Introduction

Welcome to the 2007 Kaleidoscope Symposium, a celebration, reflection and exploration of the major achievements of four years collaboration amongst and between over 90 technology enhanced learning research labs and organisations from across Europe.

The purpose of Kaleidoscope has been to build upon the foundations of Technology Enhanced Learning in the European Research area. This is with regard to the instruments and mechanisms for coordination and for the inner dynamics of this special field of knowledge. Our aim is to demonstrate some of the concrete achievements of our collective efforts.

We offer keynote speeches from distinguished speakers who we can expect to outline some key conceptualisations of the TEL field. We will also be presenting state-of-the-art contributions from a wide-range of Kaleidoscope collaborative activities, representing themes such as computer supported collaborative learning, computer supported inquiry learning, learning with mobile devices and many others.

Day Two of the Symposium has largely been dedicated to the theme of collaboration between researchers and different stakeholders from the private and educational sectors. We look forward to you joining us in our efforts in taking significant steps forward in the creation of new pathways to more productive learning during this, our 2007 Kaleidoscope Symposium.

Kind regards,
Sten Ludvigsen,
Scientific Manager, Kaleidoscope NoE and Director, InterMedia, University of Oslo, Norway
MONDAY 26 NOVEMBER

09.00 OPENING OF SYMPOSIUM AND PLENARY SESSION

Chairperson: Prof. Sten Ludvigsen, Scientific Manager, Kaleidoscope NoE
Patricia Manson, "Learning and Cultural Heritage" Head of Unit, European Commission
Prof. Roger Säljö, Göteborg University, Sweden

Technologies and the Transformation of Learning: from Rock Paintings to Digital Tools

10.30 COFFEE

11.15 PLENARY SESSION

Magdalena Claro, Organisation for Economic Co-operation and Development (OECD), France

Comparative Evidence about the New Millennium Learners

12.30 LUNCH

14.00 DISCUSSION SESSIONS

Charlottenburg I Computer-Supported Collaborative Learning: State-of-the-Art and Future Perspectives
Charlottenburg II Interactive Learning Environments for Arithmetic and Algebra: the TELMA Approach
Charlottenburg III Construct a Constructive Learning Experience with CIEL

Schöneberg Computer Based Interaction Analysis Supporting Participants of Technology Mediated Activities: Achievements and Prospects

DEMONSTRATION SESSIONS

Köpenick III 14.00 – CoSICLLE/MOSIL 14.45 – IWT-GA

15.15 COFFEE

15.45 DISCUSSION SESSIONS

Charlottenburg I Mobile Learning and Beyond
Charlottenburg II Analysing Networked Learning Practices within Higher Education and Continuing Professional Development
Charlottenburg III Designing New Paths for Learning: the Interplay Between Improvisation and Structure

Schöneberg Redesigning a Web-Based Platform for Inquiry-Oriented Teaching and Learning

DEMONSTRATION SESSIONS

Köpenick III 15.45 – Gate for Collaboration 16.30 – ENLACE

17.00 COFFEE

17.15 PRESENTATIONS BY AWARD FINALISTS

Charlottenburg I Technology Transfer Award
European Starting Researcher in Technology Enhanced Learning (TEL) Award

Charlottenburg II Press and Communications Award

Charlottenburg III Scientific Quality Criteria for Technology Enhanced Learning Research

Knowledge, Learning, Communication, Networks, addressing the Philosophy of Technology Enhanced Learning

DEMONSTRATION SESSIONS

Köpenick III 17.15 – GIDDER 18.00 – Digital Narrative Tool & Stop-Motion Animations on Mobile

18.30 END DAY 1

TUESDAY 27 NOVEMBER

09.00 PLENARY SESSION

Chairperson: Prof. Mike Sharples, Learning Sciences Research Institute, University of Nottingham, UK
Prof. Frank Fischer, LMU/Munich, Germany Learning through Scripted Discussion
Dr. Vanda Luengo, University Joseph Fourier, Grenoble, France Knowledge Design Centred for TEL Systems
Prof. Diana Laurillard, London Knowledge Lab, Institute of Education, UK

