

CURRICULUM VITAE

University of Idaho
Moscow, Idaho 83844

NAME: Haglund, Bruce T.

DATE: February 1, 2018

RANK OR TITLE: Professor of Architecture

DEPARTMENT: Architecture

OFFICE LOCATION: AAS 306

OFFICE PHONE: 885-6781

DATE AND PLACE OF BIRTH: November 8, 1946, Muskegon, Michigan

DATE OF FIRST EMPLOYMENT AT UI: August 15, 1982

DATE OF TENURE: 1988

DATE OF PRESENT RANK OR TITLE: July 1, 1995

EDUCATION BEYOND HIGH SCHOOL:

September 1964-June 1968, Undergraduate Student, Mathematics, Illinois Institute of Technology (IIT), Chicago, Illinois, **B.S., Math, June 1968.**

September 1975-June 1978, Part-Time Undergraduate Student, Architecture, West Valley College, Saratoga, California, **A.A.Arch., June 1978.**

September 1979-March 1982, Graduate Student, Architecture, University of Oregon, Eugene, Oregon, **M.Arch., March 1982.**

EXPERIENCE:

In Educational Institutions Since Receipt of Bachelor's Degree:

Teaching Experience:

As a Graduate Teaching Fellow at University of Oregon:

Fall 1980-Winter 1982, Environmental Control Systems (ECS), Architectural Model Building, Daylighting (Guest Lecturer and Workshop Leader), and Architectural Design.

As a Professor at University of Idaho:

Fall 1982-1993, 1999-present, Architectural Design. Design topics for fourth-year and graduate students emphasizing site responsiveness, context, passive energy design, natural lighting, historic preservation, community design, sustainability, and construction processes.

Fall 1982-present, Environmental Control Systems. Both passive and mechanical systems for heating, cooling, lighting, acoustics, and waste and water management.

Spring 1983, Freehand Drawing for Architects.

Spring 1983, Vernacular Architecture Seminar. Examined world-wide and local examples.

Fall 1983-2000, 2004-present, Natural Lighting Seminar. Stresses hands-on experience with state-of-the-art tools and prediction techniques for natural lighting strategies.

Spring 1984, Conceptual Drawing. Examined design/drawing relationship.

Spring 1986, 1987, Lighting Research Seminar. Explored the history of daylighting in Moscow and attitudes about lighting since 1870.

Spring 1988-1995, Passive Solar Design and Thermal Evaluation Seminar. Advanced theory and procedures for evaluation of passive solar and energy conserving design.

Spring 1991, After Modernism Honors Seminar. Concepts of modern and post-modern architecture for university-wide honors seminar. With Baron, McClure, and Reese.

Fall 1992, Undergraduate Thesis Preparation Seminar. Seminar on lighting and small public buildings.

Fall 1993, Undergraduate Thesis Preparation Seminar. Sustainability in design and development. With Wendy McClure.

Spring 1995-1999, Architecture Home Page. Learning about, designing. and developing a departmental home page.

Spring 1996-present, Building Performance Seminar. Using buildings as laboratories for study of environmental technologies.

Spring 1998-2001, 2005, EnvSci 497 Senior Project advisor. Students: Robert Warren 1998, Christy Whitmore 1999, Coreen Crouch and Paul Chivvas 2000, Denise Ronneburg and Andy Brown 2001, Maia Hawkes 2005.

Spring 2001-2014, Graduate Project. Architectural design projects exploring issues in sustainability.

Fall 2000-2013, Graduate Seminar. Concepts of sustainable architecture and daylighting as well as architectural program development in preparation for Graduate Project.

Spring 2006, 2009, 2011, 2013, 2015, 2017 English Green Building Seminar. Research and preparation for a studies abroad experience in London focused on green architecture.

Summer 2006, 2009, 2011, 2013, 2015, 2017 Green Architecture in the UK studies abroad. Experiencing green architecture in London and the UK. Visits to architects' offices, green buildings, and significant cultural events.

Fall 2013 Technical Integration in Design. Examining the role of building technology in architecture: methods of integrating building systems (structure, enclosure, services, site and interiors) in support of an architectural design concept, and the tectonic possibilities of expressing these systems in architectural form and detail.

Graduate Student Thesis (and non-thesis) Committees Chaired:

Nongpanga Pookayaporn, *Environmental and Sociocultural Aspects of Residential Development in Thailand*, MArch, 1990

De Hu, *Design of an Open Plan Office in Shanghai, China*, MArch, 1990

Tariq Mahmood, *Islamic Architectural Decoration*, MArch, 1990

Jae Geun Lee, *The History of the Stone Pagoda and Site of Traditional Korean Buddhist Temples*, MA Arch, 1990

Hiroshi Saida, *A Future Resort City*, MArch, 1991

Guan Bei, *Developing Design Guidelines for Rehabilitation Buildings: Case Study, Beijing, China*, MArch, 1992

Tian-ning Gu, *Frank Lloyd Wright's Drawing and Japanese Traditional Prints*, MArch, 1992

