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ROWELL BROKAW

Architecture. Design. Strategy.

Request for Qualifications
Pacific Hall Basement and
First Floor Laboratories
October 21, 2015

Fred Tepfer
UO Campus Planning
Design & Construction
Eugene, OR 97403-1276

October 21, 2015

Dear Fred and members of the selection committee:

Rowell Brokaw's laboratory design group has consistently delivered a wide variety of successful lab renovations. Each of these projects has required us to be nimble in working with problematic existing buildings, savvy with departmental interactions and priorities, and to apply our expertise with cutting edge trends in research facility design. We are in a position to offer unmatched design service to the university for these types of projects.

We have the depth to tackle multiple larger scale projects concurrently—as we intend to do for Pacific Hall and the upcoming Klamath 3rd Floor renovation. We have the experience and staff resources to effectively manage this effort. In fact, with our integrated design approach and team leadership, we find these overlaps can strengthen the individual projects themselves.

Austin Bailey leads our laboratory design group. He's a nationally recognized leader in the aquatic research industry, with expertise that extends to general laboratory design. Being trained first as a biologist and then as architect allows him to approach design problems with an acute awareness of research value and process. This approach is a core value of our laboratory design group and guides our every interaction with stakeholders.

We have the experience to do planning and programming in house, and by integrating that effort into our role as laboratory architects we find that we achieve more innovative, reliable, and cost-effective solutions. You won't find a separate lab planning consultant listed as a member of our team. It's just part of the integrated service we provide.

This mid-scale renovation needs a concise, proven team to deliver it. We believe it is exactly the type project that we're geared for, and we look forward to discussing the opportunity further with you.

Sincerely,



John Rowell, Principal
Rowell Brokaw Architects, P.C.



Austin Bailey, Architect
Rowell Brokaw Architects, P.C.

CONTRACTING FIRM

ROWELL BROKAW ARCHITECTS, PC

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CONTACT

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Austin Bailey, Architect
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State of Oregon - License #5702

FIRM OVERVIEW

Rowell Brokaw is a 18-person firm led by John Rowell, Gregory Brokaw and Mark Young that includes ten licensed architects. Rowell Brokaw's roots go back to 1998, but it was in 2002 when John Rowell and Greg Brokaw formed the firm as it is today. In the last 13 years we have carved out a special role among Eugene's community of architects, designers, and engineers.

We bring an unusual level of curiosity and resourcefulness to each design challenge. Our reputation is built on the talented individuals in our firm who bring a spirit of inquiry and engagement to everything they do. We seek out the difficult and special projects, especially campus projects with complex requirements and circumstances.

We are known for elegant design solutions that exceed our community's expectations. We are also recognized among our peers for design excellence. Since 1998, we have won more design awards than any other firm in the AIA/SWO region. These include AIA Honor Awards, IIDA Interior Design Awards, and a national PLACES Planning Award.

Notable examples of our work in Eugene/Springfield are:

- UO Straub Hall Remodel and Classroom Expansion
- UO Huestis Hall Expansion (AIA Design Award)
- UO Chemistry and Biology Teaching Labs Remodel
- Hult Center Lobby Lighting (AIA Design Award)
- LCC Art School (AIA Design Award)
- Eugene City Hall (currently in design)
- University Street Feasibility Planning Study
- EWEB Riverfront Master Plan (AIA Design Award)
- Crescent Village (AIA Design Award)
- LTD Gateway Station (AIA Design Award)
- First On Broadway (AIA Design Award)
- Northwest Community Credit Union on 8th Ave
- One East Broadway, our own building in the heart of downtown (AIA Design Award)

Our laboratory design group provides specialized design service with local accessibility. We bring substantial expertise to this project type. We bring an open mind and believe that laboratory concepts must respond to the unique characteristics of each client.



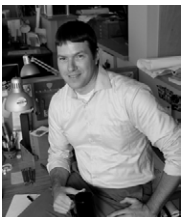
Rowell Brokaw operates in a compact, integrated studio environment. The collective expertise of our staff forms the basis of our reputation for providing creative, intelligent solutions, and extraordinary attention to both process and detail.

DESIGN TEAM



JOHN ROWELL, AIA
Rowell Brokaw
Principal-in-Charge

John Rowell will be Principal-in-Charge for the project, and will oversee the process, set goals, interact with the user group and direct design. Working with complex user groups, he listens to different points of view and builds trust. John has extensive experience working in campus contexts, and has been involved in many of the significant building projects at the University of Oregon.



AUSTIN BAILEY, AIA,
LEED AP BD+C
Rowell Brokaw
Lab Architect

Austin Bailey will serve as the Laboratory Design Lead working directly with the project staff, consultants and university stakeholders to program and develop the laboratory concept. He has been a consistent thread through our laboratory work at the University of Oregon blending a passion for research with strong project leadership. He has presented to national audiences on research facility design and process and has recently contributed to the National Institutes of Health design standards for Biomedical Research Facilities.



