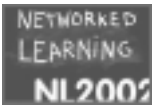
Scientific Program



Congress Schedule

Wednesday 1st May

		Room
12:00 – 17:00	Registration	
13:00 – 14:00	Coffee will be available	Registration area
14:00 – 17:00	WORKSHOP **'Production and Delivery of Multimedia Courses for Internet Based Virtual Education'** organized by Karl Kurbel, Iouri Loutchko and Alexei Pakhomov European University Viadrina Frankfurt (Oder), Germany	H2036

Thursday 2nd May

		Room
08:00– 18:00	Registration	
09:15 – 09:30	Opening	H2032
09:30 – 10:30	KEYNOTE SPEECH **'New Aspects of eLearning'** by Prof. Dr. Dr.h.c. Herman Maurer, Head of IICM (Graz U. of Technology) and HMS (JR) and Chief Scientist of KNOW	H2032
10:30 - 11:00	Coffee break	Exhibition area
	PARALLEL TECHNICAL SESSIONS	
11:00 – 12:00	**Collaborative Networked Learning I** short papers	H2035
11:00 – 13:00	**Organization of Networked Learning I** regular papers	H2036
12:30 – 13:30	Lunch	Mensa
13.30 - 15.00	SPECIAL SESSION "NATIONAL AND INTERNATIONAL E-LEARNING PROGRAMS" - Dr. Hans G. Klaus, Director, Gov. Program, Implementation Agency, Fraunhofer Gesellschaft, Sankt Augustin, Germany: **"New Media in Education: A German Government Program and its Implementation"** - Prof. Dr. Peter Stucki, Dean, Faculty of Economics, Business Administration and Information Technology, University of Zurich and President, Steering Committee Swiss Virtual Campus, Switzerland: **"The Swiss Virtual Campus Impulse Programme"** - Jens Christensen, Deputy Head of Unit "Multimedia Applications for Education and Training" Directorate General, Information Society, European Commission, Luxembourg: **Title to be confirmed**	H2032

		Room
	PARALLEL TECHNICAL SESSIONS	
13:30 – 14:50	**Tools and Architectures for Networked Learning I**	H2035
13:30 – 15:00	**Virtual Laboratories I**	H2036
15:00 - 15:30	Coffee break	Exhibition area
	PARALLEL TECHNICAL SESSIONS	
15:30 – 17:30	**Collaborative Networked Learning II**	H2036
15:30 – 16:30	**Tools and Architectures for Networked Learning II**	H2035
15:30 – 17:30	**Virtual Laboratories II**	H2037
18:00 – 19:30	Welcome reception at the university	Presidential suites and the exhibition area

Friday May 3rd

		Room
09:00 – 17:00	Registration	
09:00 – 10:00	PLENARY SPEECH **"The future of work and learning in distributed e-company networks"** by Joachim Doering, President, Siemens AG, Information and Communication Networks, Group Strategy, Munich, Germany:	H2032
10:00 - 10:30	Coffee break	Exhibition area
	PARALLEL TECHNICAL SESSIONS	
10:00 – 12:50	**Adaptivity in Networked Learning**	H2035
10:30 – 12:30	**Globalization of Networked Learning**	H2036
10:30 – 12:30	**Organization of Networked Learning II**	H2037
12:30 – 13:30	Lunch	Mensa
13:30 – 14:30	PLENARY SPEECH **"Value Enhancement by Converting KarstadtQuelle into a Learning Organization"** by Dr. Joerg Heistermann, Director Research & Strategy, KarstadtQuelle New Media AG, Essen, Germany.	H2032
	PARALLEL TECHNICAL SESSIONS	
14:30 – 16:00	**Design and Development of Networked Learning I**	H2035
14:30 – 16:00	**Tools and Architectures for Networked Learning III**	H2036
14:30 – 15:30	**Virtual Laboratories III**	H2037
16:00 - 16:30	Coffee break/ Poster session	Exhibition area

		Room
	PARALLEL TECHNICAL SESSIONS	
16:30 – 18:00	**Collaborative Networked Learning III**	H2035
16:30 – 17:50	**Organization of Networked Learning III**	H2037
16:30 – 18:00	**Tools and Architectures for Networked Learning IV**	H2036

Break

20:00 – 23:00 Congress Dinner at the Wirtshaus Schildhorn

KEYNOTE SPEECH

"Palm-Sized Devices Are the PC of Choice for Education"

by Cathleen Norris, University of North Texas, Denton, TX, and Elliot Soloway, University of Michigan, Ann Arbor, MI

Saturday May 4th

		Room
09:00 – 12:30	Registration	
	TECHNICAL SESSION	
09:00- 11:30	**Design and Development of Networked Learning II**	H2036
11:15 - 11:45	Coffee break	Exhibition area
	PARALLEL TECHNICAL SESSIONS	
11:30 – 13:10	**Design and Development of Networked Learning III**	H2036
11:30 - 12:50	**Organization of Networked Learning IV**	H2035
12:30 – 14:00	Lunch	Mensa
14:00 – 16:00	Optional sightseeing tour of Berlin.	

Additional information

The registration desk is located next to the session rooms: H2035, H2036, H2037
Please note that all participants must contact the registration/hospitality desk upon arrival.
Please register as early as possible to avoid rush prior to the opening session.
The desk will be staffed at the following times:

Wednesday, May 1st	12.00 – 17.00 hrs
Thursday, May 2nd	08.00 – 18.00 hrs
Friday, May 3rd	09.00 – 17.00 hrs
Saterday, May 4th	09.00 - 12.30 hrs

Each participant will receive full documentation and proceedings, if ordered, at the conference.
Please check the website for details under http://www.icsc-naiso.org (registration)

Computer room

For the delegates of the conference computers are available to check emails. The computers are located ? and will be accessible during conference hours.
Signage will direct you to the room.

Coffee breaks and lunches

All coffee breaks will be held in the exhibition area.
Lunches will be served at the Mensa.
Please do not hesitate to ask the staff at the registration desk if you have any questions.

Welcome reception and dinner

The welcome reception will be at the Technical University in the Presidential Suites and the exhibition area.

The congress dinner will take place at the Wirtshaus Schildhorn. In order for us to be able to arrange transportation for you, we need to know where you are staying. If you have not booked a room through NAISO and you have not yet indicated what hotel you are staying, please sign-up for transportation at the registration desk before coffee in the morning of May 3rd.

