Vision Statement

University of Oregon Science Library

May 2011

Shepley Bulfinch
Preface

21st Century Science Commons and Library

The University of Oregon is in the initial planning stages for a new Science Commons and Library. Information technology has drastically changed the services and configuration of all libraries, but this is particularly true in the sciences. Up until the early 1990s, the curriculum and information infrastructure needed to support the scientific disciplines remained relatively stable. Now, in 2011, the world faces a new array of scientific problems and challenges that are significantly different than those which existed previously. Today’s scientific problems are very much interdisciplinary, requiring extensive use of advanced computing capabilities, access to the most detailed and current data, and facilities that encourage and support collaboration with teams of researchers on campus and throughout the global scholarly community.

Although the library’s current location on campus is desirable, the facility has many physical challenges that limit our ability to respond to changing teaching, learning, and research needs. Initially built in the 1960s, the library was modestly expanded in the early 1990s. Despite its limitations, the Science Library remains a magnet for students, and in the past few years it has seen double-digit growth in use. Part of this is due to higher enrollments and increases in the number of science majors in disciplines such as Human Physiology. Part is also due to the general rise in library use as students take advantage of the collections, technology, expertise, and an environment that supports these intellectual pursuits.

As the university continues its substantial strategic investment in the physical and life science, we need a library that supports this direction. A new Science Commons and Library is part of the renewed infrastructure necessary to support advanced research and problem solving in a variety of scientific disciplines. The facility should be designed to promote collaboration, experimentation, and investigation. It will further help to strengthen our tradition of interdisciplinary research by drawing students and faculty from across the scientific disciplines, centers, and institutes to a common space that includes the most sophisticated information technology and the rich collections that constitute the foundation for learning and new research. Emphasis will be placed on expanded access to digital content, as well as services related to informatics and the curation of data. New services could include visualization laboratories and other learning and research spaces designed to collect, analyze and display data.

The attached vision statement represents a collaborative effort with Shepley Bulfinch. The firm worked with the University of Oregon during the expansion and renovation of Knight Library in the 1990’s, and has a long and stellar reputation within the library community. The vision statement is the first step in the design and construction process. It will be used as a communication tool with campus stakeholders and donors who are committed to the advancement of scientific learning and discovery.

Deborah Carver
Philip H. Knight Dean of Libraries
University of Oregon
Creating a New Library for the Sciences

Supporting Science Research and Learning

Excellence in science research and education at the University of Oregon (UO) is central to the academic plan of the University and its role as the “flagship” institution in the Oregon University System. Environments that support signature and foundational science programs, and graduate and undergraduate research, are vital to the continued recognition of UO as one of the nation’s premier public universities. A robust library that inspires research and fosters deep learning is essential to science education, and provides a competitive edge in attracting top students and faculty.

A New Paradigm for the Science Library

Creating a holistic framework of support for faculty and student endeavors is intrinsic to the role of today’s science libraries. Information resources for science research and learning are now primarily digital in format and ubiquitously accessible once they are licensed for campus. Evolving modes of teaching, learning and research are placing new demands on science libraries through the

- increasing demand for richly supported informal learning environments
- growing role of interactive computational tools and interfaces
- increasing complexity of the information environment and the need for expertise to navigate that environment
- expanding place of interdisciplinary scholarship in the science curriculum

In this new educational paradigm, the science library plays a vital role in curating virtual as well as physical information, teaching information research skills and assisting the science community with information discernment. No longer merely a repository for print information, today’s library for the sciences is a vibrant facility that inspires exploration and discovery, and enhances visibility of the sciences to the University and to the public. Varied environments that are flexible and technologically robust, support study, collaboration and instruction and serve as an academic integrator within the science community and university-wide.

Today’s science library is a dynamic learning laboratory providing opportunities for hands-on inspiration and a wealth of resources, tools and expertise.

Dr. Madonna Moss’ Zooarchaeology Lab which houses several ongoing projects and a comparative faunal collection
clockwise from top left
Emory University Chemistry Library: service point and project seating
Williams College Science Library: gallery space
Brown University Science Library Friedman Study Center: student seating
University of Michigan Computer Science Learning Center: cafe/ community space
Duke University Link: flexible instruction space
Recognizing Current Space Limitations

The University of Oregon’s (UO) current science library facility is located on the lowest level of Klamath Hall and occupies 27,400 gross sq. ft. The Library houses physical collections, study seating, and instructional and office space. The library is accessed through the ground level of the Onyx Bridge and located primarily in Klamath Hall (constructed in 1967). With the construction of Cascade Hall in 1989, the library was expanded to accommodate changing staff needs and growing physical collections. A sunken courtyard brings some daylight into the lower level spaces, however natural light is lacking in most areas. Due primarily to lack of funding for large scale library renovations, large portions of the library’s spaces remain as planned and equipped almost 45 years ago.

The library’s low-use print collections occupy over 50% of the available space, limiting the amount of seating available to accommodate study, research and learning activities. The predominance of the print collections contributes to a first impression of a library facility that is not in-step with current science research practices. Enclosed space for students to work together is lacking, though collaborative projects are a primary component of UO’s science and research curriculum. Staff work spaces are remote from areas of public interface and the primary service desk is representative of an outmoded service model. In general, staff areas reflect a primary function to support the processing and distribution of print materials rather than the array of interactive consultation based services currently provided by the library’s science information specialists.

Although the library has the potential to be an intellectual hub providing places for interdisciplinary connection and specialized instruction, meeting and teaching spaces in the current library are undersized and common spaces supporting informal learning are non-existent.

Recent, modest improvements to the interior of the Library, such as the expansion and improvement of seating areas and the creation of the anatomy room, have led to a dramatic increase in gate-counts in the science library, demonstrating the importance of the library as a central place for study and learning within the science community.

clockwise from top left
UO Science Library:
entry
carrel seating adjacent to the courtyard
clockwise from top right
UO Science Library:
open seating
group study
reference shelving
courtyard
entry view
Remaking the UO Science Library

In 2011, the opportunity exists to dramatically transform the library’s physical space, leapfrogging over program and design trends of the past 45 years to implement a compelling, forward looking plan to remake the UO Science Library.

Substantially rethinking existing library programs and spaces will create a revitalized library that will carry the University forward and set the stage for a future possible expansion. Immediate incremental renovations will emphasize programs that create new capabilities for the science library in support of collaborative learning, interdisciplinary work, and integrative programs, re-invigorating the science library as a new, dynamic hub for science community interaction.

Priority space needs to deliver the transformed science library are:

• A central community space to facilitate interaction and connection
• Collaborative study space to support evolving modes of teaching
• Visible and expanded services to promote exploration and discovery
• Flexible spaces that facilitate testing and experimentation
• Increased natural light

Expanded and improved library space will provide visibility for library services and enhance support for research and study within the science community. In order to deliver the range of services expected from today’s science library, physical space should be reallocated to provide approximately half as much area for print collections and twice as much for patron areas dedicated to study, research, learning, and collaboration.

Renovations to create more contiguous space linking the Science Library and the Klamath academic computing labs will facilitate more robust services that leverage shared expertise of library and information technologies. Services could include digital production to facilitate knowledge creation and collaborative endeavors such as data manipulation and visualization, whose success depends on both library and technology expertise.

