Conference

Program and Workshops

1-4 Oct. 2006, Crete
Preface:

With the shift towards the knowledge society, changing working conditions and the continuous evolution of information and communication technologies, peoples' knowledge and skills need continuous development. Technology-enhanced learning is one of the strategic objectives of the EU/IST Work Program, with the goal of improving the efficiency and cost-effectiveness of learning, for individuals and organizations, independent of time, place and pace. “Innovative infrastructures, methods and approaches are needed to reach this goal, and will facilitate transfer and sharing of knowledge between individuals and in organizations. For e-learning, as in e-commerce and e-business, systemic changes wrought by emerging technologies are also changing the relationships between consumption and production – in this case of knowledge – as what many call ‘Web 2.0’ becomes more interactive and user-generated content becomes more widespread.

EC-TEL 2006, the First European Conference on Technology Enhanced Learning, provided a unique forum for all research related to technology-enhanced learning in Europe and world-wide, as well as its interactions with knowledge management, business processes and work environments, through specialized workshops and the main conference. Additionally, EC-TEL 2006 provided unique networking possibilities for participating researchers throughout the week and included project meetings and discussions for EU/IST projects funded within the 6th framework program under the action line of Technology-Enhanced Learning and Access to Cultural Heritage.

EC-TEL 2006 was organised by the Professional Learning Cluster (PRO-LC). PRO-LC has been founded by a cluster of major European research projects in the area of Technology Enhanced Learning focusing on professional learning: the Network of Excellence in Professional Learning (PROLEARN) and the Integrated Projects PROLIX, APOSDLE, and TENCompetence. Further members are the Specific Targeted Research Projects COOPER and iCamp as well as the projects Embedding ICT/Multimedia Standardisation Initiatives into European Vocational Training Development Strategies“ (Leonardo-da-Vinci), EUCAM (Multilingual Communication in European Car Manufacturing), and BASE2 (Broadband Access Satellite Enabled Education). EC-TEL 2006 received 192 submissions, 146 of those full papers. All submissions went through a rigorous review process, with a final acceptance rate of about 22% for full papers. Based on the reviews, the program committee accepted 33 full papers, 16 short papers, as well as 33 posters, to be presented in a poster presentation session. In addition, 9 workshops out of 18 proposed and a session on EU/IST funding for technology-enhanced learning research complete the program.

Thanks to this ambitious and competitive selection process, EC-TEL 2006 managed to bring together the leading experts in the field of technology-enhanced learning, addressing the following topics during the conference:
• Collaborative Learning, • Personalized Learning, • Multimedia Content, • Semantic Web, Metadata and Learning, • Workplace Learning, • Learning Repositories and Infrastructures for Learning • Experience Reports, Assessment, and Case Studies.

An event such as EC-TEL 2006 requires much support at different levels: We are grateful to our invited keynote speakers for sharing with our attendees their ideas about the future development of technology-enhanced learning. Many thanks go to all authors who submitted their papers and of course to the program committee for their careful reviews.

Wolfgang Nejdl and Klaus Tochterman, PC Co-chairs
Call for Papers

First European Conference on Technology Enhanced Learning

Innovative Approaches for Learning and Knowledge Sharing

With the shift towards the knowledge society, changing working conditions and the continuous evolution of information and communication technologies, peoples' knowledge and skills need continuous development. Technology-enhanced learning is one of the strategic objectives of the EU/IST Work Programme, with the goal of „improving the efficiency and cost-effectiveness of learning, for individuals and organizations, independent of time, place and pace.“ Innovative infrastructures, methods and approaches are needed to reach this goal, and will facilitate transfer and sharing of knowledge between individuals and in organisations. For e-learning, as in e-commerce and e-business, systemic changes wrought by emerging technologies are also changing the relationships between consumption and production – in this case of knowledge – as what many call „Web 2.0“ becomes more interactive and user-generated content becomes more widespread.

The First European Conference on Technology Enhanced Learning provides a unique forum for all research related to technology-enhanced learning, as well as its interactions with knowledge management, business processes and work environments. It will provide a competitive yet broad enough forum for technology enhanced learning research in Europe and world-wide through specialized workshops and the main conference. The conference will provide unique networking possibilities for participating researchers throughout the week and include project meetings and discussions for several EU/IST projects funded within the 6th framework program under the action line of „Technology-Enhanced Learning and Access to Cultural Heritage“.