Berlin City Tour

A tour by bus through Berlin will be organized. The tour is optional. If you wish to participate, please sign up at the registration desk before coffee in the morning of May 3rd.

Detailed program

Wednesday 1st May

WORKSHOP

'Production and Delivery of Multimedia Courses for Internet Based Virtual Education'

Karl Kurbel, Iouri Loutchko and Alexei Pakhomov
European University Viadrina Frankfurt (Oder), Germany

Business Informatics POB 1786
D-15207 Frankfurt(Oder), Germany
{kurbel, loutchko, pakhomov}@euv-frankfurt-o.de

Time: 14:00 – 17:00
Room: H2032

Abstract
This workshop concentrates on producing multimedia-based courses by means of currently available low-cost technologies and making them available for students over the Internet. We will demonstrate how videos can be recorded, converted and compressed and how they can be synchronized with accompanying slides or screen recordings. For delivery over the Internet, a range of transmission speeds on the way from the video server to the student's computer have to be taken into account. This means that several versions of the same video course have to be provided to cope with the range from fast (like ADSL) to very slow (like 28.8 kbps modem) Internet access.

OUTLINE OF THE WORKSHOP

1 Discussion of Tools and Technologies
The tools and technologies which can be used for the production, processing, compression, and delivery of non-uniform multimedia materials over the Internet are discussed. Special attention is paid to the problem of automatic synchronization of different types of multimedia sources.

2 Online Presentation of Video Courses from the Master of Business Informatics Program
Several examples of previously recorded courses are presented and discussed. This includes the website of the course, online lectures, linking videos, schedule and exercises, interaction features, etc. The presentation is based on material from the online MBI courses "Introduction to Programming" and "Java Programming".

3 Demonstration of Production of Video Courses

Within the workshop, a part of the session will be recorded and processed in order to produce a streaming video. This will be done online as in a real production, using all the tools and appliances discussed previously. We will go all the way from recording with a digital camera to providing the result for access on the Internet.

Thursday 2nd May

KEYNOTE SPEECH

'New Aspects of eLearning'

by Prof. Dr. Dr.h.c. Herman Maurer
Head of IICM (Graz U. of Technology) and HMS (JR) and Chief Scientist of KNOW

Time: 09:30 – 10:30
Room: H2032
Chair: Prof. Dr. Wolffried Stucky

Abstract
In this talk it will be argued that a paradigm shift in eLearning is becoming more and more visible: for a long time eLearning was just a networked extension of earlier CBT/CAI efforts. However, traditional approaches in eLearning are now seen as not sufficient and are being replaced or supplemented by techniques from knowledge management. In particular, the view of courseware as a fairly static repository of learning material is being challenged by a much more dynamic view: courseware "automatically" improves and grows over time by observing user behaviour and by new clustering and similarity-recognition techniques: some of those are based on formal methods, others on elements of expert systems. In addition to how courseware is seen it is also becoming clear that active and personalised usage of material is as essential for eLearning as it is for modern digital libraries.

In this talk we will give a broad overview of a number of novel concepts and we will show how similar techniques have to be applied in eLearning Environments, in Knowledge Management and in Digital Libraries.

Thursday 2nd May

Collaborative Networked Learning I (short papers)

Time: 11.00 – 12.00
Room: H2032
Chair: Dr. Akihiro Kashihira

11.00 - 11.20
#100029-03-CB-065
'Application sharing in teaching context with wireless networks'
Cora Burger, University of Stuttgart, IPVR, Germany
Stella Papakosta, University of Stuttgart, IPVR, Germany
Kurt Rothermel, University of Stuttgart, IPVR, Germany

11.20 - 11.40
#100029-03-WE-072
'Games for co-operation in virtual environments'
Jens Hoheisel, University of Bremen, BIBA, Germany
Wolfgang Echelmeyer, University of Bremen, BIBA, Germany

11.40 - 12.00
#100029-03-CT-107
'Distance learning using IP videoconferencing services: A practical experience'
Carlos Turró Ribalta, Politechnical University of Valencia, Spain
Miguel Ferrando Bataller, Politechnical University of Valencia, Spain

Thursday 2nd May

Organization of Networked Learning I (regular papers)

Time: 11.00 – 13.00
Room: H2036
Chair: Prof. Shahla Keyvan

11.00 - 11.30
#100029-03-PA-032
'Training of Online-Facilitators as a Key Issue in Implementing Telematic Learning: Organizational Approach and Course Design within the Virtual University of Applied Sciences, Germany'
Patricia Arnold, University of the Bundeswehr, Germany
Lars Kilian, University of the Bundeswehr, Germany
Anne Thillosen, University of the Bundeswehr, Germany

11.30 - 12.00
#100029-03-EC-037
'Virtualisation of Coursework at the University of Cape Town'
Eric Cloete, University of Cape Town, South Africa

12.00 - 12.30
#100029-03-JS-038
'Virtuous virtual learning - pedagogical issues in moving teachers from place to space in management education'
John Symons, Henley Management College, United Kindgom

12.30 - 13.00
#100029-03-SK-114
'Virtual Teachning and Learning for Digital Business Skills'
Bernd Hirsch, University of Bremen, BIBA, Germany
Sébastien Kicin, University of Bremen, BIBA, Germany
Tilo Hamann, University of Bremen, BIBA, Germany
Wolfgang Echelmeyer, University of Bremen, BIBA, Germany

Thursday 2nd May

SPECIAL SESSION
"NATIONAL AND INTERNATIONAL E-LEARNING PROGRAMS"

Time: 13:30 – 15:00
Room: H2032
Chair: Prof. Dr. Karl Kurbel

'New Media in Education: A German Government Program and its Implementation'

Dr. Hans G. Klaus
Director, Gov. Program, Implementation Agency, Fraunhofer Gesellschaft, Sankt Augustin, Germany:

Abstract
The German Federal Government has launched a comprehensive funding program regarding the promotion of new media in education. Federal funds up to the amount of about 150 million EURO have been earmarked for the program covering the period from 2000 to 2004.

The objective is to develop a new quality of web-based training arrangements with digital content using the potential of multimedia technology. Projects, solicited for funding have to be in line with these criteria and, in addition have to prove how such innovative e-learning arrangements are to be sustainably integrated into regular teaching and learning structures.

