C()SL

ADVANCING THE EFFECTIVENESS AND SUSTAINABILITY OF OPEN EDUCATION CONFERENCE

[PROGRAM INFORMATION]

UTAH STATE UNVERSITY
ECCLES CONFERENCE CENTER
LOGAN, UTAH
SEPTEMBER 28 - 30, 2005

Advancing the Effectiveness and Sustainability of Open Education Conference

Program

September 28-30, 2005
Eccles Conference Center
Utah State University
Logan, UT

All materials (unless otherwise specified) are licensed under a Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.5)

WELCOME MESSAGE

On behalf of Utah State University, the Department of Instructional Technology, and the new Center for Open and Sustainable Learning, welcome to beautiful Logan Utah, and the Utah State University campus. Utah State University began as the Agricultural College of Utah in 1888, eight years before Utah became the 45th state, and today continues to be a world leader in agriculture, with new world leading programs in space dynamics, irrigation engineering, instructional technology, and other disciplines.

It's an exciting time to be at USU, as open education initiatives like USU OpenCourseWare come online and enhance the university's capacity to extend educational opportunity around the state and the globe. That was the goal of the Morrill Act and is the soul of the land-grant mission, and the University, the Department, and the Center are all playing exciting roles in this most important of efforts.

I hope you'll find time to explore the beautiful surroundings here in Cache Valley, and see some of the historic campus and down town area. One could hardly imagine a more delightful place to live and work than here in Logan. I hope you'll agree.

Thank you for joining us for Advancing the Effectiveness and Sustainability of Open Education, the 17th Annual Instructional Technology Institute at Utah State University. Our thanks go out to our many sponsors and partners, particularly The William and Flora Hewlett Foundation, whose visions of the possibilities of open education inspire us all.

CONFERENCE SCHEDULE

TUESDAY

8–12 am — *271 Education Building*
Reusable Design Workshop
Robby Robson

WEDNESDAY

7am–4 pm — *ECC Lounge*
Registration

7–8 am — *ECC Lounge*
Continental Breakfast

8–8:30 am — *216 ECC*
Opening Remarks
Marshall Smith, William and Flora Hewlitt Foundation

8:30–9:45 am — *216 ECC*
Keynote
Joris Komen, SchoolNet Namibia

10–10:20 am — *216 ECC*
The Case for OpenCourseWare
John Dehlin, COSL

10:20–11:45 am — *216 ECC*
Panel Discussion: OCW Experiences
Anne Margulies, MIT, Moderator

11:45–1:15 pm — *Alumni Center*
Lunch
Pre-registration required

1:15–2 pm — *ECC*
Block 1—Concurrent Sessions

2:15–3 pm — *ECC*
Block 2—Concurrent Sessions

3:15–4 pm — *ECC*
Block 3—Concurrent Sessions

6 pm — *University Inn*
Free Shuttle to Dinner
Pre-registration required

6:30–8:30 pm — *Logan Canyon*
Dinner at Zanavoo Lodge
Pre-registration required

THURSDAY

7–8 am — *ECC Lounge*
Continental Breakfast & Registration

8–8:30 am — *216 ECC*
Sakai, Melete and eduCommons Overview
Joseph Hardin, Vivie Sinou, David Wiley

8:30–9:45 am — *216 ECC*
Keynote
John Seely Brown

10–10:45 am — *ECC*
Block 4—Concurrent Sessions

11–11:45 am — *ECC*
Block 5—Concurrent Sessions

11:45 am–1:15 pm — *Alumni Center*
Lunch
Pre-registration required

1:15–2 pm — *ECC*
Block 6—Concurrent Sessions

2:15–3 pm — *ECC*
Block 7—Concurrent Sessions

3:15–4 pm — *ECC*
Block 8—Concurrent Sessions

6 pm — *University Inn*
Free Shuttle to Dinner
Pre-registration required

6:30–8:30 pm — *North Logan*
Dinner at Hamiltons
Pre-registration required

FRIDAY

7–8 am — *ECC Lounge*
Continental Breakfast & Registration

8–8:30 am — *216 ECC*
Closing Remarks
David Wiley, Utah State University

8:30–9:45 am — *216 ECC*
Keynote
Yochai Benkler, Yale University

10–10:45 am — *ECC*
Block 9—Concurrent Sessions

11–11:45 am — *ECC*
Block 10—Concurrent Sessions

TUESDAY, SEPTEMBER 27, 2005

7:45-8:00 am
271 Education

Registration

8:00 am-12:00 pm
271 Education

Reusable Design Workshop
Robby Robson, Eduworks

This workshop explores guidelines and practices intended to increase the value and impact of digital learning resources by making them easier to reuse in multiple contexts and in multiple learning environments. The target audience are those who design, develop and create learning resources and organizations that aggregate and disseminate these resources. The entire workshop is hands-on and interactive in nature. Participants will become familiar with reusable design guidelines and techniques by exploring a rich set of examples.

WEDNESDAY, SEPTEMBER 28, 2005

7:00 am-4:00 pm
Registration Desk

Registration

7:00-8:00 am
Lounge

Continental Breakfast

8:00-8:30 am
216 ECC

State of the Open Educational Resources (OER) Movement
Marshall Smith, William and Flora Hewlett Foundation

Marshall "Mike" Smith has been Program Director for the Education Program at the William and Flora Hewlett Foundation in Menlo Park, California, since 2001. Prior to that, he was acting deputy secretary and undersecretary for education in the Clinton administration. During the Carter administration, he was chief of staff to the secretary for education and assistant commissioner for policy studies in the Office of Education. In this session Mike will provide an overview of the open educational resources movement and provide context for the rest of the conference.

8:30-9:45 am
216 ECC

At the ICT Development Work Face—SchoolNet Namibia Realities
Joris Komen, SchoolNet Namibia

Writing about the effectiveness and sustainability of open education in Namibia, I am occasionally asked whether my resultant bad hair day tales about Microsoft and other corporate misanthropies aren't simply sour grapes. I call them grapes of wrath! What, indeed, is open education? I see open education embracing the great potential and responsibility of humanity to harness and leverage the advances and freedoms provided by information and communication technology in order to extend educational opportunities to all that want it. My presentation touches all the conference themes but in a different order of priority—international issues, policy and administrative issues, overcoming barriers to open education, and securing affordable open educational resources.

9:45-10:00 am
Lounge

Break

10:00-10:20 am
216 ECC

The Case for Opencourseware
John Dehlin, Utah State University and TBD, MIT

In 1999, MIT took a bold leap in deciding to make all of their university course materials freely available through "MIT Opencourseware". Today, the materials for over 1,200 MIT courses are openly available. In addition, more than 50 universities worldwide have followed MIT into the OpenCourseWare arena. In this session, we will review the progress of the opencourseware movement. We will discuss the current list of adopters, some of the lessons learned, and the benefits of joining this movement.

10:20-11:45 am
216 ECC

OCW Experiences
Moderator: Anne Margulies, MIT
Panel: Yoshimi Fukuhara, Keio University, Mary Lee, Tufts University, Joaquim Nasser, ENSTA/ParisTech, Jared Stein, Utah Valley State College, James Yager, Johns Hopkins School of Public Health

This session explores the experiences of early adopters of opencourseware sharing at a variety of institutions, focusing on unique challenges encountered by each. Panelists include Mary Lee (Tufts University), Joaquim

Nassar (ENSTA/ParisTech), Jared Stein (Utah Valley State College), James Yager (Johns Hopkins School of Public Health), and others. Each panel member will provide a brief description of their institution's motivations in undertaking an opencourseware project, provide the status of the project at present, and discuss one challenge their organization has faced in realizing their goals. These presentations will be followed by a discussion of implementation experiences moderated by Anne Margulies, Executive Director of MIT OpenCourseWare.

11:45 am-1:15 pm
Alumni Center

Lunch

BLOCK 1—CONCURRENT SESSIONS
1:15-2:00 PM, WEDNESDAY, SEPTEMBER 28, 2005

201 ECC

Open Education Resources Portal: Building Community and Stimulating Use
Lisa Petrides, Institute for the Study of Knowledge Management in Education

This session will discuss a work in progress funded by the Hewlett Foundation, the Open Education Resources (OER) Portal Project. The purpose of the Portal is to support the open education community by enabling open content creators and users to actively engage with one another, and to support the growing OER community of content creators, tool developers, and distribution networks. It includes a clearinghouse of materials related to the support and use of open content, as well as a registry and review process for open education content. We will present an overall framework for the portal and solicit user feedback as to how the OER Portal can help members of the open education community meet their current and future needs.