The central location of the existing library is valuable and supports the opportunity for greater integration with the science community. When the University eventually replaces Onyx Bridge with a new facility, the library could be expanded from its current location to new, more visible and easily accessible space.
Vision Statement | University of Oregon Library for the Sciences

Program summary bar graph, showing existing and recommended space allocation.

top to bottom:
UO Science Library: envisioned adjacency diagram
Themes for the New Science Library

Through dialogue with science faculty, students, and library and academic computing staff, themes to guide a science library transformation have emerged:

Create Community
Foster Interaction
Enhance Visibility
Inspire Research
Preserve Information
Promote Access

Inherent in these themes are a series of program and space goals that will shape the new library:

**Outreach / Interaction /Community**

*Goal:* Create a library that is central to the science community and integrated (both virtually and physically) with the community as a whole. Provide spaces for sharing and presentation that are interactive and activity-based to engage both science and non-science students and faculty.

To support this goal, library space should be porous, with multiple entrances, including a welcoming, visible entrance for visitors and the public, and interconnected with other science building functions. Space needs include:

- Gathering / event space that is central, flexible and informal to support lectures, events and presentations similar to "Science Pub", allowing for a variety set-ups and equipped with excellent audio-visual systems to support events
- Exhibit / display space providing multiple opportunities to feature research content, including digital presentations, "poster session" displays, and support for testing, demonstrations and experiments
- A café or coffee area located for easy access by both the science community and the larger University community
- Flexible meeting spaces that can be reserved for faculty functions and collaborative work, with video conferencing and display capabilities

**Supporting Science Study and Research**

*top to bottom*
Broad Institute, Cambridge, MA: real time research data display
Atlanta University Center R.Woodruff Library: flexible event/community space
Georgetown University International Law Center: cafe
Goal: Create a variety of study and research environments that allow for engagement, interaction, collaboration, and quiet study. As a minimum, the current seat count (currently approximately 198 non classroom seats) should be doubled to meet the needs of the science community. Space needs include:

- Collaborative work rooms for 2-10:
  - Group work rooms with white boards and power (low level mediation)
  - Group work rooms equipped with projection and video record/playback capabilities for presentation practice, media viewing and peer tutoring (higher level of mediation)
  - Project rooms for longer term assignments to accommodate faculty or student research using library resources, expertise or technology (with visible controls)
  - Booths
  - Small group study rooms

- Quiet seating areas:
  - “Destination” space / reading room to see and be seen, but quiet
  - Enclosed / semi-enclosed spaces for individual work spread throughout the Library

- Active seating areas with interactive technologies designed to promote informal learning/ interaction and collaboration with library staff and faculty peers

- Large, high resolution interactive touch screens for group data viewing and manipulation

- Flexible areas to showcase discipline specific information content and create community

- Collections / 3D models / materials on reserve / specialty software

Services, Instruction and Content Visualization
Goal: Provide instructional spaces that support knowledge creation, foster the interaction of library staff, students, and faculty, and promote science literacy.

Inclusion of these spaces within the library will provide for library mediated support with scheduling, technology and set-up. By creating a porous boundary between classrooms, labs and the library, the library can become the “break-out space which allows learning conversations to start before class and continue after. Services should create an “Integrated Science Learning Center” that includes:

- Flexible teaching spaces with reconfigurable furniture incorporating or adjacent to break-out space for group work for ease of transition from classroom to individual tutoring/advising:
  - Robust audio-visual/ Technology infrastructure: smartboards/ touchescreens/ large screens for collaborative work
  - Video conferencing capabilities that allow for use of science equipment (i.e. lab table, power)
  - Large, very high resolution display screens for data projection
  - Extensive services for writing/ projection
  - Library-mediated access, set up and help with use of technology


- Digital Resources and Media Creation Lab for:
  - Video editing, analysis and group viewing
  - Large format printing: posters
  - “Sandbox” for new software
  - Access to Proprietary software

- Visualization/ immersion lab that is a flexible—“black box” that can be updated as technology evolves and support visualization of data/ GIS

- Tutoring and group study space to services that support high-level technology such as MATLAB

*top to bottom*
University of Wisconsin: visualization lab
McGill University: scale-up classrooms
Duke University Link: group study with a variety of writing surfaces
**Information Resources**

**Goal:** Facilitate access to information in all formats by acquiring/leasing pertinent material, preserving and managing research data, providing support for ease of access to available resources, and engaging in active outreach to the University of Oregon community and beyond.

- Develop a collection plan to reduce print collections space by 50% through de-accessioning duplicate or obsolete materials, providing off-site storage and transitioning to electronic formats
- Invest in robust electronic collections and access to online databases, journals and other resources
- Enhance support in archiving and curation of University produced data and research
- Enhance support of non-print “specimen” collections for the physical sciences

*counterclockwise from top*

Brown University, the Library Collection Annex: remote high-density storage facility
Atlanta University Center R.Woodruff Library: compact shelving
Xavier University
Design Guidelines for New Space

**Flexibility/ Convertibility**

Ensure the flexibility of spaces for multiple types of users and multiple tasks:
- Create a library that serves a variety of learning styles from quiet to active collaborative study and promotes formal and informal learning
- Organize and equip group study rooms for potential use as collaborative group study rooms, tutoring, project space and short term office space
- Design service points for flexibility in location, access, and size
- Provide moveable partitions/changeable walls in instructional spaces to accommodate different size and types of classes and to connect instructional spaces to break out areas

**Transparency**

Utilize transparency to promote connection and understanding:
- Provide different levels of spatial transparency through use of glass, open space, and sightlines to encourage sharing while maintaining user comfort
- Create spaces that encourage visibility of work
- Use glass and open space to increase penetration of daylight into interior spaces
- Provide opportunities for distraction in moderation – for users to “see and be seen”

**Permeability**

Provide permeable boundaries to foster collaboration and interaction:
- Consider multiple access point to the library
- Provide 24 hour access for individual and group work
- Plan for access to staff spaces by library users

**Sustainability**

Create spaces that express the commitment of the University of Oregon to sustainability both through the use of environmentally preferable products, materials and equipment and through operational efficiencies:
- Optimize energy use
- Enhance indoor environmental quality
- Maximize the use of daylight

**Technology Infrastructure**

Integrate the technology infrastructure to provide seamless and supported access to and use of material:
- Allow enough space for the use of a variety of tools – both “high tech” and “low tech”
- Plan for facilities to handle access and manipulation of data, conversion and media production
- Consider integrated services providing some technology support within the library

**Lighting**

Provide lighting to improve the quality of the user environment:
- Maximize the penetration of daylight into both public and private spaces, both at the perimeter walls and into the interior spaces through transparency
- Use indirect lighting and task lighting appropriate for the space being lit
- Provide operational controls that maximize energy efficiency
- Plan for the ability to control lighting with directional lighting and dimmable lighting
clockwise from top left
Queens University Belfast McClay Library: daylight/natural ventilation
Johns Hopkins University Comp Sci Building: visibility
Stanford University: Institute of Design
Duke University Link: flexibility /convertibility
Conclusion

The transformation of the University of Oregon Science Library will provide the University with a central place for informal intellectual connection and interdisciplinary research. By improving access and visibility, the library will draw from the science community and the University at large to promote discussion and interaction; by connecting existing library spaces with technology labs, the library will provide contiguous space for access to information, use of resources and knowledge creation; by increasing the flexibility and variety of spaces available for study and research the library will create opportunities for experimentation and discovery. The new Science Library will bring together faculty and students with technology and information resources in an environment that fosters collaborative, individual or consultative work and supports research and learning needs in the sciences today.