We welcome submissions describing innovative research on all relevant issues, focusing on aspects from computer science, business and/or education, as well as experience reports and case studies describing innovative applications of new learning environments and approaches.

EC-TEL 2006 invites submissions in the following categories:

- Papers and posters
- Doctoral consortium papers
- Industrial reports
- Workshops

Relevant topics for the conference include, but are not limited to:

**Collaborative Learning:** Learning Communities, Distributed Teams, Instructional Methods for Collaborative Learning, Problem Solving Support, Collaborative Knowledge Building and Sharing, Collaborative Games, Online Experiments

**Personalized Learning:** Reasoning Techniques, Adaptation Patterns and Techniques, Data Mining, Learner Modeling, Learner Assessment and Testing, Adaptive Hypermedia and Adaptive Instructions, Competencies in Workplace Learning

**Multimedia Content:** Authoring of Multimedia/ Virtual Reality Content, Multimedia / Virtual Reality Streaming, Web Video Lectures

**Semantic Web, Metadata and Learning:** Learning Objects, Learning Activities, Learning Design, Narrative and Navigation Models, Semantic Clustering, Metadata for Search and Information Retrieval

**Workplace Learning:** Knowledge Management and Learning, Business Processes and Learning, Cost and Economy Models, Leveraging Expertise, Informal Learning, Social Software, Organizational Learning, Knowledge Sharing.

**Learning Repositories and Infrastructures for Learning:** Peer-to-Peer Infrastructures, Runtime Engines for Learning Design and Learning Objects, Mobile and Ubiquitous Learning, Deployment Strategies, Re-Use of Learning Objects, Re-Authoring and Re-Purposing

**Experience Reports, Assessment, and Case Studies**
Organization

Program Committee Chairs:
- Wolfgang Nejdl, L3S and University of Hannover, Germany
- Klaus Tochtermann, Know-Center and Graz University of Technology, Austria

Publicity Chair:
- Erik Duval, KU Leuven and Ariadne Foundation

Workshop Chair:
- Peter Scott, Knowledge Media Institute, Milton Keynes, UK

Industry Chair:
- Fabrizio Cardinali, Giunti Interactive Labs, Sestri Levante, Italy
- Luk Vervenne, Synergetics, Antwerpen, Belgium
- Volker Zimmermann, IMC AG, Saarbrücken, Germany

Doctoral Consortium Chairs:
- Katherine Maillot, France
- Ralf Klamma, Germany

Program Committee Members:
- Heidrun Allert, Austria
- Kalina Bontcheva, UK
- Paul de Bra, The Netherlands
- Paul Brma, UK
- Peter Brusilovsky, USA
- Fabrizio Cardinali, Italy
- Stefano Ceri, Italy
- Pierre Dillenbourg, Switzerland
- Peter Dolog, Germany + Denmark
- Erik Duval, Belgium
- Dieter Euler, Switzerland
- Monique Grandbastien, France
- Jörg M. Haake, Germany
- Kai Hakkarainen, Finland
- Friedrich Hesse, Germany
- Nicola Henze, Germany
- Wayne Hodgins, USA
- Geert-Jan Houben, Belgium
- Matthias Jarke, Germany
- Ralf Klamma, Germany
- Rob Koper, The Netherlands
- Stefanie Lindstaedt, Austria
- Peter Loos, Germany
- Erica Melis, Germany
- Riichiro Mizoguchi, Japan
- Enrico Motta, UK
- Gustaf Neumann, Austria
- Roy Pea, USA
- Juan Quemada, Spain
- Jeremy Roschelle, USA
- Vittorio Searanlo, Italy
- Peter Scott, UK
- Marcus Specht, The Netherlands
- Ralf Steinmetz, Germany
- Julita Vassileva, Canada
- Vincent Wade, Ireland
- Gerhard Weber, Germany