203 ECC

Can higher education repository projects learn from Flickr?
Cyprien Lomas, University of British Columbia

The University of British Columbia created several image repositories as part of a campus wide Learning Objects pilot. An image repository that was discipline specific, locally 'owned', and sensitive to the social requirements of its users captured the imagination of researchers, instructors and students. Integral features of this repository including community, flexibility and sharing are also found in the photo sharing application, Flickr. This presentation will compare the features and usage of this repository with the community

activities found in Flickr. Are there features in Flickr that should be included in academic repositories?

205 ECC

Policy Issues for Open Educational Resources
Sally Johnstone, WCET

This session will be your opportunity to explore some of the policy barriers and concerns that could have an impact on the growth of the OER movement. The session will be a guided discussion in which the leader will review policy issues that have already been uncovered, and the participants will have an opportunity to add their own. We shall explore transnational, national, state and institutional issues.

207 ECC

A New Model for Open Access to Scholarly and Educational Content
Edward N. Zalta, Stanford University

In our new model for funding open access to educational content, universities and libraries create a partnership: money that libraries contribute in support of the publishing project is invested and managed in escrow by the university, subject to the constraint that should the publication ever terminate, the university must return library money together with any interest and appreciation in excess of the annual 5% payout to the publication. These arrangements have been implemented in support of the Stanford Encyclopedia of Philosophy (SEP) http://plato.stanford.edu/, and so this online publication is serving as a test case for the success of the model.

307 ECC

Why Study Users? Understanding The Use Of Digital Resources In Humanities And Social Science Undergraduate Education
Diane Harley, University of California at Berkeley

This presentation will describe research into users of digital resources in a variety of undergraduate institutions. Our purpose is to map the universe of digital resources available to undergraduate educators in the humanities and social sciences (H/SS), and to examine how understanding use and users can benefit the integration of those resources into undergraduate teaching. Our methods include surveys of faculty, and discussions with faculty, graduate students, librarians, site owners and educational technology professionals. The project is funded by the Andrew W. Mellon Foundation and the William and Flora Hewlett Foundation.

309 ECC

Educational Broadcasting: Rumors of its Demise are Greatly Exaggerated

Peter Kaufman, Intelligent TV

With the maturation of new trends in technology, education, culture, and media—with digital technology rendering the production and distribution of media less expensive, more able to be multi-purposed, more durable and more portable, so that it can be watched and heard and read on almost every device with a screen or a speaker; with university, high school, and grade school students and teachers becoming accustomed to deploying video and audio assets in the classroom and in assignments; with libraries and museums moving to push their holdings on-line, on-screen, often deploying rich media to do so; and with television distributors seeking new models of broadcasting in the digital age—there is a profound opportunity now to produce new types of educational television projects in collaborative efforts between producers, broadcasters, educators and cultural heritage institutions. Stakeholders in the success of such projects involve many people and institutions from the academy, industry and the public.

15 minute break

BLOCK 2—CONCURRENT SESSIONS
2:15-3:00 PM, WEDNESDAY, SEPTEMBER 28, 2005

201 ECC

COREOCW and its Challenges Toward Quality and Sustainability

Fun-Den Wang, CORE, Meifeng Liu, Beijing Normal University, Zi Mao Zhang, Beijing Jiao Tong University

CORE, China Open Resources for Education, was established in October 2003 and the program initiated in April 2004. It now has a membership of 100 universities and 5 million students. CORE has developed its program based on its mission of quality education, sharing of quality international and Chinese courses globally, and making these accessible to a wide range of users. This presentation describes its approach and challenges for maintaining quality and sustainability by the establishment of the COREOCW model of a Lead University, which believes in the OCW concept and mission of CORE, to jointly lead the CORE program.

203 ECC

The Role of the Library in Open Education

Christine Madsen and Megan Hurst, Harvard University Library

The presenters will address three conference themes in discussing the role of the library in open education. Using the Harvard University Library Open Collections Program and its outreach efforts as their model, they will argue that the responsibility to create open content is inseparable from librarians' traditional charge to make collections accessible to all. They will name some obstacles preventing libraries from meeting this responsibility, including the beliefs that librarians' work is necessarily separate from that of educators, and that academic libraries should serve only university-level faculties and students. They will argue that describing the relevance of materials for a wider range of learners ultimately enriches collections for their original audiences as well.

205 ECC

The Global Education & Learning Community (GELC) Vision: World Class Content... Developed by the Community... Just a Click Away

Larry Nelson, Global Education & Learning Community

This discussion will provide an overview of the GELC, its mission and objectives. This discussion will provide an overview of the GELC, its mission and objectives. The GELC improves education world wide by empowering teachers, students and parents with self-paced, web based, free and open content (curriculum resources, assessment) combined with best practices for advancing student achievement world wide. GELC's goal is "World class learning, community developed and supported, just a click away."

207 ECC

Building A Free Software Ecosystem In Africa: Lessons From The African Virtual Open Initiatives And Resources (AVOIR) Project

Derek Keats, The University of the Western Cape

The AVOIR project is an ambitious effort to build capacity in Africa for software design, development and support in the higher education sector. AVOIR is a network of nodes, currently with 13 nodes that we are aware of, as well as some incipient nodes that are beginning to become visible in various ways through the usual Free Software processes. The first product of the collaboration is an e-learning platform, known as KEWL.NextGen, as well as the application framework on which it is based.

307 ECC

Reusability in the Materials Digital Library
Sarah Giersch, National Science Digital Library, Laura M. Bartolo and Cathy S. Lowe, Kent State, and Adam C. Powell IV, MIT

Materials science (MS) is a large, inherently multidisciplinary field (e.g., physics, chemistry, chemical engineering, geology, electronics, optics and biology) that has a range of information needs. The Materials Digital Library (MatDL), as part of the NSF National Science Digital Library (NSDL) program, is investigating an information infrastructure for the materials science community that facilitates integration of research and education as well as advancement of the individual goals of each. Recently funded as Pathways project of NSDL, MatDL will provide stewardship for content and services needed across the MS community. MatDL's current social and technology architectures support creating and (re)using content by developing: (1) Tools to describe, manage, exchange, archive, and disseminate data among national and international government-funded materials teams and centers. (2) Workspaces for open access development of modeling and simulation tools. (3) Services and content for virtual labs in large undergraduate introductory science courses. (4) Workspaces for collaborative development of core undergraduate MS teaching materials as well as ontological tools for enhanced resource discovery.

309 ECC

A Reality Check for Open Education
Ed Walker, IMS Global Learning Consortium

Learning is becoming easier to obtain and use and cheaper to provide. But the usage of educational resources is not massive enough for education to be called "open". Open education requires the commitment of large scale resources, and the providers of large scale resources need mundane data with which to justify economic and policy decisions. Along with such "real" results, they need applications that are so "real", they make the potential for wide-spread benefit immediately apparent. Criteria for such applications are presented.

15 minute break

BLOCK 3—CONCURRENT SESSIONS
3:15-4:00 PM, WEDNESDAY, SEPTEMBER 28, 2005

201 ECC

Free Knowledge Communities
Kim Tucker, CSIR

This presentation outlines activities being built around the Free Knowledge Communities initiative emerging from southern Africa. With roots in the free/libre and open source software movements, the initiative extends the ethics and approach to the realm of knowledge, and advocates an approach to addressing the considerable education challenges in Africa (and elsewhere).

203 ECC

Embedding Open Content in Instruction and Research
Eric Kansa and Michael Ashley, Alexandria Archive Institute

The Alexandria Archive Institute is launching "ArchaeoCommons", an open content resource for cultural heritage (archaeology, anthropology, history and related) research and education. To support ArchaeoCommons, we are experimenting with marketing professional services around the development, dissemination and application of open content. Our key areas of focus include: (1) creating and applying a flexible and highly generalized information architecture capable of integrating such varied content; (2) building services for researchers and professional societies to enhance their public outreach, "social networking" and dissemination needs; and (3) developing student apprenticeship programs that integrate instruction into both the development and application of open content.

205 ECC

Open Education for Educators: An Example from the Geosciences
Sean Fox and Cathryn Manduca, Carleton College

The Science Education Resource Center website (http://serc.carleton.edu/) serves as a model for how the expertise of a community of educators can be made broadly accessible. We emphasize the importance of directly serving educators, as well as learners, in creating open resources that will not only provide access to information, but also insight into how to turn that information into understanding.

207 ECC

The Google Library Digitization Project: For the Good of the World or for Google?
Michael Keller, Stanford University

The Google Library project captured the collective imagination when it was announced last December. Since then some critics, some publishers and some nations have been stimulated to respond in a variety of ways, some not so supportive. This presentation will present the objectives, recount some of the criticism, attempt to make clear the concerns of directly (and perhaps indirectly) interested parties and forecast what some of the immediate/long-term results might be of the project.