Scientific Vision Statement

10.30 COFFEE

11.30 STAKEHOLDER DISCUSSION SESSIONS

Charlottenburg I E-Learning Industry and the Impact of R&D in Technology Enhanced Learning
Charlottenburg II Shaping the Use of ICT in Schools through R&D in Technology Enhanced Learning
Charlottenburg III Research Priorities linked to the Use of Technology in Higher Education

Schöneberg Lifelong Learning and the Impact of R&D in Technology Enhanced Learning

DEMONSTRATION SESSIONS

Köpenick III 11.30 – AMULETS 12.00 – TITLE 12.30 – Cruislet DDA

13.00 LUNCH

14.30 STAKEHOLDER DISCUSSION SESSIONS

Charlottenburg I E-Learning in Industry and the Impact of R&D in Technology Enhanced Learning (Continued)
Charlottenburg II Shaping the Use of ICT in Schools through R&D in Technology Enhanced Learning (Continued)
Charlottenburg III Research Priorities linked to the Use of Technology in Higher Education (Continued)

Schöneberg Lifelong Learning and the Impact of R&D in Technology Enhanced Learning (Continued)

DEMONSTRATION SESSIONS

Köpenick III 14.30 – MoPIX (Mobile Learning) 15.00 – MaLT 15.30 – Aplusix

16.00 COFFEE

16.30 PLENARY SESSION WITH FEEDBACK FROM DISCUSSION SESSIONS

Chairperson: Prof. Diana Laurillard, London Knowledge Lab, Institute of Education, UK
Prof. Barbara Wasson, InterMedia, University of Bergen, Norway
Prof. H. Ulrich Hoppe, University Duisburg-Essen, Germany
Roger Blamire, European Schoolnet, Belgium
Prof. Roberto Carneiro, Portuguese Catholic University, Portugal
Fabrizio Cardinali, ELIG, Belgium & Giuntilabs, Italy

17.45 END DAY 2
DISCUSSION SESSIONS

Computer-Supported Collaborative Learning: State-of-the-Art and Future Perspectives

14.00 – 15.15
Room: Charlottenburg I

- Prof. Frank Fischer, (Moderator) LMU/Munich, Germany
- Prof. Sanna Järvelä, University of Oulu, Finland
- Prof. Berner Lindström, UGOT, Sweden
- Prof. Paul A. Kirschner (Discussant), Utrecht University, The Netherlands

Over the last years, Kaleidoscope researchers have been joining efforts to improve knowledge accumulation in the multidisciplinary field of computer-supported collaborative learning (CSCL). Major outcomes are three state-of-the-art reports from a cognitive, a socio-cultural as well as a technology & design perspective. Beyond reviewing and summarising main research findings, the state-of-the-art papers emphasise key future research challenges. After short presentations of the three papers, a discussant’s statement will initiate a discussion on state-of-the-art and future challenges in CSCL.

http://cscl.noe-kaleidoscope.org

Interactive Learning Environments for Arithmetic and Algebra: the TELMA Approach

14.00 – 15.15
Room: Charlottenburg II

- Dr. Rosa Maria Bottino, Consiglio Nazionale Ricerche, Istituto Tecnologie Didattiche, Italy
- Prof. Michèle Artigue, Université Paris Diderot – Paris 7, France
- Dr. Michele Cerulli, Consiglio Nazionale Ricerche, Istituto Tecnologie Didattiche, Italy
- Dr. Jana TrgaloVa, MeTAH-LIG, University of Grenoble, France
- Dr. Chronis Kynigos, Educational Technology Lab, National and Kapodistrian University of Athens, Greece

The session will be focused on the work carried out by TELMA teams in the area of technology enhanced learning in mathematics during Kaleidoscope. In particular, the synergy established among teams will be emphasized through the presentation of the cross experimentation methodology and the analysis of interactive learning environments for mathematics education that has been elaborated by TELMA. The impact and value of the work will be discussed taking into account ongoing developments.

http://telma.noe-kaleidoscope.org

Construct a Constructive Learning Experience with CIEL

14.00 – 15.15
Room: Charlottenburg III

- Dr. Wouter van Joolingen, University of Twente, The Netherlands
- Prof. Barbara Wasson, InterMedia University of Bergen, Norway
- Dr. Muriel Ney, Université Joseph Fourier, Grenoble, France
- Prof. Ulrich Hoppe, University Duisburg-Essen, Germany