Organizing Chair:
- Constantin Makropolous, NCSR Demokritos, Greece

Organizing Committee:
- Peter Dolog, L3S Germany and Aalborg University Denmark
- Stella Dalamanga, NCSR Demokritos, Greece
- Vana Kamtsiou, NCSR Demokritos, Greece
- Uwe Thaden, L3S and University of Hannover
- Martin Wolpers, L3S Hannover and KU Leuven
- Helen Zabaka, NCSR Demokritos, Greece
Workshops – Overview

SUNDAY

9:00 - 10:00  Opening AM session
10:00 - 10:30 AM coffee break
10:30 - 12:30 Main AM Work
12:30 - 14:00 Lunch
14:00 - 15:30 Main PM Work
15:30 - 16:00 PM coffee break
16:00 - 18:00 Closing PM session

WORKSHOP 1  |  Sunday 01 October  |  Room KALIA
Blended learning and SMEs
Contact: Stephen Weizbelzahl, National College of Ireland  |  ectel@up2uml.org

WORKSHOPS 2  |  Sunday 01 October  |  Room ERATO
Making of the Future of Technology Enhanced Professional Learning
Contact: Tapio Koskinen, HUT  |  tapio.koskinen@dipoli.hut.fi

WORKSHOP 4  |  Sunday 01 October  |  Room POLYMNIA
Exploring the potentials of networked computing support for f2f collab. learning
Contact: Wouter van Diggelen, Utrecht University  |  W.vanDiggelen@fss.uu.nl

MONDAY

WORKSHOPS 6 + 8  |  Monday 02 October  |  Room KALIA
Joint International Workshop on Professional Learning, Competence Development and Knowledge Management
Contact: Martin Memmel, DFKI  |  memmel@dfki.uni-kl.de and Daniel Burgos, OUNL  |  Daniel.Burgos@ou.nl

WORKSHOP 7  |  Monday 02 October  |  Room ERATO
e-Failures
Contact: Erik Duval, KUL  |  erik.duval@cs.kuleuven.be

WORKSHOP 9  |  Monday 02 October  |  Room POLYMNIA
TEL Communities of Practice
Contact Nikos Karacapilidis, U Patras |  nikos@mech. upatras.gr

DOCTORAL CONSORTIUM  |  Monday 02 October  |  Room OURANIA
Contact Ralf Klamma, Germany and Katherine Maillet, INT Evry, France  |  ectel06@i5.informatik.rwth-aachen.de
Program – Overview

2. 10. 2006
20:00 - 22:00 Poster Reception/EU poster session

3. 10. 2006
9:00 - 10:00 Keynote 1: Chia Chen, Chair: Wolfgang Nejdl • Room HERMES
10:00 - 10:30 Coffee Break
10:30 - 12:30 Learning Objects Models (4 full) Chair: Vania Dimitrova • Room HERMES
Student Modeling (2 full + 2 short) Chair: Peter Brusilovsky • Room ORPHEAS
Social Software and Collaboration (4 full) Chair: Stefanie Lindstaedt • Room POLYMNIA + OURANIA
12:30 - 14:00 Lunch
14:00 - 15:30 Emergent Topic in Metadata (2 full + 1 short) Chair: Riichiro Mizoguchi • Room HERMES
Workplace Learning (2 full + 1 short) Chair: Rob Koper • Room ORPHEAS
New Media and Games (2 full + 1 short) Chair: Ralf Klamma • Room POLYMNIA + OURANIA
15:30 - 16:00 Coffee Break
16:00 - 18:00 EU Session/Funding opportunities
20:00 - open end Conference dinner