Process

Shepley Bulfinch was engaged by the University of Oregon Library to develop a vision for the Science Library in response to changing paradigms shaping the role of the library in science education, teaching and research. In addition to a review of existing library functions, the study considered a broader array of programs and spaces to support interdisciplinary science education, enable scholarship, and foster intellectual community.

The process was guided by a Project Steering Committee and included focus group meetings with faculty, undergraduate and graduate students, and staff.

The vision was inspired by trends and best practices in science library and learning facility design and is intended as a first step for the University in providing a broad framework for future decisions about the physical space of the science library and a basis for the development of project funding strategies.

Acknowledgments / Credits

The Shepley Bulfinch team would like to thank the University of Oregon Library for the opportunity to assist the University in developing the vision for a new science library. The science library has the opportunity to be a transformative facility for the science community and the University at large. Most importantly it will represent UO’s commitment to research in all aspects of the sciences and to the visibility of the sciences in the larger community.

We hope that this study will serve as a valuable tool as the University continues the evaluation and planning process. Our team is readily available to further assist you at anytime and provide continued support for analysis or fundraising.

page14 clockwise from top left
Goucher College Athenaeum: event/ forum space
Marquette University Law School: collaborative group study space
University of Michigan Duderstadt Center: project space
Georgia Tech: learning commons
Duke university Link: informal active seating
Appendix

- Program Summary
- Program Detail
- Meeting Notes
- Science Library Trends Presentation
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<tr>
<th>Space</th>
<th>Total Existing</th>
<th>Recommended</th>
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<td>Public, Event, and Exhibit Spaces</td>
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<td>Seating and Study Space</td>
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<td>Instructional Spaces</td>
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### Program Detail

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**Total number of Patrons Seats**: 204 seats
**Total number of Patron Seats**: 420 seats
**Total number of Library Instructional Seats**: 48 seats
**Total number of Staff Westin/Office Seats**: 8 seats
**Total number of Double Faced Sections**: 680 DFS
**Total Volume Capacity**: 228,581 vols

**Total Net Area**: 27,394 asf
**Total Net Area**: 28,927 asf

Enclosing the courtyard would add +/- 4,000 s.f. to GSF.
Memorandum of Meeting

To: Meeting/Tour Participants
From: Sarah Felton, Shepley Bulfinch
Subject: University of Oregon Science Library Study
Project No.: 3920
Project Goals – 12:00 PM
Wrap Up – 6:00 PM
Tuesday, 5 October 2010

Date: Wednesday, 6 October 2010

12:00 PM - Meeting Participants:
Janette Blackburn; Shepley Bulfinch
Andrew Bonamici; U of O, AUL for Instructional Services
Barbara Butler, U of O, Librarian, Institute of Marine Biology
Deb Carver, U of O, Dean of Libraries
Sarah Felton; Shepley Bulfinch
Victoria Mitchell; U of O, Head, Science Library
Mark Watson; U of O, AUL for Collections & Access

1) Re-cap of faculty meetings
2) Vision for the Science Library
   a) Interactive, hands-on, activity based (model – Science Museum, but at a different level)
   b) Welcoming to community
      i) bringing K-12 onto campus
      ii) Campus does not want to be an ivory tower
   c) Exposure to science for all undergraduates
   d) Not just about text, but about information (bones, rocks, visual displays .etc .)
   e) Sandbox
   f) Vision not so much for the distributed model of a science library (MIT)
      i) Loss of serendipitous discovery with distributed model
   g) Undergraduate research
      i) Commons
         (1) common ownership
         (2) Space used by others to share research
         (3) Vitality
   h) Building that facilitates testing & experimentation
      i) Science Library has repeatedly hosted demonstrations
   i) Space for faculty interaction (no faculty club)
j) Central forum space/atrium (Goucher College)
   i) Willamette Hall – used for events; café not successful
   ii) Science Pub – U of O researchers presenting their research
   iii) Wiesstag facility in Portland (U of O Portland program)

k) Head of Planning Office envisions a prominent integrated library in the location of
   Columbia 150 to serve the Sciences and the Architecture and Allied Arts (AAA)
   programs.
   i) AAA desperate for space
   ii) AAA wants their library with them
   iii) AAA world class rare book collection in Architectural History

l) At minimum consider a renovation of the existing library

3) Libraries
   a) Easily reach 10,000 people/day coming into libraries

4) Science facility improvements
   a) 3 phases:
      i) Lewis Integrated Science Building – in construction
         (1) Faculty and research labs
      ii) Labs – Library?
      iii) Implosion of the Onyx Bridge
   b) Funding backed up – state not able to issue any more bonds in this bienium

5) Undergraduate Council developing initiatives to align and build cohesion in science
   general education and in the humanities

6) U of O enrollment
   a) 23,800 head count (approximately 19,000 FTE)
   b) Academic Plan – 24,000 FTE, more socio-economic diversity
   c) Growth has happened more quickly than planned which has impacted the College of
      Arts and Sciences

6:00 PM - Meeting Participants:
Janette Blackburn; Shepley Bulfinch
Andrew Bonamici; U of O, AUL for Instructional Services
Deb Carver, U of O, Dean of Libraries
Sarah Felton; Shepley Bulfinch
Victoria Mitchell; U of O, Head, Science Library
Mark Watson; U of O, AUL for Collections & Access

1) If the vision is for a digital library, the resources have to match
2) Classrooms in the library are ok – but not what the library is about
3) Library
   a) Production
   b) Acquisition
   c) Preservation
   d) Dissemination
4) Up to about 5 years ago focused on accommodation of growing collection – compact shelving request

5) Collection accommodation projections
   a) Hard to know long term if less stack space will be needed (Carver)
   b) Need for shelving will decrease by at least 50% in the next 10 years (Watson)
      i) Costs are going to come down
      ii) Availability will go up
      iii) Ability to choose electronic or print will go away
      iv) Use of print is dropping

6) What can we do with facilities and services to help with open access initiatives

7) Next steps
   a) Information needed by Shepley Bulfinch
      i) Space inventory – Planning office
      ii) Collection inventory information
      iii) Seating information
   b) Shepley Bulfinch to send draft meeting minutes to Deb Carver and Sheila
   c) Shepley Bulfinch create a list of possible program elements to discuss during the video conference
   d) Video conference November 16 or 17

The above is the authors’ best recollection of the discussions and decisions made during this conference call. Any questions or comments should be addressed to the writer.
Memorandum of Meeting

To: Meeting/Tour Participants
From: Sarah Felton, Shepley Bulfinch
Subject: University of Oregon Science Library Study
Introductions/Science Library Tour
Tuesday, 5 October 2010