KEN HUTCHINSON, AIA,
LEED AP
Rowell Brokaw
Project Manager

Ken Hutchinson will be the Project Manager on the project. He will serve as the primary facilitator for project information flow and design coordination. Ken is especially adept at translating complex project goals into workable, constructible, cost effective design solutions. He has extensive experience in managing critical projects with limited budgets and is one of our primary architects for lab renovations. His ability to coordinate all aspects of the design and construction process facilitates fully integrated outcomes. He has worked on numerous projects on the UO campus including the Nolen Prehoda Laboratory, the Condon Anthropology Laboratory, Straub Hall Classroom Expansion project, the Klamath/Willamette Reclassification, and most recently the Prell Wong Analytical Mass Spectrometry and Optics Suite.

Greg Langdon will serve as the Mechanical Engineer for the project. He has extensive knowledge in the design of mechanical systems for commercial, institutional, municipal buildings, and campuses. Greg specializes in designing energy-efficient systems for educational facilities and laboratories appropriate for the operating staff, sensitive to the nature of the work and operation of the facility and achieve the intended performance.



GREG LANGDON, PE, CCP
Systems West Engineers
Mechanical Engineer

Matt Reich will be the Electrical Engineer on the project. He has extensive experience in designing electrical systems for a wide range of projects, and specializes in designing lighting and controls. He has participated in a wide range of projects, including K-12 schools, university buildings, athletic facilities, and laboratories.



MATTHEW REICH, PE
Electrical Engineer
Systems West Engineers

Steven Savage will be the Plumbing Designer on the project. He has extensive experience in a variety of projects including retrofit and new building design, energy analysis, commissioning, and construction administration. Steven specializes in the design of plumbing and fire protection systems, and has extensive experience with medical, laboratory, and commercial plumbing design.



STEVEN SAVAGE, LEED
AP, CPD
Systems West Engineers
Plumbing Designer

Systems West Projects with Rowell Brokaw

UO Columbia Hall Lecture Hall
OSU Linus Pauling Science Center
OSU Gilbert Hall 2nd Floor Laboratory Remodel
LCC Central Plant (new chiller plant)
4J STEM Remodel & Addition at Churchill High School

Subconsultants

We will work with the University to select the final subconsultant team required for this project. We can recommend many experienced and qualified Oregon-based consultants who have previously worked with us and on many UO projects.

BASIS FOR EVALUATING QUALIFICATIONS

1. DEMONSTRATING YOUR TEAM'S OVERALL DESIGN SKILL AND ABILITY TO CREATE DESIGNS FOR BUILDING RE-USE THAT:

—breathe new life into old buildings, create attractive research and learning environments that students and faculty want to use, provide excellent energy-efficient enhancements, and creative yet sound results that will benefit the University for decades to come.

The University of Oregon is facing an ever increasing challenge to make the most from their existing buildings. Rowell Brokaw has a track record of finding innovative ways to create value from renovation even in projects that are constrained by scope, budget, and schedule.

For the UO's new General Chemistry Teaching Laboratories in Klamath Hall, Rowell Brokaw converted a series of aging laboratory and support spaces into open, connected, and flexible classroom modules that have fundamentally changed the way students are first exposed to chemistry on campus. The goal was not just to facilitate the science, but to help inspire the students to continue on a path in chemistry. The project was highly constrained by a tight budget and the limitations of the existing Klamath infrastructure. Simple, elegant strategies were employed to help the classrooms achieve a lasting impression.

Rowell Brokaw also recently completed the Straub Hall Deferred Maintenance and Classroom Expansion project. This project transformed a worn



GENERAL CHEMISTRY TEACHING LAB. Innovative workstation flexibility



GENERAL CHEMISTRY TEACHING LAB. Helping to define the chemistry experience



GENERAL CHEMISTRY TEACHING LAB. Visually connected teaching modules



STRAUB HALL. Working with a historic context

down historic building with two underutilized courtyards into a vibrant academic space. Housing the Psychology and Linguistics departments, including several dry labs, and a new 500+ seat lecture hall and other classroom spaces. This multi-phase project was completed on time and within the overall project budget. The project utilized highly energy efficient building systems including chilled beam technology, innovative daylighting strategies for public and classroom spaces, and is on track to be LEED Gold certified.

2. DEMONSTRATING SPECIFIC EXPERIENCE WITH CREATING BUILDINGS, SYSTEMS, AND SPACES LIKELY TO BE FOUND IN THIS PROJECT, INCLUDING:

- a. 21st century laboratories that are attractive, human-scaled work environments that are also friendly to change and adaptation over many decades, and;
- b. Collaborative work areas and shared spaces that foster interaction while also supporting individual tasks.

The modern laboratory doesn't succeed through functionality alone. The highly competitive faculty recruitment and retention environment of today's academic research requires laboratories to reach beyond a technical program and address the social aspects of the research environment.

Rowell Brokaw's design for the Nolen Prehoda Lab in Klamath Hall seamlessly integrates two independent research groups with optimized resource allocation that is shared by both entities.



STRAUB HALL. Historic dining room



STRAUB HALL. Integration of new with old



NOLEN PREHODA INTEGRATED LAB. Facilitating chance encounters



NOLEN PREHODA INTEGRATED LAB. Visible common areas

The overlap of these two labs captures the quality of the integrative science experience. Dedicated spaces for interaction paired with overlapping circulation that facilitates those chance encounters feeds social interaction into the multidisciplinary research environment. The resulting lab is something greater than the sum of its parts.