CIEL aims at changing views on science education by exploiting synergy between existing technological and pedagogical approaches to inquiry and experiential learning. This has lead to a proof of concept in the domain of forest management that demonstrates this active integration by connecting heterogeneous tools in one collaborative scenario. In this session, participants will take the role of scenario designers by generating and exploring the value of configurations of tools and workflows to support advanced modes of learning.

http://http://www.cielproject.eu

Computer Based Interaction Analysis Supporting Participants of Technology Mediated Activities: Achievements and Prospects

14.00 – 15.15
Room: Schöneberg

- Prof. Angelique Dimitracopoulou, LTEE laboratory, University of the Aegae, Greece
- Prof. Agathe Merceron, University of Applied Sciences (TFH) Berlin, Germany
- Dr. Judith Schoonenboom, Universiteit van Amsterdam/Sco-Kohnstamm Instituut, The Netherlands
- Prof. Yannis Dimitriadis, University of Valladolid, Spain

Computer based interaction analysis is an emerging field aiming at supporting participants in technology mediated activities directly (e.g. offering visualized information for self-regulation purposes) or indirectly (e.g. adapting the environment). The purpose of the session is firstly to outline the main theoretical concepts, methods and tools that were developed, secondly to discuss on the prospects of the field, and finally to reflect on the integration achieved by the synergy of Kaleidoscope NoE scientists, during different joint research activities.

http://www.itee.gr/IA_Kaleidoscope_Symposium

Mobile Learning and Beyond

15.45 – 17.00
Room: Charlottenburg I

- Dr. Jocelyn Wishart, Graduate School of Education, University of Bristol, UK
- Prof. Mike Sharples, Learning Sciences Research Institute, University of Nottingham, UK
- Inmaculada Arnedillo-Sánchez, Centre for Research in IT in Education (CRITE), Trinity College Dublin, Ireland
- Dr. Marcelo Milrad, Center for Learning and Knowledge Technologies, Vägjö University, Sweden
- Prof. Barbara Wasson, InterMedia, University of Bergen, Norway

This session will show how Mobile Learning research has impacted upon learners, both children and lifelong, across Europe. Working together in the Kaleidoscope Special Interest Group has enabled us to identify three underpinning themes to our research, those of constructivist, conversational and collaborative learning theories. This synergy will first be illustrated by examples of mobile learning research from lead institutions and then demonstrated through audience participation in an introduction to the Mobile Learning Special Interest Group’s work on futures planning.

http://mlearning.noe-kaleidoscope.org/

Analysing Networked Learning Practices within Higher Education and Continuing Professional Development

15.45 – 17.00
Room: Charlottenburg II

- Prof. Nina Bonderup Dohn, University of Southern Denmark, Denmark
- Prof. Lone Dirckinck-Holmfeld, e-Learning Lab, Aalborg University, Denmark
- Dr. Christopher Jones, Open University, UK

This session will present the value produced by the European Research Team (ERT) on Conditions for Productive Networked Learning Environments. Combining the excellence of 9 European research labs has led to a synergetic collaboration, the concrete result of which is book Analysing Networked Learning Practices in Higher Education and Continuing Professional Development, ready in preprint for the session. The session will be organized as presentations of theoretical concepts and case studies by members of the ERT with invited researchers not part of the ERT acting as ‘panel discussants’. Invited discussants are Prof. Vivien Hodgson, Lancaster University, UK and Prof. Timothy Koschmann, Southern Illinois University School of Medicine, USA.

http://www.ell.aau.dk/Kaleidoscope.48.0.html
MONDAY 26 NOVEMBER – DISCUSSION SESSIONS

Designing New Paths for Learning: the Interplay Between Improvisation and Structure

15.45 – 17.00 Room: Charlottenburg III

- Prof. Antonio Rizzo, University of Siena, Italy
- Dr. Chronis Kynigos, University of Athens, Greece
- Filippo Fanò, University of Limerick, Ireland
- Dr. Linda Napoletano, University of Siena, Italy
- Prof. Mario Barajas, University of Barcelona, Spain
- Dimitrios Vlachopoulos, University of Barcelona, Spain