Under the umbrella of this government program a number of calls for proposals related to teaching environments of schools, universities and vocational training institutions have been launched and more than 120 project consortia have been put in place. Results of the calls for proposals, success factors, funding criteria and examples of project proposals will be presented.

Thursday 2nd May

'The Swiss Virtual Campus Impulse Programme'

Prof. Dr. Peter Stucki
Dean, Faculty of Economics, Business Administration and Information Technology, University of Zurich and President, Steering Committee Swiss Virtual Campus, Switzerland: stucki@ifi.unizh.ch, http://www.unizh.ch/fakultaet/oec

Summary
Both society and technology have changed markedly and permanently in the last few decades. The unavoidable consequences of this development have a great influence on the ways in which both teaching staff and students analyse knowledge, single out what is relevant to a particular problem, extrapolate information and data therefrom and finally make use of these in a profitable manner. Utilisation of new media can positively support this type of learning and comprehension.
The goal of the Swiss Virtual Campus (SVC) Impulse Programme is the formation and support of responsible bodies for the development and use of Internet based e-study modules at higher-level academic institutions in Switzerland (Universities, Federal Institutes of Technologies and Universities of Applied Sciences). For the years 2000-2003 a budget of ca. CHF 50 million has been made available by the Confederation and the various institutions involved, to be used for a total of approx. 50 projects.
Organisation and realisation of the SVC Impulse Programme is under the direction of the Swiss University Conference (SUC), and the SVC Steering Committee is responsible for implementing the guidelines. This task requires uniform programme management, but also means keeping track of a hypernet of 50 networked individual projects or mini-SVCs in a multitude of academic areas. It means the co-ordination of few constants but a great many variables.
The prerequisites for successful deployment of new forms of teaching and learning are many. Of central importance is crediting completed e-work done by students by means of credit points. Equally vital is flexibility in setting up courses of study from the various offerings, which is made possible by the introduction of phased degree programmes (Bologna model). The success of the SVC Impulse Programme is also highly dependent on the conditions and criteria for sustainability of the SUC, the project teams, the faculties and departments and the educational institutions involved. These are discussed individually.
New technologies create the basis for the conception of new applications. From these arise new beneficial possibilities, which awaken new demands and new behaviour, and these are generally difficult to quantify. It may be that when the SVC Impulse Programme ends it will have created not only sustainable results but also results with potential for improvement. Early recommendations for a SVC consolidation programme for the years 2004-2007 are therefore outlined.

Thursday 2nd May

'R&D on Technology Enhanced Learning
Role, Activities and Targets of the European Commission'

Jens Christensen
Deputy Head of Unit, "Multimedia Application for Education and Training"
Directorate General, Information Society, European Commission, Luxembourg:

Biography
Born 1942.10.23 in Copenhagen, Denmark.
Citizenship: Danish
Present residence: Luxembourg
Mater of Science, Mechanical Engineering, from Denmark's Technical University, 1968, and MBA(Management and Organisation Theory) from Copenhagen Business University, 1973.

He is at present Principal Scientific Officer in the "Information Society Technologies Programme" for Research and Technological Development in the Commission of the European Communities, Directorate General Information Society, Directorate Content, Multimedia Tools and Market, Unit for Applications in Education and Training.

He is Deputy Head of Unit particularly responsible for the Action Line on "Life long Learning" and co-ordinates the unit's "International Activities". He has been with the European Commission since 1988 working in the European Union's research funding Frame Work Programmes in the areas of Health Care, Disabled and Elderly, Public Administrations and since the beginning of 1999 in Education and training. The Frame Work Programmes support European Research and Technological Development Projects applying information and communication technology in various sectors of society.

Before joining the European Commission Mr. Christensen worked as a senior systems analyst for the "Municipal Hospital Service of Copenhagen" and as senior consultant in "Birch & Krogboe, Consultants and Planners", Denmark, in charge of developing and implementing larger hospital communication and information systems, patient records systems, and laboratory information systems. He worked in Saudi Arabia as a consultant to the Danish Board of Health (Ministry of Health) over a longer period.

He is co-founder and main editor of the book series "Studies in Health Technology and Informatics" from IOS Press, NL. At present the series consists of more than 80 volumes.

Mr. Christensen is a member of "The Danish Society of Chemical, Civil, Electrical and Mechanical Engineers".
He is a member of the "Danish Society for Biomedical Engineering", and member of or associated to the board of the "Danish Society for Medical Informatics" since 1973.

Thursday 2nd May

Tools and Architectures for Networked Learning I (short papers)

Time: 13:30 – 14:50
Room: H2032
Chair: Prof. Jesus del Alamo

13.30 - 13.50
#100029-03-IB-007
'Multimedia teaching on WWW: a new approach'
Iva Bogdanova, Swiss Federal Institute of Technology (EPFL), Switzerland
Rizwan Khan, Swiss Federal Institute of Technology (EPFL), Switzerland
Murat Kunt, Swiss Federal Institute of Technology (EPFL), Switzerland

13.50 - 14.10
#100029-03-AS-020
'The Fraunhofer Knowledge Network (FKN) for Training in Critical Disciplines of Microelectronics Design'
Günter Elst, Fraunhofer Institute IIS/ EAS, Germany
Ludger Krahn, Fraunhofer Institute IZM, Germany
Werner John, Fraunhofer Institute IZM, Germany
Anton Sauer, Fraunhofer Institute IIS/ EAS, Germany

14.10 - 14.30
#100029-03-SB-042
'Online Delivery Tools to Support Teaching of Operating System Concepts'
Savitri Bevinakoppa, RMIT University, Australia

14.30 - 14.50
#100029-03-TD-071
'YoungNet – a Virtual Learning Community Platform for Youngsters'
Uwe Rotter, University of Stuttgart, IAT, Germany
Fabian Kempf, Fraunhofer IAO, Germany
Thomas Dietinger, Hyperwave, Austria
Georg Droschl, Hyperwave, Austria

Thursday 2nd May

Virtual Laboratories I (regular papers)