In this shared laboratory, collaborative space is energized by clear circulation and centralized location. Activity and collaborative discussion within the lab is also visible from the adjacent Willamette Atrium. The laboratory module that facilitates individual work was established in a manner that can flex between the two researchers and be easily expanded in the future. The shared support spaces are highly flexible and are designed to accommodate a wide variety of specific research equipment as the laboratory evolves over time.

c. Design for future flexibility at little or no cost premium.

Designing for future flexibility and expansion requires strategic space planning. Rowell Brokaw developed both the Nolen Prehoda Lab and the Zebrafish Core Facility in Huestis Hall specifically for this potential. Each was planned with low-cost office space at the edge of the project that could potentially be relocated as the main laboratory module expanded. Both projects were also designed with flexible research modules that can adapt over time to accommodate various procedures and equipment.



ZEBRAFISH CORE FACILITY. Clear strategy for future expansion



PRELL WONG LAB SUITE. Flexible technology platform

It is not enough, however, to create flexible space and locate it in the right area. Research systems infrastructure must also be accounted for. For the Zebrafish Core Facility an innovative approach to aquatic life support systems and HVAC redundancy helped satisfy requirements for NIH funding, and will allow additional system capacity for the future expansion of the facility with minimal upgrade to the infrastructure.

d. Lean construction approaches that provide maximum long-term effectiveness yet use resources extremely effectively.

Rowell Brokaw is currently overseeing the completion of the Prell Wong Analytical Mass Spectrometry and Optics Suite in the basement of Klamath Hall. The Prell Wong Suite is an example of a project that was stripped down to its bare essentials due to budget constraints, and the result has been highly successful. An innovative technology platform concept was employed with the laboratory bays to create robust, highly adaptable spaces that can support future equipment changeout.



Basement Expansion

ZEBRAFISH CORE FACILITY. Expanding the Huestis basement



ZEBRAFISH CORE FACILITY. Visually connected lab modules

Approximately 50% of the casework in the project and all fume hoods were reused from other decommissioned UO labs and seamlessly integrated into the new construction. The team also identified an oversized hallway and an underutilized mechanical chase and was able to capture that square footage into the project with minimal additional cost.



STRAUB HALL. Daylit lecture hall

e. Renovation of existing buildings to insert 21st century research labs.

Even if older buildings were originally designed for laboratory use, such as the case with Pacific, they can have difficulty being adapted to meet modern laboratory standards. Rowell Brokaw excels at making old infrastructure support new research in strategic and innovative ways. We have proven ourselves as a “go to” design firm for this type of project and for the type of project management required to achieve successful outcomes under challenging conditions.

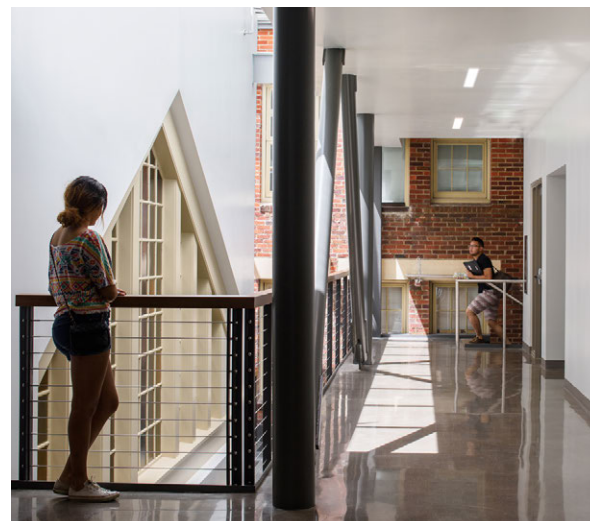
3. *DESIGNING BUILDINGS MEETING THE STANDARDS SIMILAR TO THOSE OF THE INSTITUTION AND THE STATE OF OREGON, INCLUDING:*

a. Highly sustainable projects that push the envelope for sustainable design in ways that maximize environmental performance without excessive cost: Policies similar to the University of Oregon Model for Sustainable Development (OMSD) as described in Campus Plan Policy 10 (<http://uplan.uoregon.edu/plandoc/CampusPlan/CampusPlan.html>), although the specifics of how the intent of these policies will be met has not yet been determined.