307 ECC

Enabling Open Education with MERLOT
Gerard Hanley, MERLOT

MERLOT's (http://www.merlot.org/) strategies for aggregating, reviewing, and disseminating reusable online learning resources for learners around the world will be presented. MERLOT's growth in digital library and online community services to over 30,000 users per month while remaining free and open to end-users will be reviewed. Special emphasis will be placed on how MERLOT's design principles reduce barriers for individuals participating in its community services and increase the value for community participation in delivering personalized services. Finally, the MERLOT "slipstreaming strategy" for developing and managing a diverse set of partnerships across corporations, professional societies and educational institutions will be reviewed.

309 ECC

Open Education at UC Merced
Jeff Wright, Jeff Yoshimi and German Gavilan, University of California, Merced

Open education efforts at UC Merced are described, including open source based courses in computer science and engineering, history, and psychology, as well as campus wide use of such T/L/T tools as UC- Wise, and Connexions, as well as course support environments such as Zope, Plone and Sakai.

6:00 pm **Shuttles Depart University Inn**

6:30-8:30 pm **Dutch Oven Dinner, Zanavoo Restaurant**

8:30 pm **Shuttles Return to University Inn and Crystal Inn**

THURSDAY, SEPTEMBER 29, 2005

7:00 am-4:00 pm
Registration Desk **Registration**

7:00-8:00 am
Lounge Continental Breakfast

8:00-8:30 am
216 ECC

Sakai, Melete and eduCommons Overview
Joseph Hardin, University of Michigan/Sakai, Vivie Sinou, Foothill College/Sakai, David Wiley, Utah State University

Sakai, Melete, and eduCommons are all open source software that enable the production of online course materials. This demonstration will show how these can work together to enable open distribution of educational materials; specifically, we will overview Sakai's capabilities as a Collaboration and Learning Environment, Melete's course material authoring capabilities, and eduCommons' opencourseware management functionality. Interoperability of the tools will also be demonstrated.

8:30-9:45 am
216 ECC

Digital Culture and Learning in the Digital Age
John Seely Brown, University of Southern California, Annenberg Center for Communication

Rethinking how today's kids that grow up digital learn, think, work, communicate and socialize. Understanding today's digital kids is of growing importance, not only to educators, but also to human resource departments, strategists and marketing folks. Understanding the social practices and constructivist ecologies being created around open source and massively multiplayer games will provide a glimpse into new kinds of innovation ecologies and some of the ways that meaning is created for these kids—ages 10 to 40. Perhaps our generation is focused on information, but these kids focus on meaning—how does information take on meaning?

9:45-10:00 am **Break**

BLOCK 4—CONCURRENT SESSIONS
10:00-10:45 AM, THURSDAY, SEPTEMBER 29, 2005

201 ECC

Creating Infrastructure to Facilitate Data Use in Master's Colleges and Universities

Chris Bettinger, Alex Keller and Andrew Roderick, San Francisco State University

The Data and Instruction Virtual Archive (DIVA) is a comprehensive, web-based system for finding, storing, managing and disseminating social science data. It supports faculty using data in their teaching, research and community work. This data can take any form (e.g. spreadsheets, geographic information systems, etc.) and can be supported with codebooks, course assignments and so forth. It offers a set of tools to locate, secure, manage and share data. It encourages integrating research and instruction, allowing faculty to share research with students and others. DIVA is appropriate to Master's level institutions, where technology infrastructure lags behind Doctoral institutions.

203 ECC

Melete—Streamlining Open Publishing

Vivie Sinou, Foothill College/Sakai

Melete is an open source tool that runs with the Sakai 2.0 Collaboration and Learning Environment (CLE)—an open platform by and for higher education. Melete is a lesson builder that allows authors to design and publish learning sequences that consist of content that is created online using a built-in editor, uploaded learning objects or links to existing web resources. Instructors can design content that supports instructor facilitated learning or system managed self-study. Melete supports Creative Commons Licenses, which faculty can select for their learning modules up creation. Melete supports IMS Import/Export Content Packaging.

205 ECC

Games, Signs, and Texts: Exploring Sustainable, Creative Learning Environments through Cultural Analysis and Localization

Brett Shelton, Ryan Moeller and Cheryl Ball, Utah State University

When *Seven Samurai* opened in the United States, the subtitles were inadequate for North American viewers to understand its complex cultural references. But its adaptation, The Magnificent Seven, mapped Japanese cultural points onto corresponding points from the US, bridging the cultural gaps between the two versions. Like this example, instructional texts must allow for such cultural, contextual adaptation to local environments in order to be considered open and sustainable (Wiley, 2005). The presenters discuss three kinds of open, adaptable texts—video games, graphical information and new media texts—that succeed (and sometimes don't) in adapting to localized cultural contexts.

207 ECC

Creative Commons

Hal Abelson, MIT/Creative Commons

If we want to realize the potential of the Web for sharing educational materials—or any creative works—we run headlong into issues of copyright and licensing. Creative Commons promotes sharing content, and building on each others work, through standard licenses that institutions and individuals can attach to works they publish on the Web. The licenses are machine readable, and there are automated tools that locate open-access materials and verify terms of use. The licenses are organized into a family that lets creators tailor the terms to their particular needs, and the licensing infrastructure is designed to permit internationalization and interoperability across legal jurisdictions. Currently, there are more than 53 million documents on the web published under Creative commons licenses, including major collections like Connexions and OpenCourseWare.

307 ECC

Starting an OCW: A Case Study

Shelley Henson, Utah State University and Andrea Sandry, Weber State University

Starting an opencourseware project at an institution involves planning, resources and vision. It starts with a conversation and progresses to garnering faculty and administrative support, and locating resources to sustain the project. The Center for Open and Sustainable Learning (COSL) at Utah State University has created a support structure for schools that would like to participate in the opencourseware movement. This includes software, hosting services, training and consulting services. Weber State University has been working in collaboration with COSL to begin an opencourseware project. This session will describe their experience.

309 ECC

Creating a Public Library of Science
Helen J. Doyle, Public Library of Science

The open access journals published by the Public Library of Science (PLoS) contribute to the global information commons and open education by making cutting-edge scientific and medical research articles freely available to read, use and redistribute, without subscription or copyright barriers. The potential of open access peer-reviewed journals as open education resources is enormous, yet the realization of this potential requires concerted collaboration with like-minded organizations and an infusion of technological innovations and interpretive and translation tools that will make the journals truly accessible to a global audience—in other words, creating a "public library of science."

15 minute break

BLOCK 5—CONCURRENT SESSIONS
11:00-11:45 AM, THURSDAY, SEPTEMBER 29, 2005

201 ECC

The Power of Volunteers: Effectiveness and Sustainability through Lessons Learned from OOPS
Meng-Fen Lin, University of Houston and Luc Chu, OOPS

In this presentation, we will share first-hand experiences in maintaining and sustaining an effective OpenCourseWare (OCW) localization project called Opensource Opencourseware Prototype System (OOPS). OOPS' uniqueness in the current OCW movement lies in its grassroots approach. We will discuss issues in organizational effectiveness and project sustainability, and will also share measures that seem to work for us. Some of the suggested measures include identifying and empowering emergent leaders, creating regional offline communities, fostering a volunteer mentoring system and cultivating a knowledge community.

203 ECC

Sakai Overview
Joseph Hardin, University of Michigan/Sakai

The Sakai Project is a community source software development effort to design, build and deploy a new Collaboration and Learning Environment (CLE) for higher education. To date, the Sakai Project is working on its 4th major release, has developed an Educational Partner's Program which now has around 80 members around the world and has successfully demonstrated a model for community source software development among colleges and universities. Come and learn more about the future of Sakai!

205 ECC

The eGranary Digital Library: A New Tool for Information Equity
Clifford Missen, University of Iowa

The eGranary Digital Library provides educators with an entirely new platform to inexpensively deliver millions of digital information resources to scholars anywhere, anytime. Yet even as the eGranary Digital Library overcomes one of the major obstacles facing open education advocates in developing countries, there remain a host of technology adoption, content collection and human capacity challenges. This presentation will review the compelling reasons for developing and employing bandwidth augmentation schemes like the eGranary Digital Library, highlight current usage of the eGranary Digital Library in various developing countries around the world and examine the manifold issues still facing champions of open education.

207 ECC

Been Digital So Long it Feels Like Print to Me
Brian Lamb, University of British Columbia

A few key questions: Does the emergence of digital text and media herald a profound cultural transformation, in the same sense that the invention of writing and later mechanized print production did? Is the University profoundly (perhaps tragically) a print-based institution? What are the new literacies? And what does it mean to educators when text becomes more raw material for the remix? Exploration will digress for consideration of a series of unlikely visionaries, as well as the implications spinning out of the churning maw of contemporary social software. Audience participation is fervently hoped-for. Disruptive technologists are especially welcome.