Time: 13:30 – 15:00
Room: H2036
Chair: Prof. Jesus del Alamo

13.30 - 14.00
#100029-03-TK-066
'A Trial Experiment for a Remote Laboratory between Japan and the U.S. using High-Speed Networks'
Tatsuya Kikuchi, Tokyo Metropolitan Institute of Technology, Japan
Shuichi Fukuda, Tokyo Metropolitan Institute of Technology, Japan
Akinobu Fukuzaki, Tokyo Metropolitan Institute of Technology, Japan
Keizou Nagaoka, National Institute of Multimedia Education, Japan
Kenji Tanaka, Communications Research Laboratory, Japan
Takashi Kenjo, Polytechnic University of Japan, Japan
Dale Harris, Stanford University, USA

14.00 - 14.30
#100029-03-MS-099
'Architectural Issues of a Remote Network Laboratory'
Marc-Alain Steinemann, University of Berne, Switzerland
Stefan Zimmerli, University of Berne, Switzerland
Thomas Jampen, University of Berne, Switzerland
Torsten Braun, University of Berne, Switzerland

14.30 - 15.00
#100029-03-VC-131
'Collaborative WebLab: Enabling Collaboration in an Online Laboratory'
Victor Chang, Massachusetts Institute of Technology, USA
Jesus del Alamo, Massachusetts Institute of Technology, USA

Thursday 2nd May

Collaborative Networked Learning II (regular papers)

Time: 15:30 – 17:30
Room: H2036
Chair: Prof. Narayana Jayaram

15.30 - 16.00
#100029-03-WB-013
'Usage of an Instant Messaging System in a University Learning Environment'
Werner Beuschel, University of Applied Sciences Brandenburg, Germany
Birgit Gaiser, University of Applied Sciences Brandenburg, Germany

16.00 - 16.30
#100029-03-VW-025
'Team-teaching and Team-learning on a Global Scale'
Debasish Dutta, University of Michigan, USA
Vlad Wielbut, University of Michigan, USA

16.30 - 17.00
#100029-03-WS-039
'Learning Virtual Collaboration in Teleseminars'
Müge Klein, Institute AIFB, University of Karlsruhe, Germany
Daniel Sommer, Institute AIFB, University of Karlsruhe, Germany
Wolffried Stucky, Institute AIFB, University of Karlsruhe, Germany

17.00 - 17.30
#100029-03-WF-053
'Recording and Replay Support for Asynchronous Learning Modes within a Distance Learning System'
Waleed Farag, Old Dominion University, USA
Hussein Abdel-Wahab, Old Dominion University, USA
Kurt Maly, Old Dominion University, USA
Michael Overstreet, Old Dominion University, USA
Christian Wild, Old Dominion University, USA
A. Gupta, Old Dominion University, USA
Ayman Abdel-Hamid, Old Dominion University, USA
Sahar Ghanem, Old Dominion University, USA
Brahmadatt Koodallur, Old Dominion University, USA

Thursday 2nd May

Tools and Architectures for Networked Learning II (short papers)

Time: 15:30 – 16:30
Room: H2035
Chair: Prof. Dr. Gerhard Knolmayer

15.30 - 15.50
#100029-03-LS-079
'Technological and Pedagogical Aspects of developing VORMS - a Virtual Course on Operations Research/Management Science'
Christine Frank, University of Paderborn, Germany
Leena Suhl, University of Paderborn, Germany
Lili Tan, University of Paderborn, Germany

15.50 - 16.10
#100029-03-AJ-082
'Experience of Plagiarism Detection and Prevention in Higher Education'
Caroline Lyon, University of Hertfordshire, United Kindgom
James Malcolm, University of Hertfordshire, United Kindgom

16.10 - 16.30
#100029-03-NS-103
'Cyber Class: from E-learning to E-Business'
Nikola Serbedzija, Fraunhofer FIRST, Germany

Thursday 2nd May

Virtual Laboratories II (regular papers)

Time: 15:30 – 17:30
Room: H2037
Chair: Prof. Dr. Guenther Pernul

15.30 - 16.00
#100029-03-HC-012
'Collaboratory for Macromolecular Crystallography at SSRL'
Hsiu-Ju Chiu, Stanford University, USA
Timothy McPhillips, Stanford University, USA
Scott McPhillips, Stanford University, USA
Kenneth Sharp, Stanford University, USA
Thomas Eriksson, Stanford University, USA
Nicholas Sauter, Stanford University, USA
Michael Soltis, Stanford University, USA
Peter Kuhn, Stanford University, USA

16.00 - 16.30
#100029-03-JT-017
'Towards Cost Effective On-Line Laboratories'
James Trevelyan, The University of Western Australia, Australia

16.30 - 17.00
#100029-03-SS-029
'"Information Technology Online" An Approach to eLearning in the Field of Control Systems Technology'
Sorn Stoll, Technical University of Clausthal, IEI, Germany
Christian Hopp, Technical University of Clausthal, IEI, Germany

17.00 - 17.30
#100029-03-JD-047
'The MIT Microelectronics WebLab: a Web-Enabled Remote Laboratory for Microelectronic Device Characterization'
Jesus del Alamo, Massachusetts Institute of Technology, USA
Lane Brooks, Massachusetts Institute of Technology, USA
Christopher McLean, Massachusetts Institute of Technology, USA
James Hardison, Massachusetts Institute of Technology, USA
Gary Mishuris, Massachusetts Institute of Technology, USA
Victor Chang, Massachusetts Institute of Technology, USA
Lisa Hui, Massachusetts Institute of Technology, USA

Friday May 3rd

PLENARY SPEECH

'The future of work and learning in distributed e-company networks'

by Joachim Doering,
President, Siemens AG, Information and Communication Networks, Group Strategy, Munich, Germany

Time: 09:00 – 10:00
Room: H2032
Chair: Prof. Dr. Hermann Krallmann

LIST OF THESIS:

Currently, in every industry new growth opportunities for knowledge businesses arise.
These opportunities cannot be seen through old economy eyes and not be seized by old economy hands.
With the deconstruction of known value chains, organizations need to shift from solid hierarchical structures to (e-) company-networks.
These organizations will be driven by e-lancers, mobile knowledge workers that can be seen as investors of human capital with a company-size of one.
To seize these opportunities, knowledge management and organizational development has to be far more than simple reengineering or IT-management.
The challenge: transformation towards international knowledge business, to service and people business, managed in networked organizations
Therefore organizational practices and knowledge management converge to one connected field of work: Transformation Management.