This session is organised by the European Research Team (ERT) on Educational Format. Since the 40’s, the lesson plan identifies a standard structure of fixed elements to manage an educational activity without taking into account the context in which learning occurs. The concept of educational format challenges this notion. It is intended to work as a guideline to design for learning experiences rather than rigidly combine pre-scheduled activities. Educational format aims to provide learning designers with a conceptual tool for “setting the scene” to ground the joint construction of meaning into tailored learning environments, allowing for educators’ improvisation and students’ creation of sound educational paths.

http://www.unisi.it/dida/kaleidoscope/

Redesigning a Web-Based Platform for Inquiry-Oriented Teaching and Learning

15.45 – 17.00 Room: Schöneneberg

Chairperson: Prof. Ton de Jong, University of Twente, The Netherlands

Presentations by:
- Dr. Eleni Kyza, University of Cyprus, Cyprus
- Prof. Zacharias Zacharia, University of Cyprus, Cyprus

Comments by:
- Prof. Frank Fischer, LMU/Munich, Germany
- Prof. Angelique Dimitracopoulou, LTEE Laboratory, University of the Aegean, Greece
- Dr. Wouter van Joollingen, University of Twente, The Netherlands

This session will focus on the design of inquiry-support software environments for teaching and learning. Specifically, an inquiry-support software platform, namely, STOCHASMOs, will be discussed by a panel of experts in the design of technology-supported learning environments. The aim is to identify innovative features and also to propose what experts would have done differently if they were asked to re-design this environment, based on current knowledge.

http://www.stochasmos.org/nqcontent.cfm?a_id=792

Scientific Quality Criteria for Technology Enhanced Learning Research

17.15 – 18.30 Room: Charlottenburg III

- Prof. Diana Laurillard, London Knowledge Lab, Institute of Education, UK
- Prof. Lone Dirckinck-Holmfeld, e-Learning Lab, Aalborg University, Denmark

Interdisciplinary and multidisciplinary research and new means for communicating research through open archives and web 2.0 tools are challenging the traditional way of judging, disseminating and promoting scientific work. Kaleidoscope has set-up a Scientific Quality Committee with internationally recognized researchers from within and outside Kaleidoscope to work out recommendations for the TEL-area. This session will use this work as a basis upon which to discuss criteria, strategies and tools for ensuring high quality TEL research.
IWT-GA Demos
14.45 – 15.15
Room: Köpenick III
Nicola Capuano, University of Salerno, Italy

Grid technologies are capable of providing the right answers to the needs rising from the emerging ubiquitous learning solutions. This demo will show two different systems: a state-of-the-art e-learning system named Intelligent Web Teacher (IWT) and its prototype evolution based on Grid Technologies named IWT Grid Aware (IWT-GA). The comparison between the two systems will demonstrate the added value of Grid-based e-learning solutions.

http://grid.noe-kaleidoscope.org

Gate for Collaboration
15.45 – 16.15
Room: Köpenick III
Johanna Bluemink, Research Unit for Educational Technology, University of Oulu, Finland

The purpose of this demo is to present how a virtual multiplayer game “Gate for Collaboration” can be used as a catalyst for distributed teams in their shared activities. Currently there is an increasing need to create new solutions for distributed teams to ease the knowledge construction and multiplayer games could offer a rich medium for collaborators that engages players and creates a strong common context. The development of this tool is based on modern research on collaborative learning (e.g. Dillenbourg & Traum, 2006) which gives a theoretical understanding about the phenomena of how a group of people understand each other. In this demonstration we present a video and results from the Gate research experiment, which was arranged in May 2007. The aim of the experiment was to study how to enhance collaboration in teams in terms of stimulating perspective-taking and coordination of activities.


ENLACE
16.30 – 17.00
Room: Köpenick III
Carlos Celorio and J.Emilio Lorenzo, Universidad Nacional de Educación a Distancia (UNED), Spain

The project seeks to facilitate the synergy of technology and situated study in a variety of scenarios, where students and teachers use diverse tools on a range of devices, from mobile ones (e.g. wireless PDAs) to interactive blackboards, as well as desktop computers or laptops either at school, at home, or on a field trip. The project is carried out with teachers in a secondary school and SEO/Birdlife. A pilot, with the supporting technology for a set of collaborative learning activities across the curriculum (music, natural sciences, maths, chemistry…) is currently in place.