309 ECC

Barriers to the Distribution of Open Content
Fun-Den Wang, CORE and Catherine Ngugi, African Virtual University

Fun-Den Wang of China Open Resources for Education (CORE) and Catherine Ngugi of African Virtual University (AVU) will explore challenges faced by their organizations in localizing and distributing content from MIT OpenCourseWare. MIT OpenCourseWare collects the materials used in MIT classes—including lecture notes, syllabi, homework, exams and more—and publishes them openly on the web for reuse by educators and learners around the globe. Publication on the OCW site, however, is only the first step in making these educational resources available to many audiences. CORE has worked closely with the MIT

OCW staff in the past three years to translate OCW content into Simplified Chinese and also to provide local copies of English-language content to overcome technical access constraints. Similarly, AVU has worked in partnership with MIT OCW to provide local access to OCW content in Sub-Saharan Africa.

11:45 am-1:15 pm
Alumni Center

Lunch
Brent Miller, Vice President of Research, Utah State University

BLOCK 6—CONCURRENT SESSIONS
1:15-2:00 PM, THURSDAY, SEPTEMBER 29, 2005

201 ECC

Why do schools have walls? Another Look at Barriers to Paradigm Shift in Educational Infrastructure
*Liza Loop, LO*OP Center, Inc.*

Our traditional conceptions of "school" hold us back from realizing the enhanced human learning potential offered by 21st century media. This presentation revisits a vision of future schools first published by the author in 1983. It suggests a new framework for the various functions performed by schools during the 20th century. These include curriculum development and delivery, placement, achievement certification, counseling, record keeping and custodial care. The presentation concludes that the required technologies have arrived and are affordable. Now the stewards of formal education must update their mindset to avoid being made obsolete by "edutainment" and private, commercial training centers.

203 ECC

Only Connect: James Burke's Knowledge Web
Patrick McKercher, University of California, Santa Cruz

The K-Web builds on existing content and meta-data standards to provide a powerful and intuitive Open Knowledge exploration tool suite. Because The K-Web is being built by a virtual team of hundreds of volunteers from all over the world, we've encountered, solved or avoided many of the barriers to Open Knowledge initiatives. The K-Web also is significant in that it can serve as an umbrella for any educational object or content from text, to applets, to video, to simulations, even to Virtual Reality. In order to make education truly universally available, we must learn how to deliver high quality educational content on low cost ubiquitous entertainment hardware such as iPods and portable game platforms, and the K-Web is pioneering

this area. The K-Web also builds Communities of Practice, allowing teachers to share content, and students to build educational experiences for one another.

205 ECC

The Four Pillars of Open Education Program Sustainability: Usability, Content, Community and Brand Equity
Paul Dholakia and W. Joseph King, Rice University

In exploring sustainability options for the Connexions project (http://cnx.rice.edu/), we apply findings from research on open source software business models, the design and implementation of customer community marketing programs, and motivations of developers and users for participating in open source communities. Results of our ongoing research identify four crucial success factors that enable open education program sustainability: (1) ease of use of the software environment, (2) the quality and depth of available content, (3) the size and vibrancy of the user community, and (4) the equity of the program's brand. We will elaborate on each one of the four factors, and present our model of open education program sustainability that may be useful to other open-access repository projects.

207 ECC

Wikipedia
Terry Foote, Wikipedia

A general overview of Wikipedia, which will include a description of the Wikimedian Foundation, and what Wikipedia is. Also I will discuss the "4 freedoms of "Wikipedia",and other core principles of Wikipedia. Statistics will be covered, including Wikipedia's traffic numbers, and number of articles. Wikipedia is also one of the web's most successful communities, and the community aspects will be discussed.

309 ECC

Open Educational Resources: Opportunities and Challenges
Jan Hylén, Centre for Educational Research and Innovation

The paper is a presentation of the OECD/CERI study Open Education Resources: Opportunities and Challenges. The study will analyse and map the scale and scope of initiatives in the field of Open Educational Resources in terms of their purpose, content, and funding. Four main questions will be addressed: sustainable costs/benefits models, IPR issues linked to OER initiatives, incentives and barriers for universities and faculty staff to deliver material, and improving access and usefulness for users. A conceptual analysis will also take place in the course of the study which

started in August 2005 and is scheduled to end December 2006.

216 ECC

Basic Education Online: An Open-Content Project in Developmental Education and English for Speakers of Other Languages
Cynthia Wilson, League.org

Through this project, the League for Innovation in the Community College, with support from The William and Flora Hewlett Foundation, seeks to identify high-quality courses in developmental education and English for Speakers of Other Languages for redesign as open-content courses. The project first identified criteria for determining high quality using a review of literature as well as groups of practitioners and experts in developmental education and ESOL. The criteria were vetted through an inventory distributed to more than 3,000 academic leaders in six countries, and then used to develop a request for qualifications. Representatives from institutions with identified courses will meet in October 2005 to design the project in which the courses will become open-content courses.

15 minute break

BLOCK 7—CONCURRENT SESSIONS
2:15-3:00 PM, THURSDAY, SEPTEMBER 29, 2005

201 ECC

A Structural Approach Relating Instructional Theory and Instructional Design Theory
Andy Gibbons and P. Clint Rogers, Brigham Young University

Design is a theory-driven process, but many technologists are not sure what theory means for them. This presentation argues there are two types of theory that should concern designers of instructional artifacts. The first kind, instructional design theory, supplies a flexible framework for describing the structure of the whole class of instructional designs. The second kind, instructional theory, consists of assertions by theorists about preferred structures and relationships for populating the framework. Because the framework is flexible, it anticipates change and growth in both the architecture of designs and the content of instructional theories.

203 ECC

Targeted Users of Open Educational Resources: Serving K-12 Teachers and Kicking the Tires of OER
Gary Matkin and Jia Frydenberg, University of California, Irvine

This presentation describes a project funded by the Hewlett Foundation through the University of California, Irvine (UCI) to help K-12 teachers in California pass the state's science and math-teaching qualifying examinations. UCI will develop 13 thirty-hour university courses covering both subject-matter and test-preparation material. They will be developed using high-quality learning assets developed for other purposes, with heavy reliance on assets produced by the University of California. These courses will be offered in both instructor-led versions and as open educational resources for self learners. This project will also produce a report on the issues associated with the development of the OER network.

205 ECC

Connexions: Sharing Knoweldge and Building Communities
Richard Baraniuk, W. Joseph King and Christopher M. Kelty, Rice University

Connexions is an open-access repository of free scholarly materials and an open-source software toolkit to help authors publish and collaborate, instructors rapidly build and share custom courses and learners explore the links among concepts, courses, and disciplines. In this presentation, we will explore the design philosophy of Connexions, its impacts and the many challenges we have faced. We will also present a case study of building a global, cross-institutional open-access community in the area of digital signal processing.

207 ECC

Overcoming Barriers to Open Education
Stewart Cheifet, Internet Archive

One of the basic barriers to open education online is the ability to provide a safe and secure digital home for educational content and to provide free and open access to that content. The Internet Archive is focusing on overcoming these barriers by building a secure digital repository for educational materials in all forms—text, images, audio, video and software. Two new initiatives at the Internet Archive are aimed at further addressing these issues: A new separate Education Collection, which will aggregate a variety of materials, in a variety of media formats, to simplify the process of accessing and interacting with these educational materials. In the area of educational texts, the Internet Archive is about to launch a major new initiative called the Open Access Text Archive.

309 ECC

From Open Content Repositories to Open Sensemaking Communities

Simon J. Buckingham Shum, The Open University

The Open Content movement is concerned with enabling students and educators to access material, in order to then learn from it, and reuse it either in one's studies or one's own courses. The core efforts to date has focused on enabling access, e.g., building the organizational/political will to release and license content, and in developing open infrastructures for educators to then publish and reassemble it. The key challenge in the next phase of the open content movement is to improve the support for prospective students to engage with and learn from the material, and with each other though peer learning support, in the absence of formally imposed study timetables and assessment deadlines. This presentation reports on tools for e-learning and collaborative sensemaking developed at the UK Open University which are now being considered as candidates for open content learning support.

216 ECC

How to Make Open Education Succeed

Robert Stephenson, Wayne State University

What will it take for open educational resources to achieve the same impact on mainstream education that open source has had on software? After ten years developing and championing open education I have several novel but practical answers: focus on a community of practice, treat the community as an ecosystem, incorporate assessment systematically from the start, create a new "giveback" license provision making contribution a moral obligation, and develop new or improved tools that make it easier for non-technical educators to contribute.