4. 10. 2006
9:00 - 10:00 Keynote 2: Fabrizio Cardinali Chair: Klaus Tochtermann • Room HERMES
10:00 - 10:30 Coffee Break
10:30 - 12:00 Industry session • Room ORPHEAS
Personalization: Context Awareness and Evaluation (3 full) Chair: Paul de Bra • Room HERMES
Emerging Topics in Infrastructures (1 full + 2 short) Chair: Jim Greer • Room POLYMNIA + OURANIA
Coffee Break
12:30 - 13:30 Industry session • Room ORPHEAS
Personalization: Context Awareness and Evaluation (2 full) Chair: Eelco Herder • Room HERMES
Emerging Topics in Infrastructures (1 full + 1 short) Chair: Daniel Olmedilla • Room POLYMNIA + OURANIA
13:30 - 15:00 Lunch
15:00 - 16:30 Integration of distributed learning repositories (3 full) Chair: Erik Duval • Room HERMES
Infrastructures for Creating and Delivering Learning (3 full) Chair: Rosa M. Carro • Room ORPHEAS
Collaboration and Collaborative Learning (3 short) Chair: Effie Law • Room POLYMNIA + OURANIA
16:00 - 16:30 Coffee Break
16:30 - 17:30 Emergent Topic in Metadata (1 full + 1 short) Chair: Juan Quemada • Room HERMES
Workplace Learning (1 full + 1 short) Chair: Katarina Leiking • Room ORPHEAS
Advanced Technology Enhanced Learning (1 full + 1 short) Chair: Tomaz Klobucar • POLYMNIA + OURANIA
17:30 - 18:00 Closing • Room HERMES
Doctoral Consortium Program

9:00 - 10:00 Opening session

- Welcome words from Katherine Maillet and Ralf Klamma
- Olga Fragou, University of Athens (NKUA): Aspects of personalization in language learning process and greek literacy in an environment based on New Technologies National and Kapodistrian

10:00 - 10:30 Coffee break

10:30 - 12:30 Creation and Sharing of Technology Enhanced Learning Content

- Marek Meyer, SAP Research: Modularization of Existing Learning Resources for Repurposing
- Mark Melia, Dublin City University: Semantically-enabled Model Driven Course Composition
- Carmen L. Padrón Nápoles. Universidad Carlos III de Madrid. MD2 Method: The Didactic Materials Development from a Model perspective
- Christopher Brooks & Paul Libbrecht: University of Saskatchewan: Publication of Distributed Linked Content

12:30 - 14:00 Lunch

14:00 - 15:30 Technology Enhanced Learning Practice

- Marc Spaniol, RWTH Aachen: Community Hypermedia in Collaborative and Self-reflective E-learning Applications
- Marco Kalz, Open University of the Netherlands, Educational Technology Expertise Center (OTEC): Positioning of Learners in Learning Networks with Content Analysis, Metadata and Ontologies
- Olga C. Santos, National University for Distance Education (UNED): Technology Enhanced Life Long eLearning for All

15:30 - 16:00 Coffee break

16:00 - 17:00 Retrieve and Measure Technology Enhanced Learning

- Peter Scheir, Know-Center Graz: Associative retrieval of resources for work-integrated learning: Integrating domain knowledge with content-based similarities
- Xavier Ochoa, Escuela Superior Politécnica del Litoral: Metrics for Learning Object Metadata

17:00 - 18:30 Open PhD Forum
Poster Reception/EU poster session

2. 10. 2006, 20:00 - 22:00

Magi Almirall, Muriel Garreta:
Made-To-Measure Learning Materials

Ricardo Amorim, Eduardo Sanchez, Manuel Lama:
The problem of LD execution and the need for an IMS LD Level B Ontology

Faical Azouaou, Cyrille Desmoulins:
Taking teaching context into account for semantic annotation patterns

Francesco Bellotti, Jaroslava Mikulecka, Linda Napoletano, Hana Rohrova:
Designing a Constructionistic Framework for t-learning

Giancarlo Bo:
Advanced Personalized Learning and Training Applications Through Mobile Technologies and Services

Aldo Bongio, Jan van Bruggen, Stefano Ceri, Valentin Cristea, Peter Dolog, Andreas Hoffman, Maristella Matera, Marzia Mura, Antonio Taddeo, Xuan Zhou:
COOPER: Towards A Collaborative Open Environment of Project-centred Learning

An-Pen Chen, Hsiao-Ya Chiu:
Design of Web-Based Financial Learning Environment

David Diez, Camino Fernandez, Juan Manuel Dodero:
Towards An Effective Instructional Engineering Analysis Method

Wouter van Diggelen:
The Lead Project: Networked-Computing Support for Face-to-Face Collaborative Learning

Gilles Doiron:
On-Campus Blended Learning: Using Discussion Forums for Peer Collaboration on Tutorial Assignments

Patrick Erren, Reinhard Keil:
Semantic Positioning as a Means for Visual Knowledge Structuring

Fabrizio Giorgini, Volker Zimmermann, Nils Faltin, Luk Vervenne:
Time2Competence: the PROLIX project

