma

Global Trends and Forecasts for TEL - Some Results from the TEL-Map Project
Tore Hoel

MAGICAL: Collaborative Game Building as a Means to Foster Reasoning Abilities and Creativity
Rosa Maria Bottino, Jeff Earp, Michela Ott

Games and Learning Alliance (GaLA) Supporting Education and Training through Hi-Tech Gaming
Francesco Bellotti, Riccardo Berta, Alessandro De Gloria

S5c - Miscellanea 2
chair: Michael Verhaart

Technology Enhanced Informal Science Learning and Engagements: A Typology of Activity
Eileen Scanlon
### Session 6

**17:00 - 18:30**

#### S5d - Focus on Languages

**Chair:** Nian-Shing Chen

- The Design of English Article Recommender Mechanism for Senior High School Students  
  **262F**  
  *Chen-Chung Chi, Chin-Hwa Kuo*

- Constructing a Novel Chinese Readability Classification Model Using Principal Component Analysis and Genetic Programming  
  **152S**  
  *Yi-Shian Lee, Hou-Chiang Tseng, Ju-Ling Chen, Chun-Yi Peng, Tao-Hsing Chang, Yao-Ting Sung*

- Stop Word in Readability Assessment of Thai Text  
  **199S**  
  *Patcharanut Daowadung, Yaw-Huei Chen*

#### S6a - Don’t be so Serious 2: Games

**Chair:** Bob Nadolski

- A Format of Serious Games for Higher Technology Education Topics: A Case Study in a Digital Electronic System Course  
  **111F**  
  *Danu Pranantha, Francesco Bellotti, Riccardo Berta, Alessandro De Gloria*

- Principles for Creating Learning Games for Algebra  
  **368S**  
  *Vani Kalloo, Permanand Mohan*

- Building an Anti-Phishing Game to Enhance Network Security Literacy Learning  
  **326S**  
  *Che-Ching Yang, Shian-Shyong Tseng, Tsung-Ju Lee, Jui-Feng Weng, Kaiyuan Chen*

- Considerations for the Design of Mini-games Integrating Hints for Puzzle Solving ICT-Related Concepts  
  **121F**  
  *Javier Melero, Davinia Hernández-Leo, Josep Blat*
**S6b • Focus on People, Cognition and Styles**

Chair: **Gabriella Dodero**

- How Cognitive Styles Affect the E-learning Process
  Valeria de Palo, Maria Sinatra, Giancarlo Tanucci, Lucia Monacis, Pierpaolo Di Bitonto, Teresa Roselli, Veronica Rossano
  214F

- What Can We Learn from Long-Time Lasting Measurements of Felder-Silverman’s Learning Styles?
  Carlo Giovannella
  436S

- A Research of Applying Cognitive Load Theory to Science Education Webpage
  Chia-Ju Liu, Yuan-cheng Lin, Bao-Yuan Liu, Yu-Yi Chang
  264S

- Literature Driven Method for Modeling Frustration in an ITS
  Ramkumar Rajendran, Sridhar Iyer, Sahana Murthy
  344F

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**S6c • Tracking Learning Strategies 2**

Chair: **Rachel Or-bach**

- Expertise Network Discovery via Topic and Link Analysis in Online Communities
  Yanyan Li, Shaoqian Ma, Yonghe Zhang, Ronghuai Huang
  105F

- Sharing Experiences between Learners with Different Profiles: Adaptation of Interaction Traces
  Karim Sehaba
  169F

- Collaborative Reflection Activities with DynaLearn
  Rachel Or-Bach, Bert Bredeweg
  103F

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**S6d • Peers**

Chair: **Stavros Demetriadis**

- Peer-Supervised Learning with Built-in Quality Control Based on Multiple-Choice Questions: A Case Study
  Christian Hütter, Tobias Kimmerle, Klemens Böhm
  43F