15 minute break

BLOCK 8—CONCURRENT SESSIONS
3:15-4:00 PM, THURSDAY, SEPTEMBER 29, 2005

201 ECC

The Carnegie Mellon Open Learning Initiative—Internationalization of Cognitively Informed, Web-based Instruction

Candace Thille, Carnegie Mellon University

The Open Learning Initiative is developing "cognitively informed," openly available online courses. We will demonstrate how we make use of expertise from cognitive and learning sciences to produce high quality online courses and how studies of student use inform both the next

iteration of the course and learning theory. The presentation will focus on our recent experience in collaborating with faculty from Universities in Qatar and Chile to adapt and extend our open educational resources and the preliminary results of the implementation at their institutions.

203 ECC

Reusability of University Digital Archives: Meeting the Needs of K-12 Teachers

Felicia Poe, California Digital Library and Isaac Mankita, University of California at Berkeley

How can digital libraries organize and structure freely available digital primary resources to facilitate reuse by multiple user communities in formal and informal environments? This paper describes current activities at the California Digital Library (CDL) to fulfill the University of California's public service mission by making content at its public site more usable for (primarily) K-12 teachers and students. To expand the effective use of the over 100,000 digital object collection, a multidisciplinary team developed a strategy to create themed collections, which are comprised of digital objects and accompanying contextual information and organized around themes in California's K-12 content standards.

205 ECC

If You Build It They Will Not Come: Usage Data from A Recommender System Based On Web Annotations and Their Implications

Andy Walker, Utah State University and Jennifer Brill, Virginia Tech

Despite an increase in both information sources for and infrastructure within public schools, utilization is often unproductive and is rarely educationally relevant. In part, this is because the Internet was never designed with education in mind and leaves out critical information—like the relationships between web-based resources and the ways in which they are utilized by various communities of practice. This presentation introduces a system designed to address some of these limitations by means of a recommender system driven by user-provided web annotations. Data from four semesters of usage will be presented along with limitations of this approach and future work.

207 ECC

Growing a Reusable Repository: Keeping the Content Meaningful

Ross Reedstrom, Brent Hendricks and Richard Baraniuk, Rice University

A shared repository of open educational materials needs to be semantically rich to be reusable. Legacy content often lacks semantic markup. We are addressing this problem at Connexions by providing bridges to the tools and formats that authors are accustomed to using, without giving up the goal of semantic markup.

309 ECC

Underlying Open Learning Development—Reflections on Elements of Success in Open Sourcing
Jacques du Plessis and Alex Koohang, University of Wisconsin-Milwaukee

This is a presentation about our findings on the reasons why open source works. This research addresses specific aspects central to open sourcing, including the structuring of the community, the evangelism efforts, the license agreement and quality control. The findings also address the impact of maturing technologies and changes in social networking upon the longevity and success of open sourcing.

6:00 pm **Shuttles Depart University Inn**

6:30-8:30 pm **Banquet at Hamiltons**

8:30 pm **Shuttles Return to University Inn and Crystal Inn**

FRIDAY, SEPTEMBER 30, 2005

7:00-10:00 am
Registration Desk **Registration**

7:00-8:00 am
Lounge **Continental Breakfast**

8:00-8:30 am
216 ECC **Closing Remarks**
David Wiley, Utah State University

8:30-9:45 am
216 ECC **Common Wisdom: Peer Production of Educational Materials**
Yochai Benkler, Yale University

The networked environment seems to have successfully released enormous creative energy in domains ranging from software design to encyclopedia writing. It has come, in many cases, to compete with and outperform traditional proprietary, market-based production. The question we face is whether the basic economics and organizational strategy that have proved so successful in other areas are equally applicable to learning objects and other educational resources. The answer seems to be: it depends.

15 minute break

BLOCK 9—CONCURRENT SESSIONS
10:00-10:45 AM, FRIDAY, SEPTEMBER 30, 2005

201 ECC

Towards Remixing Any Content from Any Source with Any Service: Lowering the Barrier to Use of Content in Open Education
Raymond Yee, University of California at Berkeley

As the amount of open educational resources grows, the need for tools that allow users to interact with this content will also grow. The Scholar's Box is a one such tool that enables users to gather resources from multiple digital repositories in order to create personal collections and other reusable materials that can be shared with others for teaching and research. Using the Scholar's Box as a primary example, the talk will outline the many possibilities and challenges that face designers of tools for remixing content (specifically, open content) with services.

203 ECC

Documenting and Sharing Pedagogical Knowledge and Experience to Promote Effective and Innovative Use of Open Educational Resources

Toru Iiyoshi, Carnegie Foundation, Candace Thille, Carnegie Mellon University and Flora McMartin, MERLOT

This panel session addresses the significance of supporting faculty and students in documenting and sharing their knowledge and experience in developing and using open educational resources (OERs) to advance teaching and learning as well as further promote the use of these resources. The Carnegie Foundation's on-going joint pilot efforts with Carnegie Mellon University's Open Learning Initiative and MERLOT will be presented to share the major successes, issues, and possibilities. Possible synergy of this and other efforts in advancing this work as well as the implications for building and sustaining vibrant knowledge communities of practice around OERs will also be discussed.

205 ECC

The Economic Case for Creative Commons Textbooks

Fred Beshears, University of California at Berkeley

According to a recent survey, University of California students now spend 40 percent more on textbooks than they did six years ago. We argue that colleges and universities may be able to significantly reduce these costs by creating a coalition for the acquisition and distribution of electronic textbooks. Can the lessons learned from open source software development also be applied to creative commons content development? Also, how might the university technical and digital library communities collaborate on creative commons learning content and open source software projects? This presentation will help stimulate discussion on both of these questions

207 ECC

eduCommons Hands-On

John Dehlin and Shelley Henson, Utah State University

Interested in joining the opencourseware movement? If so, eduCommons is your key to success. eduCommons is an open source "Opencourseware Management System" funded by the Hewlett Foundation. eduCommons provides support for course importing (via IMS Content Packaging), course design, metadata at the object level, the tracking of copyright clearance, search, workflow, web publishing, discussion groups and many other features critical to a successful opencourseware implementation. Come see how eduCommons can make your opencourseware project a smashing success.

307 ECC

Using Learning Objects to Produce Learning Materials for In-Service Teacher Education

Mike Quickfall, University of Edinburgh

The University of Edinburgh has more than 15 years experience of producing interactive learning materials. A current project involves the production of a large meta tagged database of learning objects within the domain of teacher education. An earlier project designed to use e-learning materials for training teachers how to use ICT in the classroom gave useful insight into the effectiveness of e-learning materials and the support required for them to be effective. Whilst the project was deemed to be successful it was not sustainable and more cost effective methods were required. The University has developed a method of producing self contained leaning modules based on the learning objects.

309 ECC

What Am I Learning? Performance Feedback in an Open Learning Environment

Jody Underwood, ETS

People in every educational setting need feedback on their performance to be able to improve. This involves helping them figure out what they need to work on, and what they're ready to learn. But people in informal open educational settings have an especially difficult time obtaining this kind of feedback. We present an idea called cumulative achievement testing, in which students continually take variations of the same test until they achieve a perfect score, and receive feedback that supports their learning. With this type of support, open education could provide a viable alternative to the traditional classroom model, in which all students in a class are expected to learn the same material in the same way at the same pace.

15 minute break

BLOCK 10—CONCURRENT SESSIONS
11:00-11:45 AM, FRIDAY, SEPTEMBER 30, 2005

201 ECC

Introductory Statistics Online: The Journey from Classroom to Open Courseware

Tom Malloy and Jake Jensen, University of Utah

We began developing electronic materials for an Introductory Statistics course in 1994 and posting them online in 1997. By the summer of 2000 we launched a highly automated, database driven online course including video-

game like learning environments that has successfully served thousands of students. The journey to make this courseware open has included stops on the editorial board of MERLOT, the development of an Open Learning Management System, the Open Courseware Workshop at the University of Michigan, and working with Mexican Universities in attempts to post a Spanish language version along with many other adventures.

203 ECC

"Using the Cultural Adaptation Process (CAP) Model": Adapting e-Learning for Use by Non-Western Cultures

Andrea Edmundson, eWorldLearning.com

This presentation is designed for those professionals (corporate education managers, coordinators of academic curriculum, instructional designers, etc.) responsible for providing e-learning solutions for outsourced staff, foreign nationals, and/or targeted learners from a non-American culture. The goal is to have participants understand concepts from recent cross-cultural research—on cross-cultural dimensions, course complexity, and the needs of targeted learners when selecting or designing e-learning for other cultures—so that all learners may achieve equitable learning outcomes.

205 ECC

Generating Open Courseware using Podcasting, Screencasting, Blogs and Games

Jean-Claude Bradley, Drexel University

Being able to share course content with anyone who wants to learn can be a powerful benefit of creating online educational material. Screencasting and podcasting lectures is proven to be an effective, high impact and low cost approach to experiment with online education with minimum time and failure risk to faculty with little technical expertise. In addition, the use of blogs as a vehicle for the distribution of podcasts and screencasts can be leveraged to manage student assignments and to make them publicly available. Finally, some examples of the use of online content within a 3D online multi-player gaming environment will be demonstrated.