Date: Wednesday, 6 October 2010

Meeting Participants:
Victoria Mitchell; U of O, Head, Science Library
Deb Carver, U of O, Dean of Libraries
Mark Watson; U of O, AUL for Collections & Access
Andrew Bonamici; U of O, AUL for Instructional Services
Barbara Butler, U of O, Librarian, Institute of Marine Biology
Annie Zeidman-Karpinski; U of O, Science Reference Librarian (Computer Science, Math, Bio-medical)
Brian Westra; U of O, Lorry I. Lokey Science Data Services Librarian
Dean Walton; U of O, Librarian, Science Reference Librarian (Biology, Neuroscience, Environmental Studies)
Janette Blackburn; Shepley Bulfinch
Sarah Felton; Shepley Bulfinch

1) Vision
   a) More of a digital place
   b) Place for community/interaction
      i) Faculty with other faculty
      ii) Graduate students with other graduate students
   c) Programs and spaces for people to share
   d) Other spaces to look at:
      i) Williams College Science Library
      ii) Concordia University – atrium space
      iii) Denver – Health Sciences Library
         (1) Classroom with divider that comes from ceiling – works well

2) Existing/Tour
   a) No formal off-site shelving
   b) Science Library has material stored outside the library on campus
      i) Retrievable within 24 hours
c) Science Library approximately 40,000 s.f.

d) Classrooms
   i) Difficult to find
   ii) Video conferencing cart for use in classrooms
   iii) Laptop cart
      (1) effective for providing all students with a laptop that is configured with the software and access they need for class
   iv) Size
      (1) Room A22 – 20-25 students (tight with 25)
      (2) Room B90 – 30-35
      (3) Need 35-40
  v) Students can schedule classrooms for use with big groups
  vi) Professors would like desktop computers with front control console

e) Monitor at entry not effective

f) Flow of traffic difficult

g) Anatomy room successful
   i) Resources beyond print (bones, etc)
   ii) Creates community for anatomy students

3) Science Complex
   a) New Lewis Integrated Science Building in construction
      i) Primarily faculty labs/research space
      ii) Place for faculty to meet across departmental lines
   b) Cloistered/compartmentalized

4) Project
   a) Funding
      i) Oregon will not issue bonds unless half the funding is already in place
      ii) A vision is needed to begin fundraising for the project
      iii) A lead gift is needed (5-7 million)
      iv) Campus priorities will shift depending on who has the capacity to raise money

5) Action items
   a) Andrew Bonamici will send material to Shepley Bulfinch
      i) Study on informal learning spaces on campus

The above is the authors’ best recollection of the discussions and decisions made during this conference call. Any questions or comments should be addressed to the writer.
Memorandum of Meeting

To: Meeting/Tour Participants
From: Sarah Felton, Shepley Bulfinch
Subject: Introductions/Science Library Tour

Tuesday, 5 October 2010

Project No.: 

Date: Wednesday, 6 October 2010

Meeting Participants:
Daniel Berg; U of O Undergraduate Student, Chemistry
Janette Blackburn; Shepley Bulfinch
Sarah Felton; Shepley Bulfinch
Nima Dinyari; U of O Graduate Student, Physics
Victoria Mitchell; U of O, Head, Science Library
Kimberly Montero; U of O Undergraduate Student, Chemistry
Sheena Moore; U of O Graduate Student, Environmental Studies
Stan Mordensky; U of O Graduate Student, Geology
Dash Vitullo; U of O Graduate Student, Physics
Chaowaroj Wanotayaroj; U of O Graduate Student, Physics

1) Study, research needs
   a) Video conferencing (graduates) for collaboration with colleagues outside of U of O
   b) Collections
      i) Come to library for journal articles and books 2-3 times per wk (graduate)
      ii) Easier to access the physical book (graduate and undergraduate)
      iii) Textbooks
         (1) Can’t carry them all
         (2) Only available if the professor puts them on reserve
      iv) Browsing new books (graduate)
   v) Electronic access
      (1) A lot of material not available directly
   vi) ILL is difficult because most students doing research need to skim many many articles to see if they are relevant – may not need the requested article
   c) Computing access
      i) Database & software access that not affordable for student to have on laptop
         (1) Chemistry – software to build molecules
         (2) Statistical analysis software
         (3) Video analysis software
ii) There are not sufficient desktop computers in the library with access
iii) It would be valuable to integrate library and lab systems so that labs could be accessed after hours
d) Study space
   i) A variety of study spaces is needed including quiet spaces and more interactive spaces for collaboration
   ii) Smaller rooms for smaller groups to collaborate
   iii) Problematic when single students are occupying large rooms
   iv) Occasionally use projectors in classrooms to practice presentations and using specialized software
e) Visualization lab – students not sure it would get used
f) Library services
   i) Interaction with library staff important (graduate and undergraduate)
g) Natural light
h) Essential to have it central to the science buildings for graduate students, who will not take extra time to walk any distance
i) Need longer hours
j) No established communication center with spaces that could be tasked to sharing information and research – could work in the library
   i) Faculty recruiting undergraduates to do research work
   ii) Poster display
   iii) Flatscreens – energy hogs and don’t work
k) Art in the library
l) Book scanner
m) Location of library with relation to labs and access to library from labs set up to facilitate moving lab discussion to library and allow for space for TA tutoring
n) Provide a drop box outside of the library building to allow students to drop off material at off-hours.

The above is the authors’ best recollection of the discussions and decisions made during this conference call. Any questions or comments should be addressed to the writer.
Memorandum of Meeting

To: Meeting/Tour Participants
From: Sarah Felton, Shepley Bulfinch
Subject: University of Oregon Science Library Study
        Faculty Focus Groups
        Tuesday, 5 October 2010
Date: Wednesday, 6 October 2010

Project No.: 3920

10:00 AM - Meeting Participants:
Janette Blackburn; Shepley Bulfinch
Sarah Felton; Shepley Bulfinch
Emilie Hooft Toomey; U of O, Assistant Professor, Geological Sciences
Dean Livelybrooks; U of O, Senior Instructor, Physics Department
Victoria Mitchell; U of O, Head, Science Library

1) Collections
   a) Journals primarily accessed electronically
   b) If the library doesn’t have the material, requested and delivered electronically through ILL
   c) Current edition of textbook not available in library (Hooft Toomey)
   d) Sometimes get books from library
   e) Graduate students use the textbooks a lot
   f) Geology - a lot of rock and mineral samples that are not catalogued

2) Teaching/Classroom needs
   a) Video conferencing facilities
      i) Set up so that it can accommodate demonstrations and science experiments
      ii) Bend, Oregon – built in video conferencing facilities where the camera follows the faculty member
   b) Geology - use Blackboard for online work
   c) Labs
      i) Geology - traditional labs
      ii) Physics
         (1) 100 level courses take home labs
         (2) A materials center for distribution of labs w/ necessary kits would be valuable
            (Univ. of Michigan Science Learning Center)
   d) Field trips
      i) Currently put structural maps together in the field for field trips
ii) Potential for virtual field trips to prepare students (being done at Portland Community College, Sylvania Campus – Undergraduate Catalytic Outreach and Research Experience (UCORE) partner by Frank Granshaw)

e) Classroom/teaching space
  i) Teaching space with desktop computers/computer lab needed for interdisciplinary teaching
  ii) Need for comprehensive computational science course based in Mat Lab - currently done mostly within each department, but could be a better class if shared.
  iii) Physics summer program bringing 25 students from community colleges on campus to conduct research
      (1) Currently meet in B90
      (2) Use computers on wheels (COWS) – Dells not efficient

f) Project Rooms
  i) Project rooms that can be set up long term for projects would be valuable
  ii) Visible to non-science majors
  iii) Space that might support interdisciplinary projects

g) Shared digital facility with local support
  i) Facility for data analysis adjacent to support and a place for borrowing shared high end equipment – eg. high speed cameras
  ii) Emphasis on visualization – tools for research that allow students and faculty to analyze and interpret
  iii) Create community and teach each other
  iv) Needed software for video analysis
  v) Would it be used?