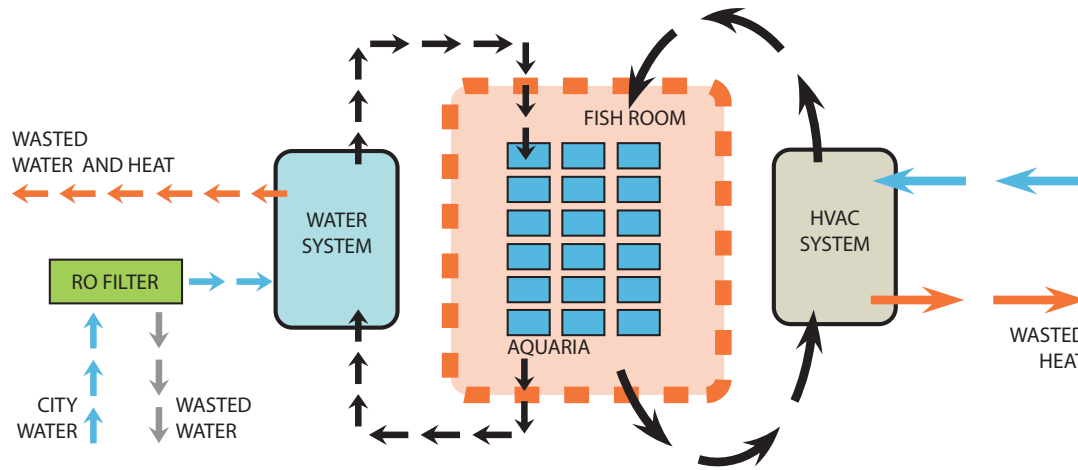
As the lead architects for the Straub Hall Deferred Maintenance and Classroom Expansion project we were the first architects to implement the Oregon Model for Sustainable Development on a large scale campus project. For this project, best practice in sustainable design was combined with aggressively pushing the envelope in areas such as daylighting and system integration. The resulting daylit 500+



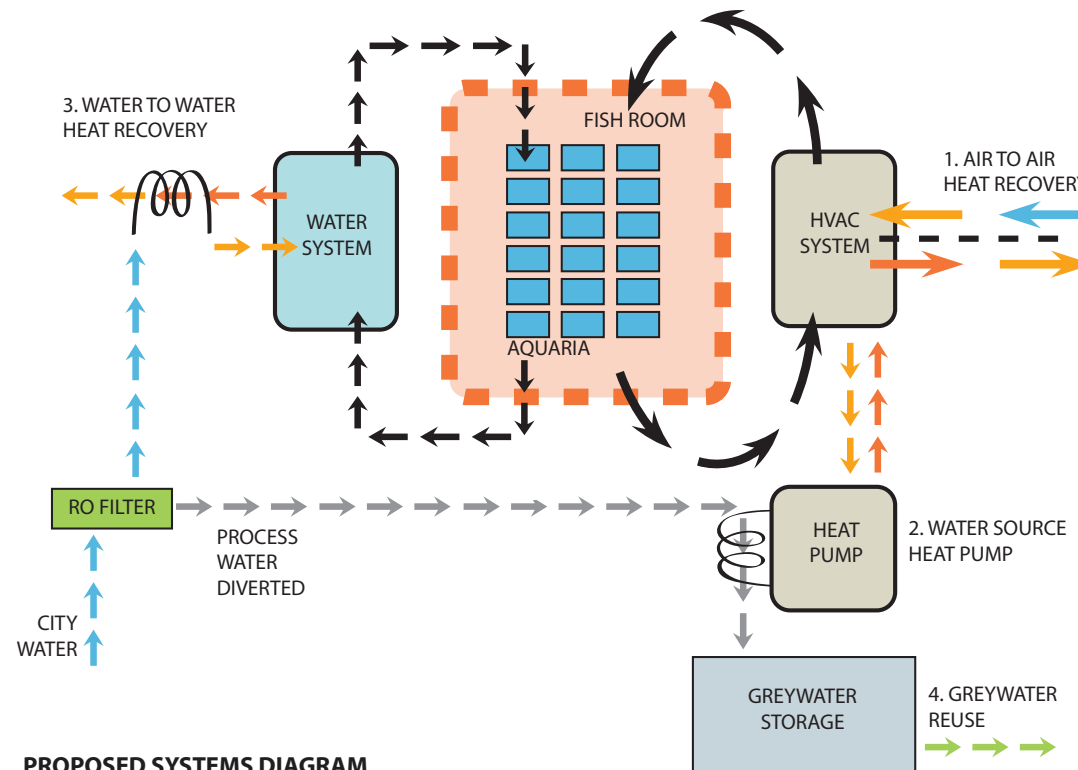
STRAUB HALL. Revitalized academic node on campus



STRAUB HALL. Integration of new with old



EXISTING SYSTEMS DIAGRAM
EXCESS WASTE ENERGY AND WATER



PROPOSED SYSTEMS DIAGRAM
4 STAGES OF ENERGY RECOVERY AND WATER REUSE

seat lecture hall is unmatched by any other teaching environment in the region and the project is on track to achieve LEED Gold certification later this year.

Before the implementation of the Oregon Model, Rowell Brokaw helped focus the sustainable design and engineering for the Zebrafish Core Facility project in Huestis Hall towards real gains in energy efficiency and water conservation—the backbone of the university’s current initiative. Through the integration of systems, this facility will recover enough greywater capacity to meet the entire flush fixture demand from the adjacent Lewis Integrative Science Building.

The Zebrafish Core Facility project was required as part of its NIH funding to achieve LEED certification at a minimum level. As a result of aggressively focusing on sustainable design outcomes that match the long term goals of the university, the project was able to surpass initial expectations and ultimately achieve LEED Gold level certification. It is the world’s first stand-alone aquatic research facility project to obtain LEED at any level.

b. Projects designed within the framework of the University’s Campus Plan or similar requirements.

With more than 10 years of experience working on the University of Oregon campus on all scale of projects, Rowell Brokaw is very familiar with the University’s Campus Plan and has an excellent track record of working within the framework it provides.