207 ECC

A Sustainable Model for Collaborative Development, Access, and Interoperability of High-quality Online OER Courses

Gary Lopez and Ruth Rominger, Monterey Institute

The National Repository of Online Courses introduces an innovative, sustainable business model and new

development guidelines for an international library of digital learning material. NROC is designed to support growing collaboration among educational and public benefit institutions interested in overcoming barriers to quality, access and interoperability of online courses. Our presentation will describe a flexible transaction model for the development, barter and licensing of courses into, and out of, the repository. We will discuss the development and application of our guidelines, which are a synthesis of current research in learning theory and practice that offer a set of principles across a number of essential categories such as content, pedagogy, interaction, media, access, assessment, design and interoperability. Finally we will discuss barriers and strategies for the acquisition and facilitated instruction of online courses.

307 ECC

Open Learning: A Web-based Model for Self-directed Foreign-language Instruction

Jacques du Plessis, University of Wisconsin-Milwaukee

Common access to the Web, especially with broadband, opens up new opportunities on this medium for innovative learning solutions. Open learning in the digital era removes the limitations of space and time (Chizmar and Williams, 1996). Each person defines open learning depending on the variables they consider (Davis, 1997). Two key factors are access and cost. Amongst other options, open learning could mean open at a price, or it could mean open at no cost. This research explores the latter model.

309 ECC

Utah's Electronic High School

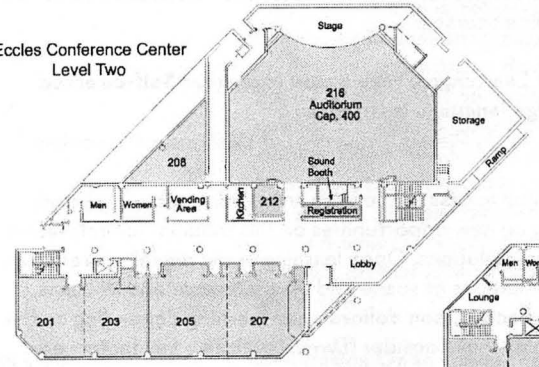
Richard Siddoway, Utah Electronic High School

The Electronic High School was created in 1994 as a response to a challenge from Utah's Governor Leavitt. We serve five major groups of students: (1) students who wish to make up credit, (2) students who wish to take a course not offered at their school, (3) students who wish to take extra credit and graduated early, (4) students who are home-schooled, and (5) students who have dropped out of school and now wish to earn a diploma. The Electronic High School courses are free to Utah students (which covers the $18 course cost). Out-of-state students pay $50 per quarter credit per course. Currently The Electronic High School is serving more than 40,000 students and has recently opened its doors to students and teachers displaced by Hurricane Katrina. The Electronic High School is funded through an on-going line-item appropriation from the legislature.