ON KNOWLEDGE:

1 Organizations today need to be prepared for the new quality of competition competition that characterizes this new era, the knowledge era.
2 We have to drive knowledge-based business transformation, i.e. (re-)invent the vision and strategy, the products, processes, structures and systems for the new business with know ledge.
3 Knowledge products are packaged values, that go hand in hand with the importance of of company culture and values. One important value is trust, which is the true infrastructure for a international knowledge business. Based upon this trust, professional knowledge-sha ring and -creation is key to innovative strength and profitability.
4 Professional means focussed and targeted, structured and thereby value generating exchan ge of (replicable) knowledge. The leveraging of local knowledge is one of the most impor tant sources of competitive advantage.

5 The key elements of professional global knowledge sharing are:
- valuable content, that enables decision making
- a structured global community of knowledgeable people with well defined knowledge targets
- technical systems that allows people to bridge geographical and time distances (enterprise systems, corporate portals, middle-ware, artificial intelligence, access technology, mobile systems, palms)
- a managerial system that encourages and supports the flow of knowledge and must be based upon suitable knowledge business models and processes.

ON ORGANIZATIONS:

1 Organizations increasingly have to master complex situations successfully. As complex adap tive systems these organizations will build on new sociological patterns and new processes and organizational structures.
2 Transactions will be managed in projects and innovations will be driven by communities (of practice) that cross organizational borders, functions, organizations and nations. Inside and outside the organization will become obsolete.

ONE OF MANY CHAPTERS: THE E-LANCERS (KNOWLEDGE WORKERS)

3 The core of these future organizations or, to call them by a more apt name, networks, will be e-lancers, knowledge workers that can be seen as investors and harvesters of their own intellectual capital.
4 Projects will be staffed with these e-lancers, based on there qualifications, experiences and social skills. The staffing and the project set-up will be managed by international switch boards, organizations, that can be commercial corps., non-commercial organizations or independent institutions.
5 Free competition in between e-lancers for projects and in between projects for e-lancers will be the basic principle. The qualifications and skills of the e-lancers will be evaluated and documented by objective and independent institutions.
6 The e-lancers will be self-responsible to further develop their intellectual capital through learning along their working processes and qualification through (e-) learning / training, provided by independent institutions.
7 It will be their responsibility to further leverage their intellectual capital through new assessments / certification processes, provided by independent institutions.
8 Important is the focus on the people and their capabilities, as investors of human capital instead of employees = the used ones.
9 Every e-lancer will be a member of one or more communities of practice to exchange knowledge and to further develop ideas to solution from ideas to inventions to innovations.
10 These communities are areas of trust, lead by facilitators who are voted in by the communi ty. Core community members provide “information carrier waves”, content that builds the base for further contributions of non-core members.

11 To make e-working and knowledge transfer in Europe a reality, legal and organizational barriers against knowledge transfer and virtual-organization has to be managed. A virtual state (Europe-land) can be a switchboard for the e-lancers that allows appropriate evalu ation, contracting and compensation. The knowledge transfer can be evaluated and compensated by an virtual European e-lancer currency (the e-uro).

ON TECHNOLOGY:

1 Projects will be by set-up and managed through e-team-platforms. These portals are open enterprise systems, based on the internet principle.
2 The portals allow to manage projects with international, distributed team-structures by providing applications such as: tasks, roadmaps, issues, calendar, polling, chat, discussion forums, document management, intelligent search capability, application sharing, information bartering systems and multimedia-exchange...
3 These portals will be based on open standards. They will include middleware that provides increasingly sophisticated agents to cover the basic work-requirements (e.g. searches) and allows ontology-documentation and ontology–matching to discover new ideas/innovations.
4 Therefore open transaction hubs and standard API with possibilities of machine to machine communication are required in future networks.
5 The target is business to business and e-lancer to e-lancer integration beyond the browser.
6 he e-lancers will share their knowledge (experiences, key learnings, best practices) through collaboration platforms, portals that that function as sharenets.
7 These web-based knowledge portals provide for example, ways to capture and codify know ledge along processes. They provide a structure (knowledge domains) that sets the captured information into context, realizes fast search and browsing techniques and provides mea ning to the content to support actions.
8 These web-based knowledge portals will also provide a community platform, that allows communities of practice to collaborate and innovate, e.g. with features like: news, discus sions forums, what's new, user directories, knowledge development sites, e-mail alerts, chat, classified advertising, shared bookmarks, incentives, review processes, ad-hoc workflows and knowledge payment systems...
9 E-learning will be provided by applications that are interactive and based on micro-modules to support learning at the workplace, that is adaptive to the e-lancers needs, qualifications and reactions.
10 E-team portals, web-based knowledge portals and e-learning applications will be inter-linked and hosted by a free ISP's. The applications will be hosted in national data-centers with broadband "local-dial in" possibility. All data-centers will be connected over broadband-networks.
11 As the e-lancers are mobile-workers (tele-workers) mobility and mobile access will be of key importance.
12 The transfer of portal-functions, such as directories, resource management or e-learning applications to mobile devices will give Europe a competitive advantage on the way to agility. Technical standards such as GPRS and UMTS will make multimedia usage of mobile applications possible and ad value to WAP as transmission standard.

ON THE INFORMATION AND KNOWLEDGE SOCIETY:

OPPORTUNITIES

1 The knowledge society is a decentralized society. Decisions are made in the cores of networks. The people who know decide, therefore better decisions are made
2 The knowledge society is self-regulating. More variables, freedom and information are available. This leads to responsible thinking and acting. The knowledge worker receives more power.
3 The knowledge society is global / transnational, knowledge crosses boundaries soundlessly. This brings out wealthfare and connects nations.
4 The knowledge society offers economies of scale not known today. The creation of knowledge and the invest into re-usability creates the possibility for unlimited re-use.
5 The knowledge society is an open society. Creative input and new ideas are welcome and never censored - as there are no censors. This constitutes a driving force for innovation.
6 The knowledge society creates additional degrees of freedom: Where, when and if work is performed is dependant on the knowledge workers themselves.

RISKS

1 Recentralizing: Incorrect decisions are made in the cores of the knowledge web, due to internal weakness. The carriers of know-how no longer decide: Poor decisions are made, resulting in ill defined power structures
2 Over- and understeering, missing steps for complexity reduction: Degrees of freedom will enable conscious or unconscious abuse or irresponsible actions.
3 Culture globalization and culture equalization: cultural differences and behavioral differences as a source of innovation and life quality become weakened. Even worse: unidirectional osmosis by a lead country culture.
4 Economies of scale create unemployment. Knowledge products are replicable by copy & paste or worse: automated copy & paste.
5 Censorship: The electronic filter deletes privacy in electronic communication. The employee becomes transparent.
6 Overload: Information overload leads to degree of information paralysis, no decisions are taken because constantly changing information hinders making a decision at all.