- How to Implement a Technology Supported Free-Selection Peer Review Protocol: Design Implications from Two Studies on Computer Network Education
  Pantelis M. Papadopoulos, Thomas D. Lagkas, Stavros N. Demetriadis
  177S
Friday, 6 July

9:00 - 10:00 Keynote speaker

Ton de Jong  (Faculty of Behavioral Sciences, University of Twente)
Engaging Learners in Complex Learning Experiences with Technology

10:00 - 10:30 Coffee break

10:30 - 13:00 Session 7

S7a • Environments
chair: Harold Jarche

Designing a Technology Enhanced Collaborative Space for Learning Entity-Relationship Modeling
Anthony K.L. Wong, Michael Morgan, Matthew Butler

QrAte: Historical Learning through a Curatorial Inquiry Task Using Web Resources
Annika Wolff, Paul Mulholland

Considering the Space in the Design of Learning Activities: The ISIS and 4SPPlces Models Applied to Science Inquiries
Mar Pérez-Sanagustín, Valérie Emin, Davinia Hernández-Leo
### A Web-Based Framework for Job-Embedded Technology-Enhanced Social Language Learning

Werner Winiwarter

### Rapid Authoring Platform for Instructional Design of Scenarios (RAPIDS)

BaoYng Teresa Liew, Eric Tsui, Patrick S.W Fong, Adela S.M. Lau

### A Realistic Digital Deteriorating Patient to Foster Emergency Decision-Making Skills in Medical Students

Emmanuel G. Blanchard, Jeffrey Wiseman, Laura Naismith, Susanne P. Lajoie

### Design and Evaluation of a Pervasive Workplace Learning System for Retail Stores

Yvan Peter, Benjamin Barbry, Thomas Vantroys, Philippe Laporte, Sylvie Lerouge

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**S7b • Content ... and Mobile World**

*chair: Marcus Specht*

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<td>Martin M. Weng, Louis R. Chao, Neil Y. Yen</td>
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<td>182S</td>
<td>Multimedia Educational Pills (MEPs) for Corporate Training: Methodology and Cases</td>
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<td>Chunking and Extracting Text Content for Mobile Learning: A Query-focused Summzaizer Based on Relevance Language Model</td>
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<td>Sohaib Ahmed, David Parsons, Mandia Mentis</td>
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<td>ARTournament: A Mobile Casual Game to Explore Art History</td>
<td>Josef Froschauer, Johannes Zweng, Dieter Merkl, Max Arends, Doron Goldfarb, Martin Weingartner</td>
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<td>160F</td>
<td>Developing a Mobile Game Environment to Support Disadvantaged Learners</td>
<td>Birgit Schmitz, Roland Klemke, Marcus Specht, Marvin Hoffmann, Ralf Klamma</td>
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workshop **DULP&SPEL** • *DULP & SPEL* @
**ICALT 2012: Exploring the Future of Technology Enhanced Learning**
chair: **Alke Martens**

- Beyond the “Orff Schulwerk”, Toward a New Approach to the Technology Enhanced Musical Education
  *Luca De Ioris, Fabrizia Moggio, Carlo Giovannella*

- “Museal Fields” as Embedded Learning Places
  *Andrea Iosue, Fabrizia Moggio, Carlo Giovannella*

- Personalisation of Programming Tutoring System Using Tag-based Recommender Systems
  *Aleksandra Klašnja-Milicevic, Boban Vesin, Mirjana Ivanovic, Zoran Budimac*

- Personalized, Adaptive and Intelligent Support for Online Assignments Based on Proactive Computing
  *Sergio Marques Dias, Sandro Reis, Denis Zampunieris*

- Personalized Mobile Learning Via An Adaptive Engine
  *Richard A.W. Tortorella and Sabine Graf*

- Pervasive Learning Activities for the LMS LRN through Android Mobile Devices with NFC Support
  *Gustavo Ramirez-Gonzalez, Catalina Córdoba-Paladinez, Omar Sotelo-Torres, Camilo Palacios, Mario Muñoz-Organero, Carlos Delgado-Kloos*