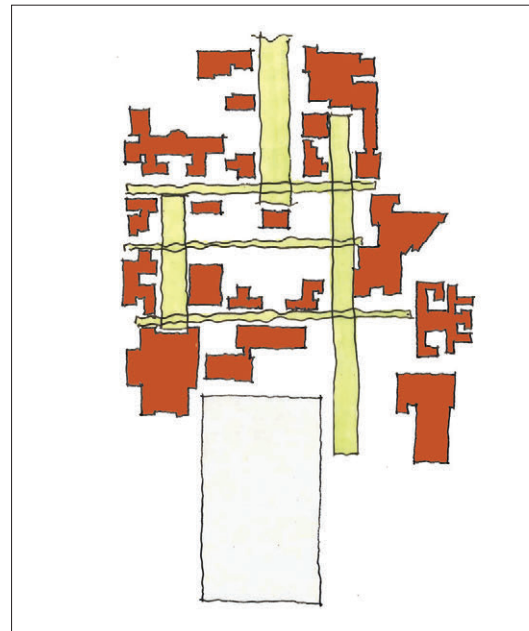
ZEBRAFISH CORE FACILITY. Sensitive intervention within designated campus open space

John Rowell, the Principal who would be leading this project is the primary author of the 2012 University Street Feasibility Study which has been incorporated into the University Campus Plan by reference.

Rowell Brokaw brings care and leadership to the process of working within the campus plan. Recently the team was challenged to find an appropriate solution to integrating a new exit structure into campus open space at the Science Green as part of the Zebrafish Core Facility project. Through a deep understanding of the campus plan and an innovative approach to structure and transparency, a solution was developed that has raised the bar for the contextual response to open space on campus.



UNIVERSITY STREET FEASIBILITY STUDY. Planning graphic



UNIVERSITY STREET FEASIBILITY STUDY.
Open space connections

4. DEMONSTRATING EXPERIENCE WITH THE PROCESSES EXPECTED TO BE FOLLOWED THIS PROJECT, INCLUDING SPECIFICALLY:

- a. *Creating design concepts through a high level of involvement of building users.*

We have an excellent record of engaging users in the design process, and are known for building consensus within diverse groups. Our planning work for local clients like the University of Oregon, the City of Eugene and EWEB attests to our ability to lead processes with complex and often divergent user expectations. Our proximity and availability to campus reduces scheduling challenges and simplifies communication.

b. Exhibiting the ability to listen to user needs and communicate effectively with a broad spectrum of communities using a wide range of media—written, graphic, and oral.

At the UO, our work on the Straub Hall Deferred Maintenance and Classroom Expansion Project demonstrates our ability to lead a design process with busy university faculty and staff and to deliver the highest quality results. For that project we successfully led user groups containing representatives from the Psychology Department, the Linguistics Department, the Institute of Cognitive and Decision Sciences, University Housing, the University Registrar, Campus Planning, and Campus Operations and Maintenance.

We have established a reputation for listening to researchers and not only hearing their needs, but understanding the language in which they describe them. This ability helps facilitate fluid communication between the design team and user groups leading to clear expectations and effective decision making.

Stakeholders don't always view floor plans or concept sketches the way architects do. It's very important to bring each person along with the design process and to engage them on a level and with media that reaches them and solicits feedback.

We're nimble and can change our approach quickly to help facilitate decisions. During the General Chemistry Teaching Labs project, it became clear that the final dimensions of a flexible module concept that had been developed hinged almost entirely on how the flow of material, students and



STRAUB HALL. Historic dining room transformed into social commons



STRAUB HALL. Daylighting model



GENERAL CHEMISTRY TEACHING LAB. Laboratory mock-up at the ground level of Willamette Hall



ZEBRAFISH CORE FACILITY. Highly sensitive operational constraints

TA's would work during the class. No sketch or 3D modeling could confirm this, so a life-size cardboard mock-up of the module was created to successfully test the solution with real students and teachers.

c. Designing projects with multiple construction phases and adjacent occupied spaces.

We are used to the constraints of working on Campus where nearly every project involves construction adjacent to occupied space. Our laboratory work regularly involves complex phasing to make sure critical services and facilities stay on line and available for the duration of construction. For the Zebrafish Core Facility project, the design facilitated phasing to allow the entire aquatic research facility being renovated to maintain operational status throughout construction.

More recently, the Straub Hall Deferred Maintenance and Classroom Expansion involved two distinct phases, including providing suitable surge space for the relocation of two major departments for part of the construction and the completion of a major classroom facility adjacent to those two departments after they re-occupied the building.

d. Practicing creative and effective project, schedule, and cost management techniques to accurately predict total building costs within the local area and to ensure that the University's resources are used most effectively without compromising the core values of the Project.

Because funds are often limited, one of our central tasks is to help project planners manage resources carefully so that they are spent only in ways that contribute to the essential objectives of the project.



STRAUB HALL. Integration of new with old



STRAUB HALL. Social commons



We call this intense focus “sharpshooting.” It basically means that we target the issues that actually bear on the project outcome. We address them directly with the best possible knowledge and input available, frame viable options, encourage resolution and agreement, and then move to the next step. This is only possible with a team that provides extreme clarity of thought with deep analytical skills.