Gidder is a research design project that is part of the interdisciplinary ‘Digital Design’ initiative at UiO. In this project, wiki and mobile phone technologies are combined to support high school students interpreting works of contemporary art across two settings, classroom and museum.


Digital Narrative Tool (DNT) & Stop-Motion Animations on Mobile (SMART)
18.00 – 18.30
Room: Köpenick III
Inmaculada Arnedillo-Sánchez, CRITE, Trinity College, Dublin, Ireland

We are exploring the design and development of applications for mobile devices that are underpinned by Constructivist, Constructionist, Collaborative and Contextual learning principles. Digital Narrative Tool (DNT) and Stop-Motion Animations on Mobile (SMART) are two examples of these type of applications. The DNT support the production of a film entirely shot on mobile phones. The application runs on PCs and mobile phones and it supports the collaborative generation of storyline, it generates the ‘script’ and it allows distributed groups of participants to ‘shoot’ and edit in parallel by transferring media from the shooting location to the editing station through MMS.

SOCIAL EVENT

Kaleidoscope Evening Event Hosted by the Technische Universität Berlin (TU Berlin)
Including the Announcement and Presentation of Kaleidoscope Awards
19.30
Location: Technische Universität Berlin (TU Berlin), Main Building, Room H 104, Straße des 17. Juni 135, 10623 Berlin (buses are available to take participants to TU Berlin leaving InterContinental Hotel at 19.15)

Chairperson: Dr. Rosa Maria Bottino, Consiglio Nazionale Ricerche, Istituto Tecnologie Didattiche, Italy
Welcome: Dr. Ulrike Guthel, Chancellor and Chief Information Officer (CIO), Technische Universität Berlin
Presentation: Prof. Sten Ludvigsen, Scientific Manager, Kaleidoscope NoE Learning Across Sites: Crossing Boundaries with Digital Resources

Announcement and presentation of awards
Invitation to the Evening Reception: Dr. Martina Roth, Director Education EMEA, Intel
Open Innovation in eLearning and Research

This session will be followed by a reception sponsored by Intel Education
TUESDAY 27 NOVEMBER

STAKEHOLDERS DISCUSSION SESSIONS

E-Learning Industry and the Impact of R&D in Technology Enhanced Learning

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<th>Time</th>
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<td>11.30 – 13.00</td>
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- Moderator: Daniel Burgos, Atos Origin, Spain
- Rapporteur: Eugene ScolFiori, Grenoble School of Management, France

The purpose of this session is to highlight challenges, opportunities and obstacles for interpreting outstanding research results/opportunities and transferring them to the Technology Enhanced Learning industry (e.g. educational content producers, learning platform developers, training consultants, training centres, etc.).

Complementary to this, one of the discussion outcomes is hoped to be the formulation of new research priorities for the TEL industry.

We aim at stimulating a dialogue among leading academics and TEL development/provision industry representatives (including SMEs) to enrich and validate research priorities and findings formulated by researchers of the Kaleidoscope Network that are relevant for the exploitation of training and education products and services.

This discussion session will address these and other issues related to communication and knowledge transfer between the academic world and industry.

We will focus in particular on the following topics:
- A shared understanding of academic research outcomes, as well as their value and limits with respect to technology transfer and deployment
- A consensus on the priorities of basic research in the context of global competition, and the way these priorities relate to industry and users’ needs and expectations
- A better balance between long term research and pre-competitive R&D

During the morning session, stakeholder representatives will work together in small groups to formulate a set of written statements on the following issues:
- Relevance of the above mentioned themes to their needs and their current activity
- Relevance of The Kaleidoscope Scientific Vision to their activities
- Ways to improve communication and stakeholder participation in the formulation of research priorities
- Suggestions for improving and enhancing the impact of TEL research
- Expectations of new pathways for research developments relevant to the TEL industry (including SMEs)

During the afternoon session, the Moderator will discuss the statements produced in each group, to prioritise and to collate the issues that have emerged. These will then be brought forward to the plenary session at the end of the day.

The output of the session will be published online and will contribute to the final version of the Kaleidoscope Scientific Vision document to be published at the end of the project.