Kai Hakkarainen, Liisa Ilomäki, Sami Paavola, Hanni Muukkonen, Hanna Toivainen, Hannu Markkanen, Christoph Richter and the KP-Lab Research and Development Community
Design Principles and Practices for the Knowledge-Practices Laboratory (KP-Lab) Project

Jin Gou, Yangyang Wu, Wei Luo:
Knowledge Fusion: A New Method to Share and Integrate Distributed Knowledge Sources

Jelena Jovanovic, Dragan Gasevic, Christopher Brooks, Colin Knight, Griff Richards, Gordon McCalla:
Ontologies to Support Learning Design Context
Poster Reception/EU poster session
2. 10. 2006, 20:00 - 22:00

Christopher Kew:
**TENCompetence: Lifelong learning and competence development**

Stefanie Lindstaedt, Harald Mayer:
**A Storyboard of the APOSDLE Vision**

Konstantinos Liotsios, Stauros Demetriadis, Andreas Pomportsis:
**Blended Learning Technologies In Lifelong Education: Lessons Learned From A Case Study**

Barbara Kieslinger, Fridolin Wild, Onur Ihsan Arsun:
**iCamp - The Educational Web for Higher Education**

Soo-Hwan Kim, Han Sun-Gwan, Kim Hae-Young:
**The Study on Effective Programming Learning using Wiki Community Systems**

Einat Lotan-Kochan:
**Analysing Graphical-Based Electronic Discussions: Evaluation of Students’ Activity on Digalo**

Erica Melis, Jeffrey Haywood, Tim J. Smith:
**LeActiveMath**

Paola Monachesi, Lothar Lemnitzer, Kiril Simov:
**Language Technology for eLearning**

Anke Mündler, Frank McCurry, Peter Haber, Enrique Benimeli Bojarull:
**An Approach for Online Assessment in the multinational EU Project:**
**POOL Project Organisation OnLine**

Marta Rey-Lopez, Ana Fernandez-Vilas, Rebeca P. Diaz-Redondo, Jose J. Pazos-Arias:
**Extending SCORM to Create Adaptive Courses**

Claudia Roda, Thierry Nabeth:
**The AtGentive project: Attentive Agents for Collaborative Learners**

Olga C. Santos, Jesus G. Boticario:
**Meaningful pedagogy via covering the entire life cycle of adaptive eLearning in terms of a pervasive use of educational standards: the aLFanet experience**

S. Sotiriou, S. Anastopoulou, S. Rosenfeld:
**CONNECT: using advanced technologies to connect formal and informal learning**

Stefaan Ternier, Xavier Ochoa, Gonzalo Parra, Erik Duval:
**A Context-Aware Service Oriented Framework for finding, recommending and inserting learning objects**

Yannis Tzitzikas, Vassilis Christophides, Giorgos Flouris, Dimitris Kotzinos, Hannu Markkanen, Dimitris Plexousakis: **Trialogical E-Learning and Emergent Knowledge Artifacts**

Juergen Wind, Angele Giulino:
**ARISE - Augmented Reality in School Environments**

Martin Wolpers, Gunnar Martin, Margit Hofer:
**Professional Learning in Europe and beyond**
### Keynote 1: Chia Chen: From Clicks to Touches: Enabling Face-to-Face Shared Interface

**Chair:** Wolfgang Nejdl

#### Learning Objects Models (4 full)

- **Chair:** Vania Dimitrova
  - Kris Cardinaels, Erik Duval, Henk Olivier: A Formal Model of Learning Object Metadata
  - Yusuke Hayashi, Jacqueline Bourdeau, Riihicho Mizoguchi: Ontological Support for a Theory-Eclectic Approach to Instructional and Learning Design
  - Carmen L. Padron, Paloma Diaz, Ignacio Aedo: MD2 Method: The Didactic Materials Creation from a Model based Perspective