- Proactive Computing Based Implementation of Personalized and Adaptive Technology Enhanced Learning over Moodle
  *Sergio Marques Dias, Sandro Reis, Denis Zampunieris*

- Semantic Integration of Social Information in Learning Systems
  *Juan C. Vidal, Manuel Lama, Miguel Rosales Sueiro, Alberto Bugarín*

- Supporting Assessment of Open Answers in a Didactic Setting
  *Andrea Sterbini, Marco Temperini*

**workshop S-Role** • *Enabling Successful Self-Regulation in Open Learning Environments*
chair: **Milos Kravcik**

- A Survey into the Teacher’s Perception of Self-Regulated Learning
  *Alexander Mikroyannidis, Teresa Connolly, Effie Law*
• Exploring the Personal and Self-Directed Use of Weblogs
  Terje Väljataga and Sebastian H.D. Fiedler

• How to Augment Simulated Environments by Services supporting Self-regulated Learning?
  Marcel Berthold, Christina M. Steiner, Dietrich Albert

• Introducing Learning Performance in Personal Learning Environments
  Laurent Moccozet

• Recommending Learning Activities as Strategy for Enabling Self-Regulated Learning
  Pablo Lachmann, Andreas Kiefel

• Self-Regulated Learning in a Mobile Health Initiative for Diabetic Patients
  Salys Sultan, Permanand Mohan

• SRL Tasks and Activities as a Model of Cognitive Behaviour within ETTHOS
  Adam Moore, Owen Conlan, Victoria Macarthur

• Supporting Self-Regulation by Personal Learning Environments
  Milos Kravcik, Ralf Klamma

13:00 - 14:00 Lunch

13:30 - 14:30 Poster session

P3 • Personalization, Contextualization and Docimology

148
An Institutional Personal Learning Environment Enabler
  Laurent Moccozet, Omar Benkacem, Pierre-Yves Burgi, Hervé Platteaux, Denis Gillet

161
Integrating Web Services with Gadgets to Support an i-Google PLE
  Martín Llamas-Nistal, Manuel Caeiro-Rodríguez, Juan González-Tato,
  Javier Álvarez-Osuna

229
Enhancing Learning Analytics in Distributed Personal Learning Environments
  Vladimir Tomberg, Mart Laanpere, David Lamas, Kai Pata, Dragan Gašević

340
Personalizing Educational Activities
  Ian O’Keeffe, Vincent Wade

83
A Case Study on Using Data Mining for University Curricula
  Yoshitaka Sakurai, Kouhei Takada, Setsuo Tsuruta, Rainer Knauf

398
Learner Ontology for the Active Semantic Learning System
  Ioan Szilagyi, Ioan Roxin
Personalization and Mentoring: Our Experience with Training Teachers
Sandhya Kode, Shuchita Rao

An Architecture for Technology-Enhanced Assessment of High Level Skill Practice
Enosha Hettiarachchi, Maria Antonia Huertas, Enric Mor Pera, Ana Elena Guerrero Roldan

Message-Based Motivation Modeling
Neil Rubens, Toshio Okamoto, Dain Kaplan

Change of Students’ Motivation in an Introductory Programming Course for Non-Computing Majors
Hidekuni Tsukamoto, Hideo Nagumo, Yasuhiro Takemura, Naoya Nitta

A Study on User’s Perception in E-learning Security and Privacy Issues
Madeth May, George Fessakis, Angelique Dimitracopoulou, Sébastien George

Towards a High-Level Integration of Interactive Tools with E-assessments
Christian Saul, Heinz-Dietrich Wuttke

Integrated Environment for Scenario Development, Exercise Implements and Evaluation for Role-Play Training
Hiroshi Maruyama, Suhei Harada, Akio Takashima, Taichi Nakamura