Resource people invited to take part in this session include:
- Iain Bitran, Enterprizer Technologies Ltd., UK
- Patricia Valinho, Ydreams, UK
- Volker Zimmerman, IM-C, Germany
- Juan Fernández Vaquero, Enred Consultores, Spain

Shaping the Use of ICT in Schools through R&D in Technology Enhanced Learning

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- Moderator: Mario Barajas, University of Barcelona, Spain & Rossella Magli, CampoRosso, Belgium
- Rapporteur: Kathy Kikis-Papadakis, IACM-FORTH, Greece

The purpose of this session is to highlight challenges, opportunities and obstacles for interpreting outstanding research results/opportunities and transferring them into mainstream school practices. Complementary to this, one of the workshop outcomes is hoped to be the formulation of new research priorities for the school of the future.

We aim at stimulating a dialogue among leading academics, school practitioners, representatives, policymakers and the TEL industry to enrich and validate research priorities and findings formulated by researchers of the Kaleidoscope Network that are relevant for the field of initial education.

We will focus in particular on some of the emerging research topics, such as:
- Technology-enhanced narrative learning environments
- Creating new learning paths and roles through the use of social technologies: from mobile learning technologies to social software
- The role of TEL in disrupting and re-thinking the physical spaces of formal education and opening up their relationship with informal learning contexts

During the morning session, stakeholder representatives will work together in small groups to formulate a set of written statements on the following issues:
- Relevance of the above mentioned themes to their needs and their current activity
- Relevance of The Kaleidoscope Scientific Vision to their activities
- Ways to improve communication and stakeholder participation in the formulation of research priorities
- Suggestions for enhancing the impact of TEL research
- Expectation on new pathways for research developments relevant for initial education

During the afternoon session, we will discuss the statements produced in each group, to prioritize and to collate the issues that have emerged. These will then be brought forward to the plenary session at the end of the day.

The output of the session will be published online and will contribute to the final version of the Kaleidoscope Vision Statement to be published at the end of the project.

Resource people invited to take part in this session include:
- Inmaculada Arnedillo-Sánchez, Centre for Research in IT in Education (CRITE), Trinity College Dublin, Ireland
- Prof. Roni Aviram, The Center for Futurism in Education, Ben Gurion University, Israel
- Roger Blamire, European Schoolnet, Belgium
- Friederich Scheurmann, JRC-IPSC, Italy
TUESDAY 27 NOVEMBER – STAKEHOLDER DISCUSSION SESSIONS

**Research Priorities linked to the use of Technology in Higher Education**

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- **Moderator:** Walter Kugemann, FIM New learning, Germany
- **Rapporteur:** Prof. Roumen Nikolov, University of Sofia, Bulgaria & Karsten Stegmann, LMU/Munich, Germany

The purpose of this session is to discuss, enrich and validate research priorities and findings in the field of higher education formulated by members of the Kaleidoscope Network with leading academics, users and user representatives, policy-makers and TEL product and service industry representatives.

Several of the Kaleidoscope research priorities and findings in the field of higher education are summarised below:

- Higher education can be enriched by game-based learning and interactive and collaborative online environments in which users can create and negotiate new ideas or representations of their practice.
- Universities need to explore ways of collaborating with the digital industries to embed research in commercial products, and to bring commercial funding into research development.
- There is a need to develop doctoral training and pilot services that support TEL research at Masters and PhD levels across Europe.
- It is fundamental to focus on the most suitable combination of Collaborative, Mobile and Inquiry Learning into higher education.
- Technology should support teachers and lecturers in collaborative ‘open teaching’ that transforms them into players in a community of innovation and discovery, sharing and building on each others’ outputs.
- Higher education stakeholders should create open research communities, born from the members’ own ideas and projects, using social software and social networking tools.

During the morning session, stakeholder representatives concerned with the Higher Education Sector will work together in small groups to formulate a written statement on the following issues:

- Relevance of research activities to their needs and their current activity.
- Relevance of The Kaleidoscope Scientific Vision to the activities of stakeholders in this sector.
- Follow up pathways for research priorities.
- Ways to improve communication of research priorities to those working in the Higher Education Sector.
- Suggestions for enhancing the impact of TEL research in this sector.

During the afternoon session, the moderator of this session will discuss the statements with the whole group in order to prioritise and collate the written statements from each small group producing a report which will then be brought forward to the plenary session at the end of the day.