ACTION ITEMS

1 Identification, evaluation, and development of responsible, knowledgeable decision-makers in corporations, government and educational systems: A joint definition of new working profi les is necessary.
2 Replacement of obsolete steering mechanisms, by complexity-reducing orientation. Steering through chartas, stories and rules of conduct.
3 Establishing of a meta-culture (network yourself, copy from your neighbor, think and speak out as an international entrepreneur) while local characteristics and diversity remain.
4 Creation of employment with a local, individual adoption of knowledge products and pre

vention of complete automation of knowledge web cores.

5 Replacement of censorship by the market: knowledge capital markets (like patent offices) and new knowledge money markets (idea marketplaces) for identification and governing of valuable knowledge.

6 Generating new "work rules" for creating and using IT / virtuality for bridging the difference of time and space - but not replacing human intuition, interfacing and skills.

As nobody can predict the future these thesis are meant as a starting point for discussion to vision and to create our future (of work) together.

Contact:
Joachim Döring
Siemens AG
V.P. Information and Communication Networks
Head of Business Transformation
Hofmannstrasse 51
D-81359 Munich

Tel. +49 89 722 262 43
Fax. +49 89 722 617 44
E-Mail: joachim.doering@icn.siemens.de
Web: www.siemens.com

Friday May 3rd

Adaptivity in Networked Learning (short and regular papers)

Time: 10:00 – 12:50
Room: H2035
Chair: Prof. James Trevelyan

10.30 - 11.00
#100029-03-SH-054
'An Adaptive Navigation Support with Local Indexing for Web-based Learning'
Shinobu Hasegawa, Osaka University, Japan
Akihiro Kashihara, Osaka University, Japan
Jun'ichi Toyoda, Osaka University, Japan

11.00 - 11.30
#100029-03-AK-058
'A Navigation Path Preview for Web-based Learning'
Akihiro Kashihara, Osaka University, Japan
Ryoichi Suzuki, Osaka University, Japan
Shinobu Hasegawa, Osaka University, Japan
Jun'ichi Toyoda, Osaka University, Japan

11.30 - 11.50
#100029-03-GB-041
'Student Model Optimization using Evolutionary Computation Techniques'
Gregory Beligiannis, University of Patras, Greece
Kostantinos Giotopoulos, University of Patras, Greece
Spyros Likothanassis, University of Patras, Greece
George Paschalis, University of Patras, Greece
Panayotis Pintelas, University of Patras, Greece

11.50 - 12.10

#100029-03-LP-105

'Personalized Distance Learning in WINDS'

Marcus Specht, Fraunhofer-Gesellschaft, FIT, Germany
Milos Kravcik, Fraunhofer-Gesellschaft, FIT, Germany
Leonid Pesin, Fraunhofer-Gesellschaft, FIT, Germany
Roland Klemke, Fraunhofer-Gesellschaft, FIT, Germany

12.10 - 12.30

#100029-03-SK-128

'Artificial Intelligence and its Application in the next generation of Internet/Computer-based Learning Environment'

Shahla Keyvan, University of Missouri-Columbia, USA

12.30- 12.50

#100029-03-PN-147

'Optimizing and profiling users online with Bayesian probabilistic modeling'

Petri Nokelainen, Helsinki University of Technology, Finland
Henry Tirri, Helsinki University of Technology, Finland
Miikka Miettinen, Helsinki University of Technology, Finland
Tomi Silander, Helsinki University of Technology, Finland
Jaakko Kurhila, University of Helsinki, Finland

Friday May 3rd

Globalization of Networked Learning (regular papers)

Time: 10:30 – 12:10
Room: H2036
Chair: Prof. Michel Klein

10.30 - 11.00
#100029-03-JR-060
'Intercultural Challenges in Networked Learning: Hard Technologies Meet Soft Skills'
Leah Macfadyen, University of British Columbia, Canada
Mackie Chase, University of British Columbia, Canada
Kenneth Reeder, University of British Columbia, Canada
Jörg Roche, Ludwig Maximilians Universität München, Germany

11.00 - 11.30
#100029-03-IA-081
'Networked Learning and Developing Countries: Charles Sturt University Model'
Irfan Altas, Charles Sturt University, Australia
David Lindley, Charles Sturt University, Australia
Ali Yazici, Atilim University, Turkey

11.30 - 12.00
#100029-03-DC-144
'Understanding Globally-Distributed Collaborative Learning Between the United States and South Africa'
Derrick Cogburn, University of Michigan, USA

Friday May 3rd

Organization of Networked Learning II (regular papers)

Time: 10:30 – 12:30
Room: H2037
Chair: Prof. Dr. Hans Roeck

10.30 - 11.00
#100029-03-IH-055
'Evaluating Business Models for the Learning Process'
Igor Hawryszkiewycz, University of Technology, Australia

11.00 - 11.30
#100029-03-ES-056
'Arguments for Building Learning Communities in Higher Education – First Results of an Empirical Research'
Ildiko Balazs, Dresden University of Technology, Germany
Eric Schoop, Dresden University of Technology, Germany

11.30 - 12.00
#100029-03-MW-087
'E-MBA Initiative at Warwick Business School: A Study in Collborative Online Learning'
Michael Hammond, University of Warwick, United Kindgom
Mongkolchai Wiriyapinit, University of Warwick, United Kindgom
With the support from:
Ray Irving, University of Warwick, United Kindgom
Laura Quigley, University of Warwick, United Kindgom
Stuart Sutherland, University of Warwick, United Kindgom

12.00 - 12.30
#100029-03-EM-102
'How to Learn to eLearn?'
Esko Marjomaa, University of Joensuu, Finland
Sami Nikula, University of Joensuu, Finland

Friday May 3rd

PLENARY SPEECH

'Value Enhancement by Converting KarstadtQuelle into a Learning Organization'

by Dr. Joerg Heistermann
Director Research & Strategy, KarstadtQuelle New Media AG, Essen, Germany

Time: 13:30 – 14:30
Room: H2032
Chair: Prof. Dr Dimitris Karagiannis

No additional information available

Friday May 3rd

Design and Development of Networked Learning I (regular papers)