Time is also a limited resource and in the case of this project every distraction can be a drain on the very research the project intends to support. We believe that one of the most important parts of leading a project is simply being clear about what to do next.

We call it a project “road map.” We understand the need to work within the academic calendar and to coordinate decision-making and the work of our consultants to meet the strict deadlines that are essential to getting work done in a given year. We are aware of the complex budgeting and prioritization that sometimes creates very compressed schedules, and have a reputation for stepping up to the challenge every time.

e. Working collaboratively using integrated design principals with an owner, contractor (preferably in a CM/GC situation), and others to create the best possible project within an owner's budget and schedule.

Lane Community College Art School is an example of collaboration with the Owner to discover the flexibility within the project and to rethink the basic



parameters of scope, goals, and construction. The outcome: a \$12 million project was reduced to \$8 million without losing program and in many cases enhancing the end result.

We have successful experience collaborating with Owners and Contractors on CM/GC projects such as Straub Hall (Fortis), the Zebrafish Core Facility renovation (Lease Crutcher Lewis), and the Northwest Community Credit Union Headquarters (Andersen). We know that listening to and involving all members of the project team is the key to delivering a project on schedule and within the budget.

A key aspect of this project will be finding the appropriate balance between the project scope and the project budget that maximizes the value of each element as a part of the overall project goals and vision. For the Northwest Community Credit Union Headquarters in downtown Eugene with Andersen Construction each phase was coupled with an aggressive “real-time” cost and schedule analysis. For that project, the major design moves were kept simple, and as we refined the design the essence of the project remained intact.

We often hear from CM/GC firms that we’re not like other architects. We’re accessible, frank, fair and transparent with our own process. We also demand the same from them which is often refreshing to the owner. The quality contractors that have stepped beyond traditional boundaries with us have been met with a truly collaborative experience.

**NORTHWEST COMMUNITY CREDIT UNION. Daylit atrium/
building center.**

5. *INCLUSION IN YOUR MATERIALS A ONE-PAGE ESSAY DESCRIBING HOW YOU WILL MEET THE CHALLENGE OF CREATING COLLABORATIVE RESEARCH LABORATORY ENVIRONMENTS THAT ARE ALSO AFFORDABLE AND PROVIDE APPROPRIATE LONG-TERM FLEXIBILITY.*

Impact = Budget x Innovation

This project's potential for impact is substantial. Done well, it will help you support new and rising research stars, and therefore deliver on immediate university priorities. These labs must also anticipate the trajectory of the researcher, allowing for growth and change. They need to be great startup labs, but they also need to support a longer research career and even transition completely for a new recruit.

The budget is fixed. The impact of the project will come from strategic innovation. This is the multiplier that delivers more than the sum of the parts. Here's how it works:

Understand collaboration in the UO context.

At laboratory design conferences nationally renowned laboratory architects showcase their plans for brand new research facilities. Labeled clearly on the floor plans is often a room called "collaboration" as if by merely giving the concept space it will happen. Rowell Brokaw knows in fact that these interactions are fostered more by the researchers themselves than by any specific space that an architect designates for them. So, we start by understanding what the researchers need to do.

For the Nolen Prehoda Laboratory, the research for both labs involved similar processes. We developed a shared equipment room that could flex to serve these overlapping procedures. Procedure areas were also provided along the main circulation of the lab allowing a cross-flow of interaction between researchers.

Often the first step toward an interaction is simply the ability to see someone. For the Nolen Prehoda

Lab we created visual connection into the lab from the hallway and then maintained these sightlines through the space allowing researchers to more easily find the person they didn't yet know they needed to talk to.

We believe collaboration is institution specific. At the UO, we know the people, we know the departments, and we see their interaction first hand. This familiarity allows us to find opportunities to broaden collaboration others may miss.

Understand the building you have.

Pacific Hall has an antiquated lab planning module crammed within the clear span between corridor shafts and exterior wall. It may have worked well for its mid-century laboratories when first constructed. Back then the need for dedicated support space was less significant and often embedded directly adjacent to the bench module.

The modern laboratory, however, requires more physical flexibility and much more secondary space. Even a lab with a relatively small amount of research equipment can require extensive space for data analysis and dry lab procedures. If the Pacific module is too small, then how do we accommodate these needs?

The open lab concept is often pitched as the ultimate in flexible lab design. For most laboratories we acknowledge that there needs to be more individual ownership of research space than the open lab can deliver. But the diagram of an open lab concept may in fact help us with Pacific.

If we creatively zone the program, the potential for lengthwise flexibility is extensive. Planning

for continuous wet lab modules across one entire side of the corridor might be coupled with clear physical separation between researchers to preserve ownership. If the majority of support or secondary space can be pulled across the hall, then building infrastructure can also be zoned efficiently. It will be these multi-benefit strategies that allow the project to succeed.

Expect more.

Can the impact of these laboratories reach beyond the project limitations? Again, the Nolen Prehoda Lab demonstrates how this can happen. The researchers were previously seeking out places for coffee and meetings outside the lab, but the locations were inconsistent and disassociated. We co-located a break room and shared meeting space off the main circulation of their new lab and made it visible not only from within the lab but also to passersby in the Willamette Atrium. We understood that the cross-disciplinary research by Brad Nolen and Ken Prehoda was the beginning of a new trend for the UO and the visibility of their interaction would be a catalyst for others.