MAPS

CONFERENCE CENTER * DINING AND HIKE
USU CAMPUS * LOGAN CITY

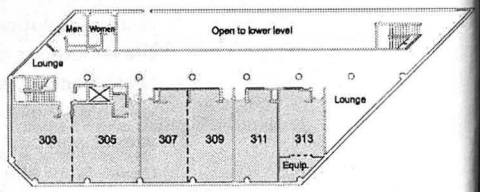
Eccles Conference Center
Level Two

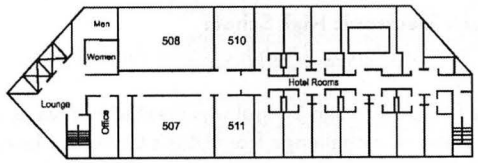


CONFERENCE SERVICES
UtahState
UNIVERSITY

Meeting & Banquet
Floor Plans

Eccles Conference Center
Level Three



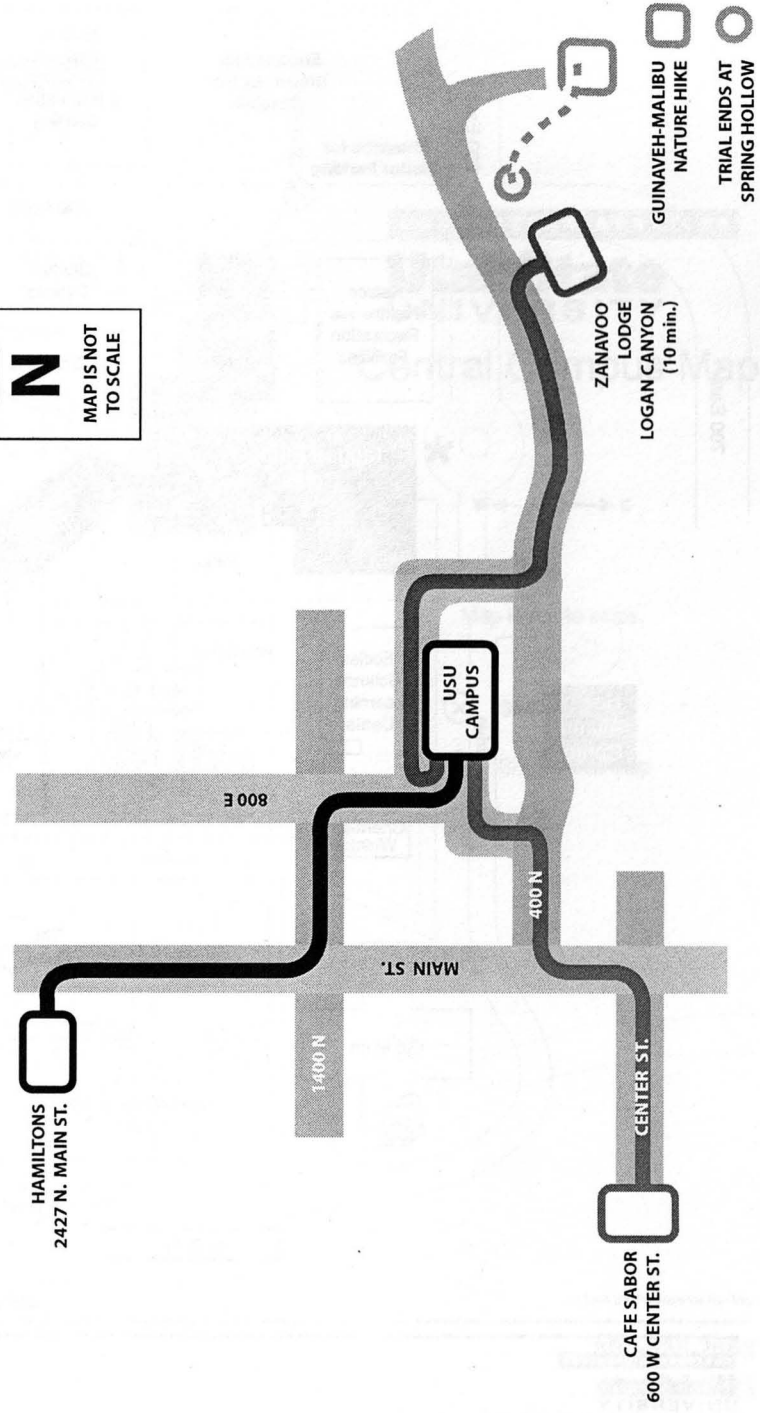


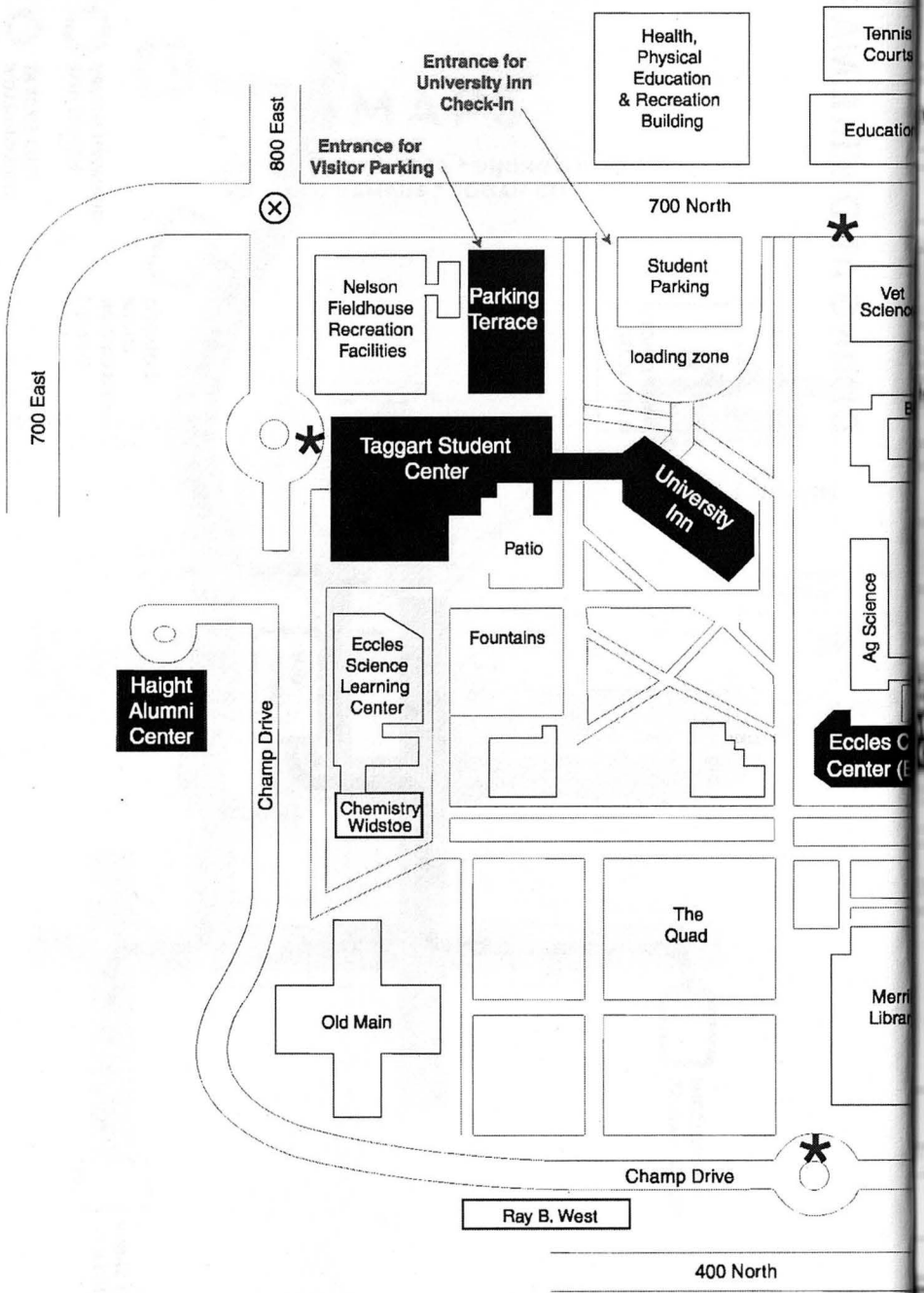
University Inn
Level Five

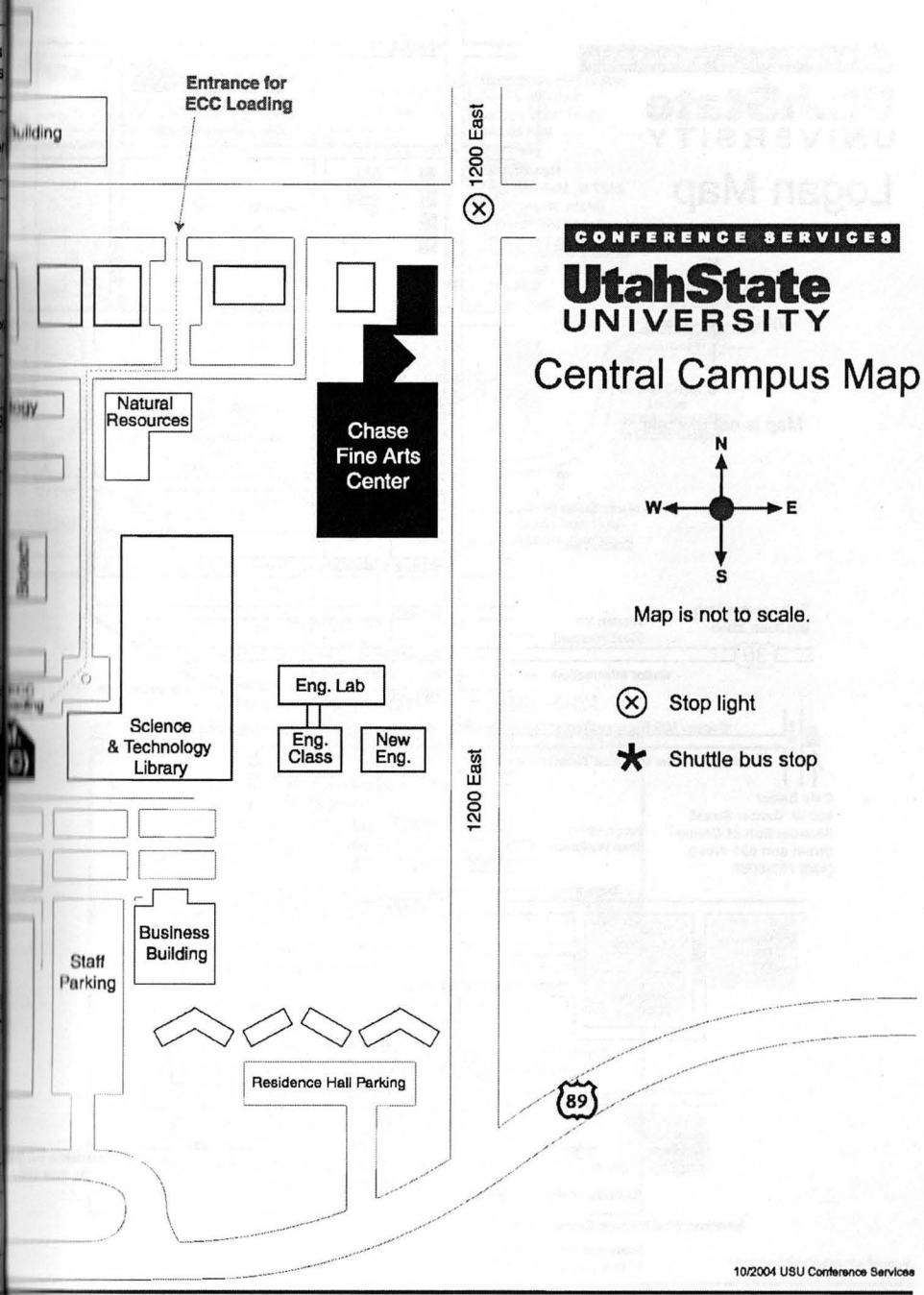
DINING AND HIKE MAP

N

MAP IS NOT
TO SCALE







CONFERENCE SERVICES

UtahState UNIVERSITY

Central Campus Map

N
W E
S

Map is not to scale.