h) Tutoring space
  i) 200 level problem solving tutorials
  ii) Currently use Physics Reading Room

3) Data Management
  a) Geophysics –
     i) conduct their own data management using parallel computer clusters
        (1) located in Geology building
        (2) specifically designed for the work done in Geology department
        (3) Run parallel projects using Mat Lab
     ii) Archived by Instrument Consortium

4) Interdisciplinary work
  a) Space for faculty interaction needed
  b) Non departmental location for interdisciplinary seminars needed
  c) Interdisciplinary work primarily with people at other institutions (Hooft Toomey)

5) General
  a) Enrollment has increased at U of O
i) Physics majors have doubled since 1998  
b) Geology and physics grad students all have offices  
c) Desire to connect undergraduates to print material  
d) A place to meet and talk about science in general is missing (Science Literacy – a grant just received from the Howard Hughes Medical Institute)  
e) Place to create community

11:00 AM - Meeting Participants:
Janette Blackburn; Shepley Bulfinch  
Barbara Butler, U of O, Librarian, Institute of Marine Biology  
Hans Dreyer; U of O, Assistant Professor, Human Physiology  
Sarah Felton; Shepley Bulfinch  
Mike Haley; U of O, Professor, Chemistry  
Andy Karduna; U of O, Associate Professor, Human Physiology  
Andrew Lovering; U of O, Assistant Professor, Human Physiology  
Peter O'Day; U of O, Associate Professor, Neuroscience  
Annie Zeidman-Karpinski; U of O, Science Reference Librarian (Computer Science, Math, Bio-medical)

1) Research  
a) Don’t go to library to do research
2) Collaborations  
a) Primarily with other institutions  
b) Using Skype, e-mail, and phone for collaborations with colleagues  
c) If needed, use video conferencing facility in Knight Library
3) Presentations/Talks  
a) Use facility in Knight Library to record and upload talks to the server
4) Library as virtual hub for information  
a) Share local expertise  
b) Constantly streaming presentations  
c) Librarian’s role to integrate faculty  
d) Statistical support  
e) Grant writing support  
f) “Library Pub”  
g) An “app” with all the print information  
h) Flat screen displays that alternate 4-5 different kinds of research
5) Physical space of library  
a) Space that people want to “hang out”
6) Teaching/Classroom  
a) Desperate for good classroom space  
b) 150 Columbia is the only large lecture hall on campus  
c) Need spaces for 40-45 students  
d) Some departments have classrooms that are not registrar controlled
e) Scale-up model of classroom would be ideal

2:00 PM - Meeting Participants:
Alice Barkan; U of O, Professor, Biology
Janette Blackburn; Shepley Bulfinch
Barbara Butler, U of O, Librarian, Institute of Marine Biology
John Conery; U of O, Professor, Computer and Information Science
Sarah Felton; Shepley Bulfinch
Dan Gavin; U of O, Assistant Professor, Geography
Julie Haack; U of O, Assistant Department Head, Chemistry
Marli Miller; U of O, Senior Instructor, Geological Sciences
Dean Walton; U of O, Librarian, Science Reference Librarian (Biology, Neuroscience, Environmental Studies)

1) Research
   a) All online; all virtual; things will be delivered electronically (Conery)
   b) Journals before 1985 will never be available
   c) Errors in citations are rampant
   d) PHD research requires access to primary source material
   e) Way to get to resources (ILL & digital document request)
   f) Immediate access is not an issue

2) Teaching/Classrooms/Research needs
   a) Don’t push print on students
   b) 70-90% of students have laptops and can do labs on their own laptops
   c) Labs need to be available to students
   d) Desperate for good teaching rooms: 20-30 students – better use of space than books
   e) Interdisciplinary work between Chemistry and Product Design; space needs:
      i) Teaching space with white boards all around for sketch/brainstorming sessions
         then move thought process into modeling programs
   f) Sandbox space – not in department
   g) Geology – simultaneously using different technologies in teaching spaces
   h) Visualization lab – large screens, interactive
   i) Data driven – space where people can come together & show large sets of data
   j) Video conferencing – collaboration across country (Oregon State University – use
      video-conferencing space for teaching)
   k) Computer lab w/ software installed and centralized support
   l) Spatial component to every department – GIS labs already exist in Sissil Lab (Social
      Sciences) and in Knight
   m) Undergraduate research
      i) 90% of undergraduate chemistry students participate in research
      ii) Students work in library to identify unknowns
iii) Students may rely on print resources where faculty may have access and students do not

3) Spaces needed for TA’s to meet students that are wired with internet access

4) Traditional library services needed for integrating subjects/disciplines
   a) Students not adept electronically when bridging disciplines that don’t usually study

5) Faculty mixers – different disciplines
   a) Lounge space would be better if faculty could walk up and write on walls to present
      with access to multi-data input and software to do analysis.

6) Data Management
   a) Departments manage themselves while active
   b) Archival material better catalogued for access and managed by library

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3:00 PM - Meeting Participants:
Janette Blackburn; Shepley Bulfinch
Greg Bothun; U of O, Professor, Physics
Jim Brau; U of O, Professor, Physics
Sierra Dawson; U of O, Senior Instructor, Human Physiology; Program Director, Graduate Athletic Training
Becky Dorsey; U of O, Professor, Geological Sciences
Sarah Felton; Shepley Bulfinch
Tory Herman; U of O, Associate Professor, Biology
Dana Johnston; U of O, Associate Dean Natural Science; Professor, Geological Sciences
Raghu Parthasarathy; U of O, Assistant Professor, Physics
Alan Rempel; U of O, Assistant Professor, Geological Sciences
Erik Selker; U of O, Professor, Biology
Dean Walton; U of O, Librarian, Science Reference Librarian (Biology, Neuroscience, Environmental Studies)
Brian Westra; U of O, Lorry I. Lokey Science Data Services Librarian

1) Existing library
   a) 7 years since been to Science Library (Bothun) – existing physical space useless
   b) Anatomy study room has been really successful
   c) Collections
      i) Books valuable – serendipity/browsing
      ii) Students use textbooks
   d) Students using the library like a study hall