The outputs of this discussion session will be collated and published online and will contribute to the final version of the Kaleidoscope Vision Statement published at the end of the project.

Resource people invited to take part in this session include:

- **Prof. Herman J. Van der Merwe,** Tshwane University of Technology, South Africa
- **Etelberto Lopes da Costa,** UCP Lisbon, Portugal

**Lifelong Learning and the Impact of R&D in Technology Enhanced Learning**

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- **Moderator:** Prof. Roberto Carneiro, Portuguese Catholic University, Portugal
- **Rapporteur:** Annemie Boonen, ELIG, Belgium

The purpose of this session is to discuss, enrich and validate research priorities and findings in the field of lifelong learning formulated by members of the Kaleidoscope Network with leading academics, users and user representatives, policy-makers and TEL product and service industry representatives.

Several of the Kaleidoscope research priorities and findings in the field of lifelong learning are summarised below:

- Research is needed to address professional learning and training, based on highly realistic and interactive simulations, microworlds and role-play environments, allowing a deep immersion in virtual and/or augmented reality, providing access to the acquisition of embodied knowledge.
- Research must contribute to the “decompartmentalisation” of learning practices and examinations and assessment both at school and in the work-place in order to validate informal learning.
- It is fundamental to focus on the most suitable combination of Collaborative, Mobile and Inquiry Learning to promote lifelong learning.
- Innovative ways of validating informal and non formal Technology Enhanced Learning.
- Ways to make TEL environments more effective to support the development of literacy, linguistic and numeracy skills?

During the morning session, stakeholder representatives concerned with the Lifelong Learning Sector will work together in small groups to formulate a written statement on the following issues:

- Relevance of research activities to their needs and their current activity.
- Relevance of The Kaleidoscope Scientific Vision to the activities of stakeholders in this sector.
- Follow up pathways for research priorities.
- Ways to improve communication of research priorities to those working in the Lifelong Learning Sector.
- Suggestions for enhancing the impact of TEL research in this sector.

During the afternoon session, the moderator of this session will discuss the statements with the whole group in order to prioritise and to collate the written statements from each small group which will then be brought forward to the plenary session at the end of the day.

The outputs of this discussion session will be collated and published online and will contribute to the final version of the Kaleidoscope Vision Statement published at the end of the project.

Resource people invited to take part in this session include:

- **Tapio Koskinen,** TKK Dipoli, Finland
- **Carl Holmberg,** Swedish Agency for Flexible Learning, Sweden
**TUESDAY 27 NOVEMBER**

**DEMONSTRATION SESSIONS**
(all located in room Köpenick III)

### Advanced Mobile and Ubiquitous Learning Environment for Teachers and Students (AMULETS)

**Room: Köpenick III**

- Dr. Marcelo Milrad, CeLeKT, Växjö University, Sweden

We are exploring how teachers can develop and implement novel educational scenarios combining outdoor and indoor activities that use ubiquitous computing and mobile technologies together with desktop computers. Since June 2006, 55 elementary school children and 18 teacher students from Växjö university have conducted outdoor activities equipped with smartphones, PDAs and GPS devices in the fields of natural science, history and geography. The educational scenarios consisted of different stages with game-like features. At the end of the outdoor learning sessions, these activities can be reconstructed in the classroom using several visualization tools, including digital maps. These types of activities provide new opportunities for children, students and teachers to review learning and supporting different aspects of learning such as exploration, discussion, argumentation, collaboration and reflection.

http://www.cel receptory.info/projects/show/11

### Transmedia Interactive Television Learning Environment (TITLE)

**Room: Köpenick III**

- Ralph Barthel, Learning Sciences Research Institute, University of Nottingham, UK

TITLE (Transmedia Interactive Television Learning Environment) is a learning and knowledge building environment in which users create and co-construct interactive video narratives. TITLE extends existing social software applications to design enhanced narrative resources. It augments teaching through interaction patterns that support active knowledge construction, exploration and reflection. TITLE supports a new form of collaboration to build cognitive artefacts for learning and discourse in communities.

http://www.lslri.nottingham.ac.uk/title

### Cruslet DDA

**Room: Köpenick III**

- Dr. Chronis Kynigos, NKUA/ETL National Kapodistrian University Of Athens, Educational Technology Lab, Dept. of Education, School of Philosophy, Greece