We offer a design team that is fine tuned for this particular project, able to work closely with researchers and project management. The scale of the project requires the design team to be continuously engaged and accessible. We can deliver innovation that is calibrated to the UO context. This is already embedded within who we are and how we work.

RELEVANT PROJECTS

Illustrations or photographs of at least three relevant projects; At least three appropriate (similar size and scope) project references, each including: size of the referenced project (dollars and physical size); date of project completion; location of the project; whether or not the building was completed on schedule and on budget; responsibilities and qualifications of those who worked on the project; current name, address, and telephone number of one or two people most appropriate to discuss the firm's performance on the project, preferably including building occupants.



**UO CHEMISTRY GENERAL
TEACHING LABORATORY**
EUGENE, OREGON

Rowell Brokaw was hired to design new labs for general chemistry classes to enhance the education experience for hundreds of undergraduates who may be enrolling in their first—and sometimes defining—courses in science disciplines. The space layout emphasizes an efficient workflow for students visibility between instructors and students to create an improved and much safer working environment.

Size: 5,000 sf
Cost: \$900,000
Completion Date: 2011
Location: Eugene, Oregon
Schedule/Budget: On schedule/On budget
Key Personnel: John Rowell, Principal-in-Charge, Austin Bailey, Lab Architect
Client Contact: Fred Tepfer, Project Planning Manager, University of Oregon (541) 346-5564



**UO PRELL WONG ANALYTICAL MASS
SPECTROMETRY AND OPTICS SUITE**
EUGENE, OREGON

The Prell Wong Laboratory is a research technology platform for biophysical chemistry. Highly flexible dry laboratory modules allow adaptation for a wide variety of heavy research equipment and a shared wet lab core provides efficiency and enhances collaboration. The Prell laboratory shares a wet laboratory and graduate student space with the Wong laboratory.

Size: 3000 sf
Cost: \$750,000
Completion Date: 2015
Location: Eugene, Oregon
Schedule/Budget: On schedule/On budget
Key Personnel: Mark Young, Principal-in-Charge, Austin Bailey, Project Architect, Ken Hutchinson, Project Manager
Client Contact: Denise Stewart, Project Manager, University of Oregon (541) 346-2280



**UO NOLEN PREHODA
INTEGRATED LABORATORY**
EUGENE, OREGON

The Nolen Prehoda Integrated Laboratory seamlessly integrates two independent research groups with optimized resource allocation that is shared by both entities. The overlap of these two labs captures the quality of the integrative science experience.

Size: 3300 sf
Cost: \$650,000
Completion Date: 2011
Location: Eugene, Oregon
Schedule/Budget: On schedule/On budget
Key Personnel: John Rowell, Principal-in-Charge, Austin Bailey, Lab Architect, Ken Hutchinson, Project Manager
Client Contact: David Mason, Director of Facilities Services, School of Music and Dance, University of Oregon (541) 346-5679

RELEVANT PROJECTS continued



UO STRAUB HALL RENOVATION AND CLASSROOM EXPANSION EUGENE, OREGON

LEED GOLD CERTIFICATION EXPECTED

Rowell Brokaw in collaboration with Opsis Architecture recently completed a renovation and classroom expansion of Straub Hall. This project provided needed infrastructure replacement and a full interior renovation of an historic building, transforming the historic Straub Hall into an innovative academic facility. It includes one of the nation's finest daylight large lecture auditoriums.

Size: 78,000 sf and 58,000 sf
Cost: \$31 Million
Completion Date: 2014
Location: Eugene, Oregon
Schedule/Budget: On schedule/On budget
Key Personnel: Mark Young, Principal-in-Charge, John Rowell, Design Principal, Ken Hutchinson, Project Architect
Client Contact: Ken Doxsee, Vice Provost for Academic Affairs University of Oregon (541) 346-2846



UO ZEBRAFISH CORE FACILITY EUGENE, OREGON

AIA DESIGN CITATION AWARD 2014
LEED GOLD CERTIFICATION

Rowell Brokaw Architects led the design of the building shell alteration and expansion, coordinating MEP systems, leading the integration of aquatic support systems and designing the interior, including procedure rooms, lab support and equipment wash rooms. The project completely re-organized lab workflow to enhance fish health and significantly increases capacity for fish husbandry and research procedures.

Size: 16,000 sf
Cost: \$9 Million
Completion Date: 2012
Location: Eugene, Oregon
Schedule/Budget: On schedule/On budget
Key Personnel: John Rowell, Principal-in-Charge, Austin Bailey, Project Manager, Ken Hutchinson, Designer
Client Contact: Fred Tepfer, Project Planning Manager, University of Oregon (541) 346-5564