#### Student Modeling (2 full + 2 short)

- **Chair:** Peter Brusilovsky
  - Claus Zinn, Oliver Scheuer: Getting to know your Student in Distance Learning Contexts
  - Michelle C. Desmarais, Michel Gagnon: Bayesian Student Models Based on Item to Item Knowledge Structures
  - Zinan Guo, Jim Greer: Electronic Portfolios as a Means for Initializing Learner Models for Adaptive Tutorials
  - Urko Rueda, Mikel Larrañaga, Ana Arruarte, Jon A. Elorriaga: DynMap+: a Concept Mapping Approach to Visualize Group Student Models

#### Social Software & Collaboration (4 full)

- **Chair:** Stefanie Lindstaedt
  - Ralf Klamma, Marc Spaniol, Yiwei Cao, Matthias Jarke: Pattern-Based Cross Media Social Network Analysis for Technology Enhanced Learning in Europe
  - Harald Selke: Knowledge Management in Schools - From Electronic Schoolbag To Social Software
  - Albert A. Angehn, Thierry Nabesh: The L2C Project: Learning to Collaborate through advanced SmallWorld Simulations
  - Marek Meyer, Tomas Hildebrandt, Christoph Rensing, Ralf Steinmetz: Requirements and an Architecture for a Multimedia Content Re-Purposing Framework

### Lunch

### Emergent Topic in Metadata (2 full + 1 short)

- **Chair:** Riihicho Mizoguchi
  - Torsten Holmer, Andrea Kienle, Martin Wessner: Explicit referencing in learning chats: needs and acceptance
  - Sabine Graf, Taiyu Lin, Lynn Jeffrey, Kinshuk: An Exploratory Study of the Relationship between Learning Styles and Cognitive Traits
  - Colin Milligan, Phillip Beauvoir, Mark Johnson, Paul Sharpley, Scott Wilson, Oleg Libers: Developing a Reference Model to describe the Personal Learning Environment

### Workplace Learning (2 full + 1 short)

- **Chair:** Ralf Klamma
  - Andreas Kábel, Andreas Auwarter, Milos Kravcik: Interactive Guided Factory Tours for School Classes
  - Nicolas Manin, Sebastien George, Patrick Prevot: Virtual Learners’ Behaviours in Educational Business Games
  - Andreas Schmidt, Simone Braun: Context-Aware Workplace Learning Support: Concept, Experiences, and Remaing Challenges

### New Media and Games (2 full + 1 short)

- **Chair:** Ralf Klamma
  - Davies, Romana Krizova, Daniel Weiss: EMAPPS.COM: Games and Mobile Technology in Learning
  - Ivan Martinez-Ortiz, Pablo Moreno-Ger, Jose Luis Sierra, Baltasar Fernandez-Manjon: Production and Deployment of Educational Videogames as Assessable Learning Objects
  - Marek Meyer, Tomas Hildebrandt, Christoph Rensing, Ralf Steinmetz: Requirements and an Architecture for a Multimedia Content Re-Purposing Framework

### Coffee Break

### European Research 2007/2013 - Round table debate, Chair: Patricia Manson - HoU

- Patricia Manson, EC
- Wolfgang Nejdl, L3S, Germany
- Rob Koper, OU NL, The Netherlands
- Barbara Kieslinger, CSI, Austria

### Conference dinner
## Keynote 2: Fabrizio Cardinali: Innovating eLearning and Mobile Learning Technologies for Europe’s Future Educational Challenges, Theory and Case studies

*Chair: Klaus Tochtermann*

### Industry session

**V. Zimmermann:** „Learning Solutions for Personal Effectiveness: An integrated approach of Business, Competency and Learning Process Management“

**E. Herder:** „The role of social software in knowledge intensive work“

**L. Vervenne:** „The NedCar Employment ePortfolio system, Core of a new HR policy“

### Personalization: Context Awareness and Evaluation (full)

**Chair: Paul De Bra**

**E. Lai-Chong Law,** **Tomaz Klou, Hit, Matic Pippin:** User Effect in Evaluating Personalized Information Retrieval Systems

**R. Klima, M. Spaniol,** **Yiwei Cao:** Community Aware Content Adaptation for Mobile Technology Enhanced Learning

**M. Biellikova, P. Nagy:** Considering Human Memory Aspects for Adaptation and Its Implementation in AHA!

### Emerging Topics in Infrastructures (1 full + 2 short)

**Chair: Jim Greer**

**L. Panasse,** **Alexander Korapidis,** **Dimitra Pappa,** **Mauro Santalmasi,** **Wolfgang Volz:** Simulation as Efficient Support

**D. Olmedilla:** Mobile and Skills Based Learning Content Management Solutions for PALS, Personal Ambient Learning Systems.