The Cruslet environment is conceived as a digital medium for mathematically driven navigations in virtual 3-D geographical spaces containing geo-spatial information. Cruslet is actually a microworld designed to provide students with the ability to be involved in exploratory activities focusing on the development of the notion of navigational mathematics. During the demonstration, the main functionalities of the Cruslet environment will be interrelated with the use of a pedagogical scenario.

http://remath.cti.gr

### MoPix (Mobile Learning)

**Room: Köpenick III**

- Niall Winters, London Knowledge Lab, Institute of Education, UK

In this demonstration we present MoPix, a mobile game-based learning environment for mathematics education. MoPix will allow participants at the Symposium to build, inspect, edit, execute, monitor, and share dynamic visual models. These models can be executed to produce animations, interactive simulations, or small physics-based games. Learners using MoPix relate to equations as a means of expressing themselves creatively. Equations empower MoPix users to make interacting objects move, spin, and change size, colour and shape. Objects can leave trails as they move. Interactive applications and games can be created containing objects whose behaviour is a function of the state of the mouse or keyboard. MoPix can be used for “serious” purposes such as implementing (and learning about) Newtonian mechanics or for playful creations of colourful animated works of art. Collaborative creations are well supported due to the extreme modularity of applications built upon algebraic equations. MoPix is part of ReMath, an EU-funded FP6 project that aims to address the problem of wide ranging dissatisfaction with the state of mathematics education in Europe and the weak impact of R&D work on using digital technologies for its improvement. For more information, including a full list of project partners, please see: http://remath.cti.gr

http://www.lkii.ac.uk/mopix

### MachineLab Turtleworlds (MaLT): Programmable Constructions in 3d Geometrical Space

**Room: Köpenick III**

- Dr. Giorgos Psycharis, Educational Technology Lab, National and Kapodistrian University of Athens, Greece

“MachineLab Turtleworlds (MaLT) is a programmable constructionist environment which provides means for the creation and exploration of interactive simulations in 3-D geometrical space using multiple linked representations and functionalities to facilitate spatial thinking, 3-D visualisation, symbolic expression and dynamic manipulation of geometrical objects. The presentation of MaLT in the Kaleidoscope 2007 Symposium will be based on the presentation of its main functionalities and some exemplary scenarios concerning its educational use.

http://remath.cti.gr

### Aplusix: Algebra Learning Assistant

**Room: Köpenick III**

- Prof. Jean-François Nicaud, University of Grenoble 1, France

Aplusix is a new sort of software for arithmetic and algebra which lets students solve exercises and provides feedback. The demonstration will present the four modes of the system (training, test, self-correction and observation), the combination of commands and students’ calculations, the tools for the teachers and a tree feedback. The demonstration will present the four modes of the system (training, test, self-correction and observation), the combination of commands and students’ calculations, the tools for the teachers and a tree feedback.

http://aplusix.imag.fr
In addition, the CSCL Special Interest Group is organising a PhD display area outside the Charlottenburg rooms.

**Display areas**

**Demos**

1. Collaborative Learning Special Interest Group (CSCL)
2. Narrative and Learning Environments (NLE)
3. Computer-Supported Scripting of Interaction in Collaborative Learning Environments (CoSSICLE)
4. Designing for Technology Enhanced Learning in Museums (MUSTEL)
5. TEL and Medical Learning
6. Mobile Learning Special Interest Group
7. Efficient Context-Aware Collaborative Learning (Coll@ware)
8. Integrated Digital Language Learning (IDILL)
9. TRAILS
11. Learning Grid
12. Kaleidoscope’s Inventory of Research Objects (KAL-IRO)
13. Methodology and Tools for Experimentation Scenario (MATES)
14. Centralised Data Repository
15. TeLearn: Bringing worldwide visibility to your TEL research
16. Graduate Student Resource Hub in Design Research in Education
17. Virtual Doctoral School (VDS/TELDA)
18. New Partners in TEL

In the registration area located in the Foyer Conference Center

**Room Legend**

- Plenary and Discussion Rooms
- Display Area
- Demonstrations
The symposium office is on the First Floor of the Conference Centre in Room Humboldt