2) Science library needs to be a facility where faculty can do something that they can’t do in
   their offices or labs
   a) Data Visualization lab for large data sets
      i) NOAO – Science on a sphere – ONSI ball
      ii) Facilities at Penn State, Perdue, Univ. of Washington
      iii) Teaching resource
   b) Library services
      i) Place to put ideas together, where you can get direction about who to talk to to do
      interdisciplinary work, and to explore ways of searching
ii) Collection of people with expertise
iii) Electronic access
   (1) Library plays a big role for faculty and grad students when they are travelling
   (2) Access to journals essential – needs expansion
c) Video conferencing/online classroom
d) Centralizing technology in library
   i) IT support functions currently located in McKenzie Hall
e) New library – a place for creation
f) Place for creating community
   i) Place to randomly run into people and talk to them
   ii) Not just a set of resources
   iii) Seating for quiet and noisy interactions and scholarship
3) Students future needs
   a) Video editing: multi-media w/ student support
   b) Sound recording
4) Find models for Science Libraries that work

4:00 PM - Meeting Participants:
Janette Blackburn; Shepley Bulfinch
Li-Shan Chou; U of O, Associate Professor, Human Physiology
Sarah Felton; Shepley Bulfinch
Samantha Hopkins; U of O, Assistant Professor, Honors College Geology
Lara Nesselroad, Manager, Science Library
Patrick Phillips; U of O, Head of Department of Biology; Professor, Biology
Dean Walton; U of O, Librarian, Subject Specialist: Biology, Neuroscience, and Environmental Studies

1) Existing library
   a) Faculty and graduate students don’t go to the libraries anymore (Phillips)
   b) Primary literature is electronic – journals (Phillips)
   c) Still checking out books
d) Uses physical journals in library and through ILL (Hopkins)
e) Personal use has dropped – comes in 2x week to teach (Chou) – ILL is the only
   service he currently uses
f) Perception that physical aspect of library more of an undergraduate space
g) Librarians out among the faculty – interaction between librarians and faculty not
   happening in the library
2) Teaching/Classroom/Research needs
   a) Library that facilitates electronic access
   b) Interaction spaces for students
   c) Facilitates distance interactions
i) Video-conferencing

d) Educational component of library becomes more important in a virtual library

e) Balance between delivering information and tradition of study

i) Flexible interactive study and education spaces (could be shared across all the sciences)

ii) Peer tutoring

iii) Educational services

f) Important to keep the Science Library central to the science buildings

g) Visualization lab as a shared service – needed, but the library may not be the right place for it

h) Denver Health Sciences – Flexible classroom spaces where you can have break out modules

i) Define what is a library:

i) Information storage and access

ii) Beta instruction spaces are needed on campus, but are they part of the library?

iii) Centralized location for research work being done on campus

iv) Has a role in knowledge creation rather than just knowledge storage – impossible to separate data storage from data creation – the way knowledge is stored affects how the data is used to create new knowledge

v) Public outreach function

(1) Science pub works because it is in an informal setting and the event is combined with food

j) Cafe

The above is the authors’ best recollection of the discussions and decisions made during this conference call. Any questions or comments should be addressed to the writer.
Memorandum of Meeting

To: Meeting Participants
From: Sarah Felton, Shepley Bulfinch
Subject: University of Oregon Science Library Study Project No.: 3920
Working Group Meeting
February 17, 2011
9:00 AM Preliminary Update
12:00 PM Lunch Meeting
1:00 PM Meeting with Director of Academic Technologies
3:00 PM Meeting with AUL’s
Date: March 16, 2011

9:00 AM - Preliminary Update
Meeting Participants:
Janette Blackburn; Shepley Bulfinch
Andrew Bonami; U of O, AUL for Instructional Services
Barbara Butler, U of O, Librarian, Institute of Marine Biology
Deb Carver, U of O, Dean of Libraries
Sarah Felton; Shepley Bulfinch
Mark Watson; U of O, AUL for Collections & Access

1. Organizational changes
   1.1. Barb Butler interim head of Science Library
2. Staff been brainstorming
   2.1. Barb has posed the question of the future opportunity for the Science Library to all the staff
   2.2. The meeting with staff includes all levels
3. Review PPT to see if valuable to show staff
   3.1. It may broaden thinking to show staff other spaces
4. Concept of science fair for undergraduates – could be once a month
12 PM – Lunch Meeting

Meeting Participants
Janette Blackburn; Shepley Bulfinch
Andrew Bonamici; U of O, AUL for Instructional Services
Barbara Butler, U of O, Librarian, Institute of Marine Biology
Deb Carver, U of O, Dean of Libraries
Sarah Felton; Shepley Bulfinch
Mark Watson; U of O, AUL for Collections & Access

1. Science Library
   1.1. Ties disciplines together over all the disciplines that are
   1.2. Provides a holistic layer for faculty
   1.3. a facility to support undergraduate education / undergraduate research
       1.3.1. ways of helping students synthesize the work that they’re doing in other disciplines
   1.4. Use of Science Library has been rising rapidly – space means a lot to students.

2. Role of Library
   2.1. Admissions
       2.1.1. Chronicle of Higher Education – libraries rank among buildings that are most
           important to students when decided to go to school; facility needs to reflect
           who/what the science library is / does to prospective parents
   2.2. Faculty are relying on the library to teach information literacy

3. Existing facility
   3.1. Major design problems, but structurally sound
   3.2. Likely require more square footage to address the variety of needs that the faculty
       discussed
   3.3. Advantages to green re-design to stay located central to sciences complex

4. Brainstorming
   4.1. Library has primarily a learning purpose – access to resources can happen anywhere.
   4.2. Joy of discovery. Begin to promote
   4.3. Activity / Science Fair
   4.4. Exploratorium
   4.5. Hands on inspiration
   4.6. Room full of toys
   4.7. Living ecosystem
   4.8. Not about text

5. Prep for meeting with Provost
   5.1. Schools and college being decentralized – making their own decision
   5.2. Practical
   5.3. Give him time to say what advice he has to move forward

6. Funding & timeline
   6.1. Need to raise 50% of funding in order to get authorization from state to issue a bond
   6.2. Freeze on state funds through 2011
6.3. Timeline AAA and then Sciences (being driven by faculty and the school)
6.4. Biggest donor said that spending all this money on labs, and have
6.5. Lorie Lokay – billionaire philanthroper
1:00 PM – Meeting with the Director of Academic Information Services

Meeting Participants
Janette Blackburn; Shepley Bulfinch
Andrew Bonamici; U of O, AUL for Instructional Services
Barbara Butler, U of O, Librarian, Institute of Marine Biology
Deb Carver, U of O, Dean of Libraries
Helen Chu, U of O, Director of Academic Information Services
Sarah Felton; Shepley Bulfinch
Mark Watson; U of O, AUL for Collections & Access