Time: 14:30 – 16:00
Room: H2035
Chair: Prof. A. Rolstadas

14.30 - 15.00
#100029-03-IG-027
'Systematic courseware development using an integrated engineering style method'
Ines Grützner, Fraunhofer Institute ESE, Germany
Dietmar Pfahl, Fraunhofer Institute ESE, Germany
Günther Ruhe, University of Calgary, Canada

15.00 - 15.30
#100029-03-FH-075
'Authoring and Linking of Highly Interactive Content within Web-based Courseware'
Frank Hanisch, University of Tübingen, WSI/ GRIS,, Germany

15.30 - 16.00
#100029-03-UL-085
'The Use of XML for the Development of an Adaptive Multimedia Teaching and Learning Systems'
Ulrike Lucke, University of Rostock, Germany
Djamshid Tavangarian, University of Rostock, Germany
Heide-Rose Vatterrott, University of Rostock, Germany

Friday May 3rd

Tools and Architectures for Networked Learning III (regular papers)

Time: 14:30 – 16:00
Room: H2036
Chair: Prof. Piotr Szczepaniak

14.30 - 15.00
#100029-03-SS-036
'WEBGen: a batch generator of web-based courseware'
Sergio Margarita, University of Torino, Italy

15.00 - 15.30
#100029-03-GS-083
'ISAAC: An Integrated Web-based Interactive System for Learning Basic Mechanics'
Gary Shyi, National Chung-Cheng University, Taiwan, R. O. C.
Tina Huang, National Chung-Cheng University, Taiwan, R. O. C.

15.30 - 16.00
#100029-03-ZA-095
'OTOS: A Turkish Tool For Students Delivering The Faculty Information Using WAP Technology'
Zeynep Altan, Istanbul University, Turkey
M. Nusret Sarisakal, Istanbul Universiry, Turkey

Friday May 3rd

Virtual Laboratories III (short papers)

Time: 14:30 – 15:30
Room: H2037
Chair: Prof. Jesus del Alamo

14.30 - 14.50
#100029-03-RL-023
'VILAB - A Virtual Electronic Laboratory for Applied Computer Science'
Rainer Lütticke, University of Hagen, Germany
Carsten Gnörlich, University of Hagen, Germany
Hermann Helbig, University of Hagen, Germany

14.50 - 15.10
#100029-03-PS-076
'Telerobotic Training System through the Web: A Case Study'
Raul Marín, JAUME-I University, Spain
Pedro Sanz, JAUME-I Univeristy, Spain

15.10 - 15.30
#100029-03-VR-113
'Virtual laboratories: A reference model and practical experiences'
Vicent Rodrigo Peñarrocha, Politechnical University of Valencia, Spain
Miguel Ferrando Bataller, Politechnical University of Valencia, Spain

Friday May 3rd

Poster session

Please note that the posters will be posted all day.

Time: 16:00 - 16:30
Exhibition area

#100029-03-GC-028
'Development of a Collaborative Research Lab for the Implementation and Evaluation of the Virtual Teaching of Psychology'
Georgina Cárdenas, National Autonomous University of Mexico, Mexico

#100029-03-IL-132
'MBI: An Internet and Multimedia Based Master Program in Business Informatics Provided by a Virtual Organization'
Karl Kurbel, European University Viadrina Frankfurt, Germany
Iouri Loutchko, European University Viadrina Frankfurt, Germany

Friday May 3rd

Collaborative Networked Learning III (regular papers)

Time: 16:30 – 18:00
Room: H2035
Chair: Prof. Dimitris Karagiannis

16.30 - 17.00
#100029-03-SG-064
'Real-time Interaction for Webcasting'
Meng Yong Tok, National University of Singapore, Singapore
Sam Ge, National University of Singapore, Singapore

17.00 - 17.30
#100029-03-MS-101
'A Collaborative Framework Supporting Tele-teaching on a Passive Optical Network'
Giovanni Adorni, University of Genova, Italy
Federico Bergenti, University of Parma, Italy
Piero Castoldi, Scuola superiore Sant'Anna di Pisa, Italy
Andrea Morelli, University of Parma, Italy
Matteo Somacher, University of Parma, Italy

17.30- 18.00
#100029-03-WT-108
'Instructional strategies for collaborative e-learning'
Wolfgang Theilmann, SAP Corporate Research, Germany
Martin Wessner, Fraunhofer IPSI, Germany
Michael Altenhofen, SAP Corporate Research, Germany
Wolfgang Gerteis, SAP Corporate Research, Germany

Friday May 3rd

Organization of Networked Learning III (short papers)

Time: 16:30 – 17:50
Room: H2037
Chair: Prof. Dr. Hans Roeck

16.30 - 16.50
#100029-03-KV-021
'Developing e-Learning Architectures for Communities of Practice: A Knowledge Perspective'
Kam Vat, University of Macau, Macau

16.50 - 17.10
#100029-03-SK-059
'Webtrain: collaborative, net-based learning for e-government'
Sandra Köhne, University of Hohenheim, Germany
Helmut Krcmar, University of Hohenheim, Germany

17.10 - 17.30
#100029-03-EL-063
'E-Learning: A Learning Process for the Organisation'
Eleonore Leder, UBS AG, Switzerland
Reinhild Fengler, UBS AG, Switzerland

17:30 - 17:50
#100029-03-BB-088
'100-online: Universität Stuttgart goes Multimedia'
Barbara Burr, University of Stuttgart, Germany
Peter Göhner, University of Stuttgart, Germany
Anne Töpfer, University of Stuttgart, Germany

Friday May 3rd

Tools and Architectures for Networked Learning IV (regular papers)

Time: 14:30 – 18:00
Room: H2036
Chair: Prof. Piotr Szczepaniak

16.30 - 17.00
#100029-03-EA-097
'A new Elicitation Algorithm to Teach Quantum Information Processing'
Esma Aïmeur, University of Montreal, Canada
Gilles Brassard, University of Montreal, Canada
Sébastien Gambs, University of Montreal, Canada

17.00 - 17.30
#100029-03-HH-149
'Learning Business Management through Network'
Harri Haapasalo, University of Oulu, Finland
Johanna Hyvönen, Institute for Management and Technological Training (POHTO), Finland
Pekka Kess, University of Oulu, Finland