⊗ Stop light

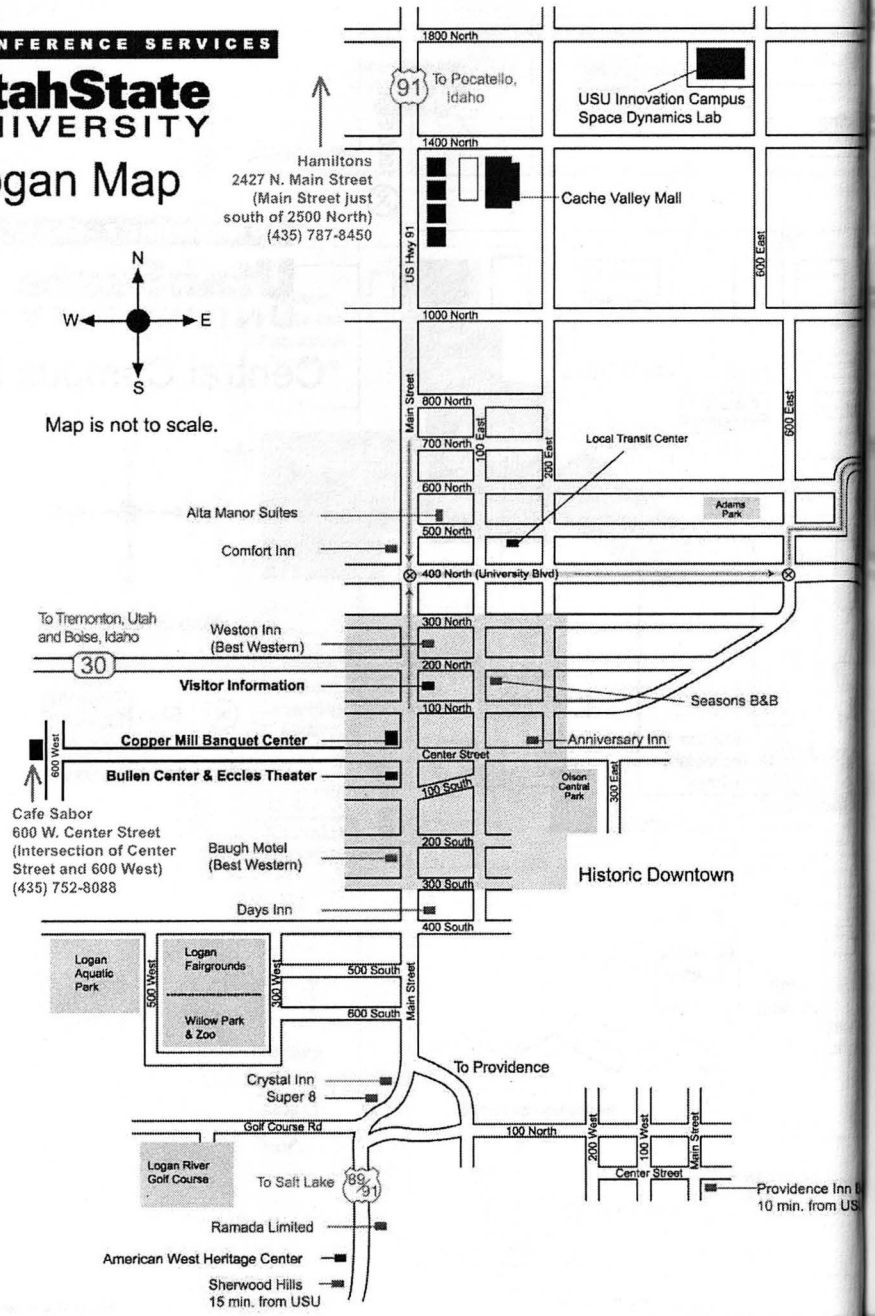
✱ Shuttle bus stop

10/2004 USU Conference Services

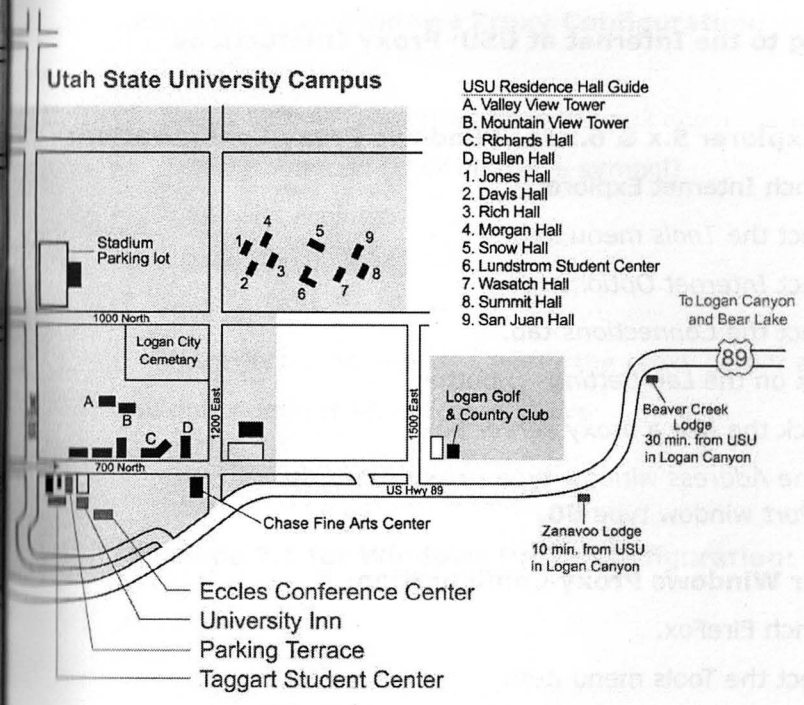
CONFERENCE SERVICES

UtahState UNIVERSITY

Logan Map



Utah State University Campus



For hotel reservations in Logan call 1-800-231-5634.

Actual Distances

Main St/400 N to USU (800 E) = 1 mile
Ramada Limited to 400 N = 3.5 miles
Crystal Inn/Super 8 to 400 N = 1.5 miles
USU Parking Terrace to Chase Fine Arts Center (1200 E) = .5 mile
Stadium Parking (1000 N) to University Inn (700 N) = .5 mile

Driving Directions

- Hwy 89/91 becomes Main Street in Logan
- If driving North on Logan's Main Street, turn right onto 400 North
- If driving South on Logan's Main Street, turn left onto 400 North
- Go East on 400 North for six blocks (heading toward the mountains)
- Turn left onto 600 East, go one block
- Turn right onto 500 North, go one block
- Turn left onto 700 East, follow road uphill curving to the right
- Go through the stoplight
- Parking Terrace is 1/2 block on your right
- University Inn entrance is the next driveway on your right, go to the far end of the parking lot for University Inn loading zone
- The Eccles Conference Center is a short walk from the Parking Terrace, just beyond the University Inn (refer to map)

10/2004 USU Conference Services

Connecting to the Internet at USU: Proxy Instructions

Internet Explorer 5.x & 6.x for Windows Proxy Configuration:

- Launch Internet Explorer.
- Select the *Tools* menu item,
- Select *Internet Options....*
- Select the *Connections* tab.
- Click on the *Lan Settings...* button.
- Check the *Use a proxy server* box.
- In the *Address* window type **proxy.usu.edu**.

In the *Port* window type **80**.

FireFox for Windows Proxy Configuration:

- Launch FireFox.
- Select the Tools menu item
- Select Options
- Click the General button
- Click the Connection Settings button
- Select the Manual proxy configuration radio button
- Check the Use the Same proxy for all protocols box
- Enter proxy.usu.edu in the HTTP Proxy: box
- Enter 80 in the Port: box

Type	Address of proxy server	Port
HTTP	proxy.usu.edu	80
FTP	proxy.usu.edu	80
Security (secure web server)	proxy.usu.edu	80

Note:

Linux users may want to use the IP address 129.123.104.7 in place of proxy.usu.edu

Netscape 4 for Windows Proxy Configuration:

- Launch Netscape.
- Select *Edit->Preferences* from the pull down menu.
- Select *Advanced* (click on the + symbol)
- then selct *Proxies*.
- >Select *Manual*
- click on *View*.
- In the locations provided, enter the proxy server address and port numbers as indicated above.

Netscape 7.1 for Windows Proxy Configuration:

- Launch Netscape.
- Select *Edit->Preferences* from the pull down menu.
- Select *Advanced* (click on the + symbol)
- then selct *Proxies*.
- Select *Manual*
- In the locations provided, enter the proxy server address and port numbers as indicared to the left.

Note: *Linux users* may want to use the IP address 129.123.104.7 in place of proxy.usu.edu

SPONSORS

The William and Flora Hewlett Foundation
Center for Open and Sustainable Learning
JHT Incorporated
Instructional Technology Department at Utah State University

CONTRIBUTORS

Co-Chairs: Shelley Henson, Brandon Muramatsu
Program Chair: David Wiley
Technical Support: Kurt Johnson
Graphic Design: Corrine Ellsworth
Videographers: Matt Barclay, Kurt Johnson

SPECIAL THANKS

William and Flora Hewlett Foundation: Cathy Casserly, Sally Tracy and Lissa Keigwin

MIT OpenCourseWare: Steve Carson

USU Conference Services: Carrie Milligan, Jami Rupp, Vivian Johnson, Rebecca Wallace Barnes

COSL Directors: David Wiley, Brandon Muramatsu, John Dehlin, Corrine Ellsworth, Brent Lambert

COSL Engineering Group: Brent Lambert, Justin Ball, Jeremy Blair and David Ray

COSL Quality Assurance Team: Vel Pillai, Jon Thomas

COSL Researchers: Matt Barclay, Gulfidan CAN, Marie Duncan, Bekir GUR

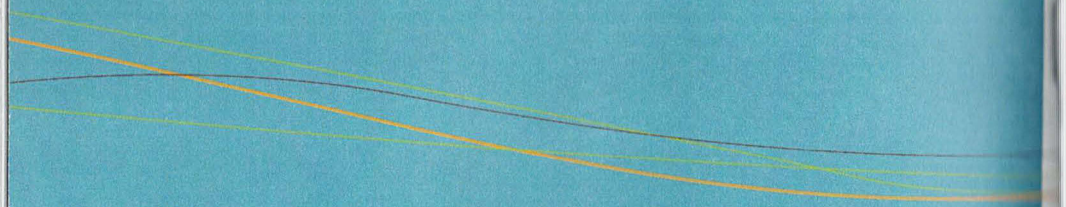
USU OCW Team: Marion Jensen, Andres Bastidas, Jason Couraud, Ryan Harris, Katie Peterson, Paul Waldrop

USU Instructional Technology graduate students

THE WILLIAM AND FLORA
HEWLETT
FOUNDATION

C( )SL

JHT
INCORPORATED



Learning is expanding. C( )SL