1. Project Synopsis
   1.1. A major redesign of the existing Science Library with modest expansion –
       1.1.1. Can happen on faster timeframe
       1.1.2. Proximity to science
   2. Intersections with academic technologies are essential and don’t want to overlook any
      opportunities when looking at the Science Library
      2.1. Helpdesk
      2.2. Labs
      2.3. software licensing
      2.4. research computing support
      2.5. instructional support
   3. Adjacent spaces include
      3.1. B26
         3.1.1. Windows based instructional lab
         3.1.2. Heavily used by computer information sciences
         3.1.3. Well booked from 9-5
      3.2. B13A
         3.2.1. small mac lab
         3.2.2. first come first serve
         3.2.3. Active 10-4; less heavily used than B26
      3.3. B13
         3.3.1. open access
         3.3.2. low use
         3.3.3. Lab in Millrace effects need for open access lab
         3.3.4. Biology lab directing more and more of its students to this one due to software
      3.4. B13B
         3.4.1. network instruction staff
   4. Opportunity
      4.1. Klamath spaces as part of library jointly managed by library and IS
      4.1.1. Students don’t see who “owns” a space
      4.2. Spaces that inspire users to think differently about what they’re doing and how they do it
      4.3. Steelcase University is an example
4.3.1. Environment both physical and virtual
4.3.2. Way of bringing in technology – not about bringing in visualization technology, but the content –
4.4. Pull the research from the books / material / labs
4.5. Cal Poly – Faculty R&D Lab in library
   4.5.1. Windowless room
   4.5.2. Working with faculty who needed a space
   4.5.3. Trying to work with professionals and professors from different disciplines
   4.5.4. Wanted a CAVE that could be broken down in a day
   4.5.5. Opportunities presented by the space generated new ideas
4.6. Cal Poly – Science Café
   4.6.1. Informal speaker series on scientific topics
4.7. Fedex/Kinkos with everything you need including support
4.8. RWIT program at Dartmouth which helps members of the community develop effective strategies for generating and organizing ideas
5. Shared spaces/services for library and Information Services
   5.1. Science Library would be a good test bed for that kind of partnership
   5.2. Huge advantage for the campus
   5.3. Support critical
   5.4. Helpdesk
   5.5. Visualization lab
   5.6. Games & gaming chairs
6. Define layer of services that is needed by a wide swath of students – and library begins to position itself so that they have that expertise centrally
7. Decentralized campus
   7.1. Currently being set up financially to increase decentralization
   7.2. What role then do central services play
   7.3. Have an opportunity to make more of an impact if join forces
      7.3.1. Can’t have three areas talking about “their” videoconferencing
      7.3.2. Whatever users need to do they can do it, with support at all levels
      7.3.3. If I need to do anything, I can do anything
8. Want new suite of services to be a statement about what science teaching, research and learning is about at the U of O.
3:00 PM – Meeting with AUL’s

Meeting Participants
Janette Blackburn; Shepley Bulfinch
Andrew Bonamici; U of O, AUL for Instructional Services
Barbara Butler, U of O, Librarian, Institute of Marine Biology
Deb Carver, U of O, Dean of Libraries
Sarah Felton; Shepley Bulfinch
Mark Watson; U of O, AUL for Collections & Access

1. Recap of meeting with Provost
   1.1. Phased / Incremental project
   1.2. New position - vice provost of Integrative Programs
2. Implementation
   2.1. Incremental approach
      2.1.1. Implement some ideas (sandbox) in existing space to build support
      2.1.2. Collections at the crux of creating space for incremental changes
         2.1.2.1. Get rid of all items in JStor that UO is not contractually obligated to keep
         2.1.2.2. Planning for how to reduce size of collections needs to start now.
      2.1.3. Concern expressed that incremental approach will ultimately lead to problems; when
         the University replaces the Onyx Bridge, there might not be sufficient money to
         incorporate the library into the thinking.
      2.1.4. Is there a larger incremental project for developing an new entry to the library –
   2.2. Internally funded through donor
   2.3. Existing building re-envisioned
      2.3.1. Expanded and changed plan
      2.3.2. Evaluate and replace/upgrade infrastructure
   2.4. Post occupancy evaluation
      2.4.1. Evaluate what you have now as something to measure against
      2.4.2. Use POE as a learning tool to make changes
3. Blended services
   3.1. Integration with campus information services –
   3.2. Partnerships w/ College of Arts and Sciences departments
   3.3. Collaboration w/ Vice President for Research
4. Design brainstorming
   4.1. Flip the staff
   4.2. Group studies –enclosed or semi-enclosed workspaces
   4.3. Café
   4.4. Games
      4.4.1. Require support / service
   4.5. Come in through building that replaces the Onyx Bridge
   4.6. Video conferencing / recording increasingly important
      4.6.1. Camera that connects to the content server
4.7. Technology
   4.7.1. Complex technology will not get used
   4.7.2. Technology an important aspect of connecting scholars and researchers
   4.7.3. Can we find common hardware and software platforms that cross disciplines
   4.7.4. Data visualization
      4.7.4.1. Faculty want, but don’t want to share; would need to be shared facility
   4.7.4.2. How to deal with software
5. Communicating the vision / telling the story
   5.1. Easier to raise $30 M for brand new structure than $7 M to redesign space unless you have
        a really compelling story
   5.2. If the Science Library establishes itself for a repository for books then it will fail, but if re-
        identify itself per the vision – then people will want to increase space for library
   5.3. Make transformative changes that change the image of the library
      5.3.1. Start with something aesthetic and service oriented that will create a “WOW”
   5.4. Through phases, get better at telling story and what is happening and build support
   5.5. Post occupancy evaluation
6. Priorities – easy things to do
   6.1. Reduce print footprint
   6.2. Increase flexibility of staff and improve visibility of services
   6.3. Expand Library to spaces in Klamath
      6.3.1. Enhance services
      6.3.2. Collaborate with IS
   6.4. Build on lesson learned
      6.4.1. POE
   6.5. Courtyard
      6.5.1. Increase natural light
7. Next steps
   7.1. Comprehensive vision for what library could be
   7.2. Shepley Bulfinch to send POE for LINK (Duke University)
   7.3. Document to guide what to do next.
      7.3.1. What library is like now
      7.3.2. Where science libraries are going
      7.3.3. How this library should change
      7.3.4. Imagery of how spaces want to be (photos)
      7.3.5. Give story to the reason for bringing things out
      7.3.6. Priority steps for renovation

The above is the authors’ best recollection of the discussions and decisions made during this
conference call. Any questions or comments should be addressed to the writer.
Memorandum of Meeting

To: Meeting/Tour Participants
From: Sarah Felton, Shepley Bulfinch
Subject: University of Oregon Science Library Study Project No.: 3920

Science Library Staff Meeting
February 17, 2011
10 AM

Date: Tuesday, March 22, 2011

Meeting Participants:
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Dean Walton; U of O, Science Librarian
Mark Watson; U of O, AUL for Collections & Access
Brian Westra; U of O, Lorry I. Lokey Science Data Services Librarian
Anni Zeidman-Karpinski; U of O, Science and Technical Services Librarian

1. Role of staff
   1.1. Connection between users and material
   1.2. Staff location, environment and interaction (both with users and among themselves) is crucial