17.30 - 18.00
#100029-03-SS-145
'Workflow Driven e-Learning: Beyond Collaborative Environments'
Shazia Sadiq, University of Queensland, Australia
Wasim Sadiq, Distributed Systems Technology Center, Australia
Maria Orlowska, University of Queensland, Australia

Friday May 3rd

KEYNOTE SPEECH

'Palm-Sized Devices Are the PC of Choice for Education'

by Cathleen Norris, University of North Texas, Denton, TX, and Elliot Soloway, University of Michigan, Ann Arbor, MI

Time: 20:00 – 21:00
At the Wirtshaus Schildhorn

For the past 25 years, technology-focused educators have claimed that computational technologies would change education. However, at least in the U.S., to a first-order approximation, the impact of computers and the Internet on education (ages 5-18) has been zero. By and large what goes on the in the classroom has been indifferent to the introduction of computers and Internet. For example, using our Snapshot Survey, approximately 40% of 5,000 teachers in the U.S. surveyed report that they use a computer with their students less than 15 minutes a week! 60% say use they use an Internet-connected computer with their students for less than 15 minutes a week

Given the above, why should anyone believe that palm-sized computers would have an impact on education? What is different about palm-sized computers that will lead to these devices having an impact on education? Here are four suggestions: (1) given that a palm-sized computer costs approximately what a pair of tennis shoes costs, it is totally imaginable that each and every child could have their own palm-sized computer to use whenever they wish, (2) unlike computer labs or even computers-at-the-back-of the-room, children using palm-sized computers integrate comfortably into the ebb and flow of activities in a classroom, (3) today's children see a palm-sized device more as a media gadget than as a computer and as such find palm-sized devices fun, (4) teachers are seeing palm-sized computers as accessible and usable in classrooms. Thus, while there is prima facie rationale that this time technology will significantly impact education, it's still too early to really call.

Since Fall 2000, we have been working with over 2,000 middle and high school students who are using palm-sized computers. Starting in Fall 2001, we will be adding wireless connectivity to infrastructure. Our early efforts at putting palm-sized devices – from PalmOS devices to PocketPC devices – into everyday classrooms is providing us with a unique opportunity to see today what the future holds for education.

Saturday May 4th

Design and Development of Networked Learning II (regular papers)

Time: 09:00- 11:30
Room: H2036
Chair: Prof. Dr. Hermann Krallmann

9.00 - 9.30
#100029-03-YM-092
'A Content-based and Process-centered Approach to the Design of An Integrated Cooperative Learning Environment'
Yongwu Miao, University of Münster, Germany
Ursula Piontkowski, University of Münster, Germany
Wolfgang Keil, University of Münster, Germany
Ludger Becker, University of Münster, Germany
Frank Laus, University of Münster, Germany
Markus Heckelmann, University of Münster, Germany

9.30 - 10.00
#100029-03-KF-111
'Managing the development of an e-learning product - Applying software engineering techniques in an academic environment'
Karsten Friesen, University of Mannheim, Germany
Hans Schmitz, University of Mannheim, Germany

10.00 - 10.30
#100029-03-JM-130
'Making Courseware Re-Usable'
Khaldoun Ateyeh, University of Karlsruhe, IPD, Germany
Jutta Mülle, University of Karlsruhe, IPD, Germany

10:30 - 11:00
#100029-03-PK-148
'Quality of University Education in Complex Learning Environments'
Pekka Kess, University of Oulu, Finland
Harri Haapasalo, University of Oulu, Finland
Tommi Pyykönen, Polar Electro Oy, Finland

11:00 - 11:30

#100029-03-MK-074

'Corporate Knowledge vs. Knowledge within Corporation'

Witold Abramowicz, the Poznan University of Economics, Poland
Marek Kowalkiewicz, the Poznan University of Economics, Poland
Piotr Zawadzki, the Poznan University of Economics, Poland

Saturday May 4th

Design and Development of Networked Learning III (short papers)

Time: 11:30 – 13:10
Room: H2036
Chair: Prof. Dr. Karl Kurbel

11.30 - 11.50
#100029-03-TM-024
'Modularity and Integrity Issues in Instructional Engineering'
Thomas Myrach, RWTH Aachen, Germany
Gerhard Knolmayer, University of Bern, Switzerland

11.50 - 12.10
#100029-03-TR-026
'Using Hyperbolic Trees and SmartBars within Virtual Learning Environment Concepts'
Torsten Reiners, Braunschweig University of Technology, Germany
Dirk Reiss, Braunschweig University of Technology, Germany
Stefan Voss, Braunschweig University of Technology, Germany

12.10 - 12.30
#100029-03-RH-067
'Usability Engineering as an Important Part of Quality Management for a Virtual University'
Ronald Hartwig, University of Lübeck, IMIS, Germany
Johannes Triebe, University of Lübeck, IMIS, Germany
Michael Herczeg, University of Lübeck, IMIS, Germany

12.30 - 12.50
#100029-03-JJ-096
'Developing a WWW-based course on databases'
Joanna Jedrzejowicz, University of Gdansk, Poland

12:50 - 13:10
#100029-03-SV-112
'Design for Reuse in a Web- Based Degree'
Sal Valenti, University of Ancona, Italy
Maurizio Panti, University of Ancona, Italy
Tommaso Leo, University of Ancona, Italy

Saturday May 4th

Organization of Networked Learning IV (short papers)

Time: 11:30 - 12:50
Room: H2035
Chair: Prof. Narayana Jayaram

11.30 - 11.50
#100029-03-PS-089
'Distance Education at Francophone Virtual University'
Jean Francois Brudny, University of Artois, France
Herve Roisse, University of Artois, France
Ewa Napieralska- Juszczak, University of Artois, France
Piotr Szczepaniak, Technical University of Lodz, Poland

11.50 - 12.10
#100029-03-EC-120
'eBusiness Model for Networked Learning'
Elsie Chan, Deakin University, Australia
Paula Swatman, University of Koblenz- Landau, Germany

12:10 - 12:30
#100029-03-JM-158
'Building the Virtual University'
John Mason, Penn State University, USA

12:30 - 12:50
#100029-03-LS-086
'Some Remarks to the E-learning Experiences in Slovakia'
Ladislav Samuelis, University of Technology in Kosice, Slovakia
Frantisek Jakab, University of Technology in Kosice, Slovakia