**E. Martin,** **R. M. Carro,** **P. Rodriguez:** A Mechanism to Support Context-based Adaptation in M-learning

**T. Serif,** **L. Stergioulas,** **G. Ghinea,** **M. Matsos,** **C. Makropoulos,** **S. Tsekeridou,** **T. Tiropanis:** Satellite-enabled Interactive Education: Scenarios and Systems Architectures

### Coffee Break

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### Lunch

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### Integration of distributed learning repositories (full)

**Chair: Erik Duval**

**Ingo Brunkhorst,** **Daniel Olmedilla:** Interoperability for Peer-to-Peer Networks: Opening P2P to the rest of the World

**Ivan Madjarov,** **Omar Boucelma:** Data and Application Integration in Learning Content Management Systems: a Web Services Approach

**Philipp Kaeger,** **Carsten Ulrich,** **Erica Melis:** Integrating Learning Object Repositories Using a Mediator Architecture

### Infrastructures for Creating and Delivering Learning (full)

**Chair: Rosa M. Carro**

**P. De Bra,** **D. Smits,** **N. Stash:** Creating and Delivering Adaptive Courses with AHA!

**E. Busetti,** **G. Dettori,** **P. Forcheri,** **M. Grazia Ierardi:** Promoting teachers collaborative re-use of educational materials

**M. Kambouri,** **H. Mellar,** **K. Logan:** Adult Learners and ICT: an intervention study in the UK

### Collaboration and Collaborative Learning (short)

**Chair: Effie Law**

**C. Brooks,** **R. Panesar,** **J. Greer:** Awareness and Collaboration in the iHelp Courses Content Management System

**M. Brito,** **G. Nobrega,** **K. Oliveira:** Integrating instructional material and teaching experience into a teachers collaborative Learning Environment

**T. Daradoumis,** **L. Casillas:** A Neural Approach for Modeling the Inference of Awareness in Computer-Supported Collaboration

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<th>Time</th>
<th>Session</th>
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<td>16:30 - 17:00</td>
<td>Emergent Topic in Metadata (1 full + 1 short)</td>
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<td>Chair: Juan Quemada</td>
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<td>Jesus M. Gonzalez-Barahona, Vania Dimitrova, Diego Chaparo, Chris Tebb,</td>
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<td>Teofilo Romero, Luis Canas, Julika Matravers, Styliani Kleanthous:</td>
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<td>Towards Community-Driven Development of Educational Materials: The Edukalibre Approach</td>
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<td>17:00 - 18:00</td>
<td>Workplace Learning (1 full + 1 short)</td>
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<td>Chair: Katarina Leiking</td>
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<td>Renate Motschnig-Pitrik: Two Technology-Enhanced Courses Aimed at Developing Interpersonal Attitudes and Soft Skills in Project Management</td>
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<td>18:00</td>
<td>Advanced Technology Enhanced Learning (1 full + 1 short)</td>
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<td>Chair: Tomaz Klobucar</td>
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<td>Andreas Harrer, Giorgos Kahrinonis, Sam Zeini, Lars Bollen, Nikolaos Avouris: Is there a way to e-Bologna? Cross-National Collaborative Activities in University Courses</td>
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<td>Claus Pahl, Mark Melia: Semantic Modelling of Learning Objects and Instruction</td>
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<td>Armin Ulbrich, Peter Scheir, Stefan Lindstaedt, Manuel Görtz:</td>
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<td>The 3spaces Meta-Model and the APOSDEL User-Context-Model:</td>
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<td>Fostering Work-Integrated Learning Support</td>
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<td>Ji Hu, Dirk Cordel, Christoph Meinel: New Media for Teaching Applied Cryptography and Network Security</td>
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<td>Closing: Wolfgang Nejdl, Klaus Tochtermann, Constantin Makropoulos</td>
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**WEDNESDAY, 4. OCTOBER 2006**

**Closing:** Wolfgang Nejdl, Klaus Tochtermann, Constantin Makropoulos