Development of an Application for Mobile Devices to Record Learner Interactions with Web-Based Learning Objects
Eva Garcia, Antonio Garcia-Cabot, Angel Garcia, Luis de-Marcos, Jose R. Hilera

Developing Cognitive Diagnostic Assessments System for Mathematics Learning
Lin-Jung Wu, Hsin-Hao Chen, Yao-Ting Sung, Ko-En Chang

An Eye Detection Based Multi-modal “E-Supervisor” in Distant Education
Gang Chen, Song Yang, Xiaoying Zhou, Ruimin Shen

14:30 - 15:40 Session 8

S8a • Contextualization, Personalization, Adaptation, ITS
chair: Imran A. Zualkernan

Delivering Adaptive and Context-Aware Educational Scenarios via Mobile Devices
Sergio Gómez, Panagiotis Zervas, Demetrios Sampson, Ramón Fabregat
The 12th IEEE ICALT

**S8b - Games & 3D**

Chair: Francesco Bellotti

- Utilizing Virtual Worlds for Game Based Learning: Grafica, a 3D Educational Game in Second Life
  Theodouli Terzidou, Thrasyvoulos Tsiatsos, Antonia Dae, Odysseas Samaras, Apostolia Chasanidou
  343F

- Utilizing Multiplayer Video Game Design Principles to Enhance the Educational Experience in 3D Virtual Computer Supported Collaborative Learning Environments
  Thrasyvoulos Tsiatsos, Andreas Konstantinidis
  353S

- Multiplayer 3D Game in Supporting Team-Building Activities in a Work Organization
  Päivi Häkkinen, Johanna Bluemink, Merja Juntunen, Ilona Laakkonen
  82S

**S8c - Community and Social Issue**

Chair: Sandhya Kode

- Collaborative Learning, Social Presence And Student Satisfaction In A Blended Learning Environment
  Stephen D. Sorden José Luis Ramírez-Romero
  393F

- Online Help-Seeking in Communities of Practice: An Acceptance Model for Conceptual Artifacts
  Nicolae Nistor, Matthias Werner, Silke Schworm
  147S

- Trust and Reputation in eLearning at the Workplace: The Role of Social Media
  Sabine Seufert
  84S
S8d - Physicality  
chair: Chin-Chung Tsai  

- An Electronic Tabletop ‘eTableTop’ Exercise for UK Police Major Incident Education  
  Jane Mooney, Lee Griffiths, Marianne Patera, June Roby, Paul Ogden, Pete Driscoll  
  216S  

- Using Collaborative Activities on Tabletops to Enhance Learning and Knowledge Transfer  
  Michael Schubert, Audrey Serna, Sebastien George  
  372S  

- The Physicality of Technological Devices in Education: Building a Digital Experience for Learning  
  Sharon Lynn Chu Yew Yee, Francis Quek, Alex Endert, Haeyong Chung, Blake Sawyer  
  225S  

- Behavioral Patterns and Learning Performance of Collaborative Knowledge Construction on a Augmented Reality System  
  Tzung-Jin Lin, Hung-Yuan Wang, Henry Been-Lirn Duh, Chin-Chung Tsai, Jyh-Chong Liang  
  232S  

workshop RVL - Remote and Virtual Laboratories in Science, Technology, Engineering and Mathematics (STEM) Education  
chair: Demetrios Sampson  

- Designing Virtual Experiments in the Context of Marine Sciences  
  Martina Weicht, Dennis Maciuszek, Alke Martens  

- State of Art, Initiatives and New Challenges for Virtual and Remote Labs  

- Using Problem Posing and Problem Solving for Game-based Learning in Remote Labs  
  Imran Zualkernan, Ghaleb Al Husaini, Kevin Loughlin, Jamshaid Mohebzada, Moataz El Gamli  

- Virtual VLSI Laboratory for Computer Science Students: Erudite and Illusive  
  Shubhajit Chowdhury, Sandhya Kode  