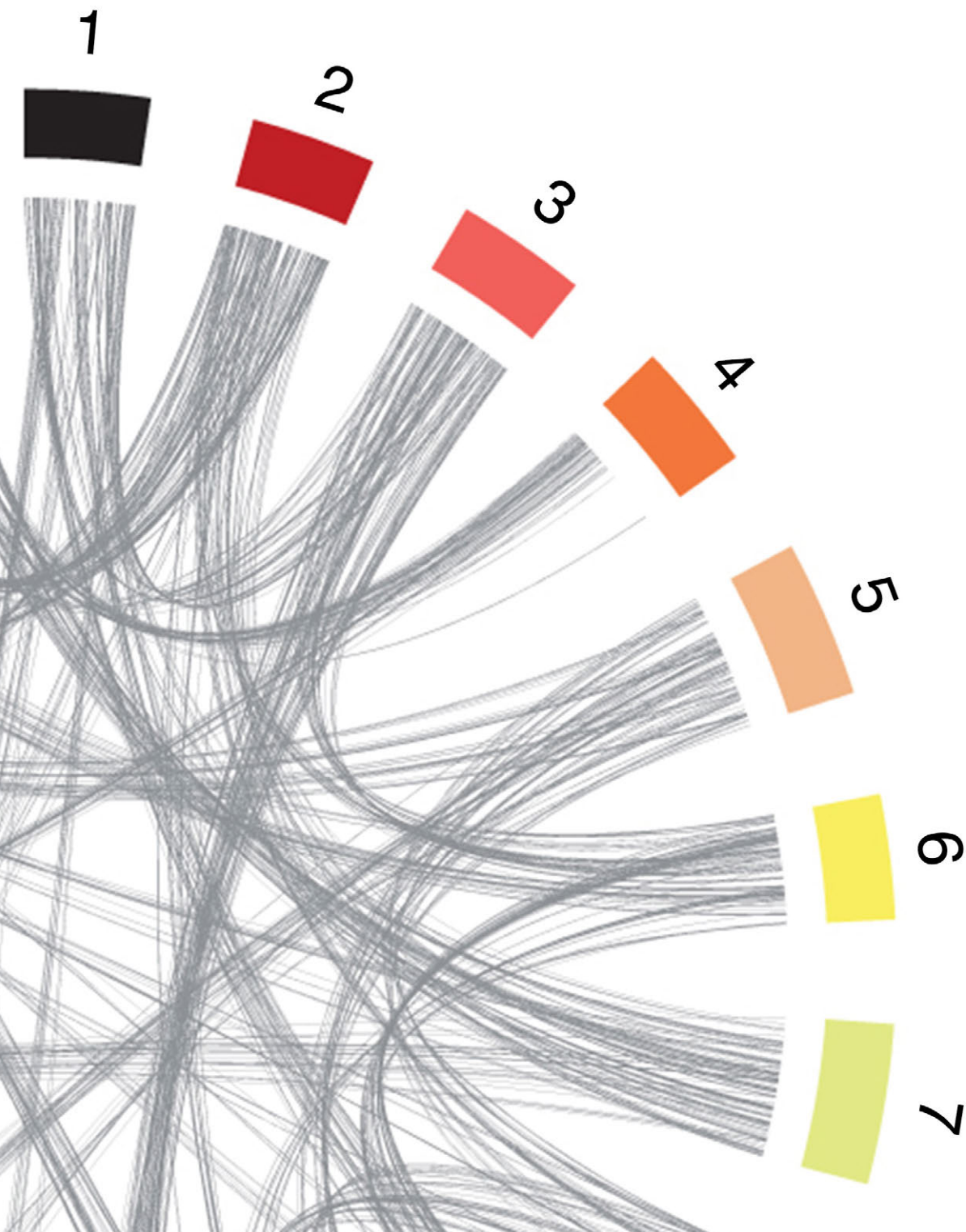
HIGHER EDUCATION LAB PROJECTS

Rowell Brokaw has completed numerous laboratory renovations at the University of Oregon and Oregon State University in recent years.

Representative Projects include:

- UO General Biology Teaching Lab (2000 sf)
- UO ZIRC Fire Restoration (10,000 sf)
- UO Klamath Core Facility Study (4,600 sf)
- UO Geochemistry Isotope Cleanroom (400 sf)
- UO ZIRC Facility Renovation (1600 sf)
- UO Condon Hall Anthropology Lab (1000 sf)
- UO Gerlinger Physiology Lab (1500 sf)
- UO Stickleback Core Facility (750 sf)
- UO Microscopy Lab (675 sf)
- UO Tublitz Lab (750 sf)
- OSU Linus Pauling Commissioning project (NA)

Size: varies
Cost: \$50,000 to \$1 Million
Completion Date: 2008-present
Location: Eugene, Oregon
Schedule/Budget: On schedule/On budget
Key Personnel: John Rowell, Austin Bailey, Ken Hutchinson
Client Contact: Denise Stewart, Project Manager, UO (541) 346-2280
 Tom Shepard, Construction Manager, UO, (541) 346-6959
 Bruce Budzik, Zone B Maintenance Manager, UO, (541) 346-5276



COVER IMAGE.

The Zebrafish Reference Genome Sequence and its Relationship to the Human Genome

K Howe et al. Nature 000, 1-6 (2013) doi:10.1038/nature12111

The cover graphic shows a portion of a circos graph from the article listed above. The complete graph shows the ohnologous relationships between zebrafish chromosomes. The chromosomes are represented as colored blocks. The position of ohnologous genes between chromosomes are linked in grey (for clarity, links between chromosomes that share less than 20 ohnologues have been omitted).