2. Imagine what the library could be
   2.1. Two reasons users might come to the library: access and study
   2.2. Access is changing and users will increasingly access material from anywhere
       2.2.1. Staff will continue to support access, but increasingly digital
   2.3. Primary reason for coming to the library is to study and learn
   2.4. Students want to be seen / social, but also want to talk privately
       2.4.1. Areas where people can use their whiteboard, but still being seen are crucial
       2.4.2. Students want to hear the buzz
   2.5. Having a common area for the sciences is a great thing
       2.5.1. focal point for sciences
       2.5.2. create “exploratorium” environments where you have more displays, experiments
2.5.3. Poster exhibition space
   2.5.3.1. ties in with what clients are doing
   2.5.3.2. not permanent exhibit
   2.5.3.3. Faculty use space for exhibit
   2.5.3.4. Media wall in terms of displaying posters digitally and providing opportunity for interactive poster sessions.
2.6. Hands on inspiration
   2.6.1. Play; room full of toys
   2.6.2. Hands on inspiration
   2.6.3. Human anatomy room fantastic learning space for students
   2.6.4. Courtyard offers an opportunity to create and learn from a healthy ecosystem
2.7. Space between traditional library and OMSI environment
3. Technology
   3.1. 3 D printers are not just for the product
   3.2. Technology at the bleeding edge can be expensive and quickly outdated
   3.3. Flexibility – increased flexibility in technology may reduce useability; pick and choose areas of flexibility
   3.4. Spaces for high-end technology and visualization
       3.4.1. Need technical support
3.5. Recording
   3.5.1. Available to people in all different disciplines
   3.5.2. Science literacy study group writes articles about how to teach science
       3.5.2.1. faculty and grad students
       3.5.2.2. If some are unable to attend a meeting they film the hands on demonstrations..
4. Staff
   4.1. Staff work areas and offices should be up front where everything is happening – more visible, more accessible. More a part of what is happening at the front of the building
   4.2. More collaboration spaces within the staff spaces is needed to promote collaboration among staff members
5. Study environments
   5.1. White boards are very effective.
   5.2. Variety in types of study spaces
   5.3. Not a gym that could be an auditorium
   5.4. Students came in to see what spaces they have – wanted to create a webpage to highlight spaces to study
   5.5. Spaces for tutors to interact with students
       5.5.1. Tutors understand specialized software that library staff may not
   5.6. Cubicles / stations for people with disabilities needed
6. Service points
   6.1. Desks act as barriers; don’t want staff behind desks
   6.2. convertible space so that service point desk could be open
7. Transparency
   7.1. different levels of transparency controlled by a switch
8. Natural light
   8.1. high priority on natural light
9. 24 hour access
   9.1. space for 24 hour access; possibly shared with other departments and computer labs
10. Security
    10.1. Innovative ways to prevent theft
         10.1.1. Temporary barcodes
         10.1.2. Locks
         10.1.3. Temporary storage
         10.1.4. Lockers – potentially with electrical outlets in each locker
11. Instructional spaces
    11.1. Many different models: the steelcase X, Scale-up, TEAL...etc...
    11.2. Need multiple surfaces and multiple screens to write on and to project on
    11.3. Need for computers in classrooms
         11.3.1. thought they would go away, and they haven’t
         11.3.2. Starting to see a change
         11.3.3. Lead faculty don’t need the laptops anymore
    11.4. Lighting
         11.4.1. Essential to have lighting that can be controlled to a much greater degree than what is currently in instructional spaces
    11.5. Faculty like teaching in the library because there is support available
    11.6. AT CU Denver they have a wall that comes down from the ceiling providing flexibility in terms of class size
    11.7. Flexible seating (no fixed seating)
    11.8. 4 large classrooms is too many; but can imagine one large classroom -60 people
    11.9. Is the library a location for a large auditorium style lecture hall?
12. Collections
    12.1. Some space will always be required
    12.2. Not just print material – physical objects
    12.3. Future flexibility of space dedicated to collections is important
    12.4. Current use of print 7% throughout the library
    12.5. Books as decoration will likely always be part of the library
    12.6. Print on demand and scanning facilities will grow in importance
    12.7. Students are becoming less attached to books and don’t want to have to go to shelves
    12.8. Ability to browse is important to some professors; possibility of virtual browsing in the future
12.9. ILL
    12.9.1. Growing
    12.9.2. Sent out 40,000 items in the last year; borrowed 20,000
12.10. Compact storage expensive and amount of time that going to have print material

13. Differentiators for the library
   13.1. Library is the convergence of resources, technology, facility and EXPERTISE (most importantly)
   13.2. Research that involves collaboration and tools
   13.3. Library supports learning environments whether shared, single or flexible
   13.4. Environment that facilitates learning and collaboration

14. Partnership opportunities
   14.1. Informatics, statistics and applied mathematics

15. Facility characteristics
   15.1. Porous
      15.1.1. Research libraries still have an intimidation factor to them
      15.1.2. UO library different because you could walk through the administration office;
               changes the dynamics of how people interacted with people; level of intimidation changes.
   15.2. Users come here for quiet – can’t lose sight of it
   15.3. Space for collaboration; there is not enough spaces on campus for people to work together

16. Existing Science Library
   16.1. Deb is moving away from building a new building
   16.2. The thinking is re-envision / expand existing space.
   16.3. Size – is the footprint of the existing library big enough to do what needs to be done as a
          Science Library

The above is the authors’ best recollection of the discussions and decisions made during this conference call. Any questions or comments should be addressed to the writer.
University of Oregon
Re-imagining the Science Library

17 February 2011
Shepley Bulfinch

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Science Research and Learning

A place to grow into
A good fit – character
Democratic
Integrated
Permeable

Light
Choice
Transparency
People
Tools
Innovation
Destination
Trends in Learning Space Design

Flexibility
Collaboration
Community
Technology
Instruction
Study
Trends in Learning Space Design

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Flexibility
Collaboration
Community
Technology
Instruction
Study
Trends in Learning Space Design

Flexibility
Collaboration
Community
Technology
Instruction
Study
Material Storage & Access

Decision criteria
- Size
- Cost
- Logistical access
- User experience

Fixed shelving
Mobile shelving
Automatic storage & retrieval
Off site storage
New Strategies for Staff Workspace

Flexible
Collaborative
Visible
Accessible
Library and Learning Environments

Tools
Furniture
Placemaking
Study Space  Variety and Engagement
Study Space  Mobility
Study Space \textit{Writeable Surfaces}
Experimental Display *Interactive Digital Projection*
Experimental Display *Holographic Projection*
Study Space  Variety and Engagement
Study Space

Focused work zones

Changeable furniture
Study Space Enclosure
Outdoor Learning Space
Recent Precedents

Science libraries
Learning commons
Instructional spaces
Brown University  Sciences Library, Friedman Study Center
Brown University Sciences Library, Friedman Study Center
Brown University  Sciences Library, Learning Center
Brown University  Sciences Library, Learning Center
Williams College  Schow Science Library
Emory University Info Resource Center with Chem Labs
Georgia Tech Learning Commons and Cafe
Georgia Tech Learning Commons and Cafe
Duke University Link

Flexible teaching spaces with technology support
Adjacent break-out spaces
Reconfigurable furniture and equipment
IT help desk
Peer to peer technology support
24/7 operation
Collaborative work rooms
Digital commons
Duke University Link
Columbia University Integrated Science Library
Robert Woodruff Library  Learning Commons
Transformation

Robert Woodruff Library, Learning Commons
Community Space

Goucher College, Athaenaeum
Community Space

Concordia University, Atrium Space
Community Space

Willamette Hall
Project Space

University of Michigan, Duderstadt Center
Instructional Space  *SCALE-UP Model*

**S**tudent  **C**entered  **A**ctivities for  **L**arge  **E**nrollment  **U**niversity  **P**hysics
Instructional Space *SCALE-UP Model*
Instructional Spaces  

*TEAL Classroom*
Digital Visualization Spaces
Digital Visualization

Arizona State University Decision Theater
Digital Visualization

Arizona State University Decision Theater
University of Oregon
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