15:40 - 16:00 Coffee break
16:00 - 18:00 Session 9

workshop GBL • Game Based Learning for the 21st Century: Challenges and Opportunities
chair: Alessandro De Gloria

- A Domain Model for Smart 21st Century Skills Training in Game-based Virtual Worlds
  Michael D. Kickmeier-Rust, Dietrich Albert

- Co-designing Social Games with Children to Support Non Formal Learning
  Paloma Díaz, Pedro Paredes, Diego Alvarado, Elisa Giaccardi

- Developing a Meta-Model for Serious Games in Higher Education
  C. Shaun Longtreet, Kendra M. L. Cooper

- Embodied Conversational Human-Machine Interface with Wearable Body Sensors for Improving Geography Teaching
  Y. Ling Y., F. Bellotti, R. Berta, A. De Gloria

- Exploiting Real-Time EEG Analysis for Assessing Flow in Games
  A. Plotnikov, N. Stakheika, A. De Gloria, C. Schatten, F. Bellotti, R. Berta, C. Fiorini, F. Ansovini

- Reasoning on Reasoning through Serious Games
  R.M Bottino, M. Ott, M. Tavella

- User Modelling and Adaptive, Natural Interaction for Conflict Resolution
  Kostas Karpouzis, George Yannakakis, Ana Paiva, Jeppe Herlev Nielsen, Asimina Vasalou, Arnav Jhala

- Using a Pleasure Framework to Critique Tangible Learning Games
  Imran Zualkernan

Tutorial 1 BISOGNO HALL
A Software Engineering Perspective for Accelerating Educational Technologies
Sridhar Chimalakonda, Kesav V. Nori

Tutorial 2 CONFERENZE HALL
Stand Alone Application and On-Line Open-Service to Measure Emotions Conveyed by Different Media Channels
Simone Carcone, Carlo Giovannella
**Tutorial 3** SILVESTRI HALL
Accessibility and Usability of Educational Gaming Environments for Disabled Students
*Marion Hersh, Barbara Leporini*

**Tutorial 4** GOLGI HALL
“Voce Viva ScriviFacile” and “ScriviFacile MathAlgebra”: Technological Tools and New Opportunities for Teaching
*Alessandro Danieli, David Giovanni Danieli, Giovanni Raudino, Rosanna Tuzza*

18:00 - 18:30 Closing ceremony

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**The Hotels**

[Map showing hotel locations]
Useful numbers

- **Archimede**: 06 44 40 033 - Via dei Mille 19
- **Noto**: 06 4890 0522 - Via Calatafimi 12
- **Luce**: 06 4470 2224 - Via Magenta 34
- **Lux**: 06 444 1692 - Via Gaeta 14
- **Floridia**: 06 445 1995 - Via Montebello 45
- **Lazio**: 06 445 6214 - Via Vicenza 8
- **Regio**: 06 4893 0017 - Via Volturno 22

- **Taxi**: 24/24 06.6645 / 06.3570 / 06.5551 / 06.88177 / 06.8822 / 06.4994
- **Municipal Police** ("vigili urbani") 06.67691
- **Police**: 113
- **Police** ("Carabinieri") 112
- **Medical Emergency**: 118
- **Financial Police**: 117
- **Firefighters**: 115

Touristic Information Points (PIT)

- **Termini, Stazione Termini**: Via Giovanni Giolitti 34, Building F - platform 24, 8.00-19.30
- **Nazionale**, Via Nazionale (Palazzo delle Esposizioni), 9.30-19.00
- **Minghetti**, Via Marco Minghetti (angolo Via del Corso), 9.30-19.00
- **I Fori di Roma**, Via dei Fori Imperiali, 9.30-19.00
- **Navona**, Piazza delle Cinque Lune (Piazza Navona), 9.30-19.00
- **Castel Sant’Angelo**, Lungotevere Vaticano (Piazza Pia), 9.30-19.00

Good bye to **ICALT 2013 in Beijing**