Nanchen Henry Li, *Nucleus of the House Entrance*, MArch, 1992

William Keith Scott, *Daylight Prediction Methods and Their Usefulness to the Daylighting Design Community*, MArch, 1994

Zhiliang Li, *Daylight in Traditional Japanese Architecture and Its Influence in America*, MArch, 1996

Yelena Chenchik, *Integrating the Issues of Sustainability into the Architecture Curriculum of the Russian University*, MA Arch, 2002

Nidhi Khana, *Sustainable House in India*, MS Arch, 2006

Dyong Ku Shin, *Identification and Evaluation of the Sustainable Indicators in Multifamily Housing Communities*, MS Arch 2006

Liang Zhang, *Green Olympic Games*, MS Arch 2008

Crystal VanHorn, *Major Systems Feasibility Study for the McCall Field Campus*, MS Arch (thesis) 2008 and MS Bioregional Planning (non-thesis) 2008

Keith Bickford, MS Environmental Science (non-thesis) and *A Passive House in a Conifer Forested Cold Microclimate: Thermal Efficiency Optimization and Energy Simulation*, MS Arch, 2010

Harshana Thimmanna, *Potential of University of Idaho towards Carbon Neutrality by Generation of Energy from Building Integrated Renewable Energy Systems*, MS Arch 2010

Rakesh Acharya Bhagavatula, MS Environmental Science (non-thesis) 2010

Shirin Shirazi, *Application of Wind Catcher in Cooling Process of Data Centers*, MS Arch, 2014

Robin Gates, MS in progress

Graduate Student Thesis Committees:

James Allan Batdorf, *Optimization of Design and Control Strategies for Geothermal Space Heating Systems*, PhD ChemEng, 1988

Rula Zuhair Awwad, *Traditional Dwellings in the Vernacular Architecture of Jordan*, MArch, 1990

Yicun Steven Gao, *The Chinese Roof: An Interpretation of Technology*, MArch, 1991

Carey C. Carscallen, *The Small House: A Look at the Way We Live and How It Could Be*, MArch, 1996

Miriam Abraham, *Community Making in the Evolving Rural Town*, MA Arch, 1996

Kurt Rathmann, *Recycling and Re-Use of Building Materials: An Interdisciplinary and Place-Based Approach to Architectural Education*, MArch, 1997

Balmiki Bhattacharya, *Study of Urban Morphology: Jaisalmer, India*, MArch, 1999

Michael Brady, *Evaluating Sustainable Communities, A Wannian Perspective*, MA Arch, 1999

Jeremy Riggle, *Fundamental Chemistry Relevant to the Use of Humic Materials in Pollution Remediation*, MS Env Sci, 2002

Scott Oliver, *A New Perspective in Architectural Presentation*, MA Arch, 2002

Bindu S. Nair, *Characteristics of Humic Acids Extracted from the Bottom of Lake Coeur d'Alene*, MS Env Sci, 2004

Pam Overholtzer, *Strategies for Sustainable Development in the Palouse Bio-Region*, MS Arch, 2011

Abhinav Parijat, *Understanding Networked Sustainability through the Study of Microclimates*, MS Arch 2011

Jonathan Ware, in progress, MS Larch

Angela Vanhoozer, *NASA Sustainability Base Performance evaluation and influence on occupants sustainability efforts*, PhD EnvSci 2014

Amir Nezamdoost, *Development of Annual Daylight Performance Metrics: Sensitivity Analyses of Illuminance Thresholds and Blind Use, and Examinations of Energy Use Implications*, MS IA&D 2015

Research Experience:

- Spring 1981-Spring 1982, Frank Lloyd Wright and Designing with Climate. Applied the principles of G. Z. Brown and B. J. Novitski's climate research to examples of Frank Lloyd Wright's Usonian houses. Verified the use of valid solar strategies. Funded by NEA through Brown and Novitski.
- Summer 1983, Inexpensive Light Meter Design and Manufacture. Designed and built four light meters for use in architectural models for about \$100. With Tom Ingerson, Professor of Physics. Funded by Department of Architecture.
- Spring 1984-1992, Building Response to Climate Study. Used an existing geographic information system (COMARC) in a new way to study interaction of buildings with the environment. Unfunded.
- Summer 1984-Summer 1987, Rapid Modeling of Design Options for Energy Conservation and Passive Solar Heating. Development of a graphic computer system to aid designers and laymen in making good choices in energy design. Funded by Washington Water Power. \$48,000 for FY1985, \$42,000 for FY1986, \$36,000 for FY1987.
- Fall 1985-Spring 1989, Top-Lighting History of Moscow, Idaho. Studied the interrelationship of natural and electric lighting and social attitudes from 1870s to present. Unfunded.
- Fall 1989-present, Lightscares Software and Scientific Visualization. Studying computer-based technologies for representing lighting conditions. With Brian Sumption and Alexander Zabrodsky. Funded by Bonneville Power Administration, \$52,000 for FY1991-93, and University of Idaho Seed Grant, \$6,000 for FY1993-94.
- Summer 1994-1996, Thermal Mass in Passive and Energy-Conserving Buildings. Developing teaching materials and field exercises for understanding the role of thermal mass in buildings. With Cris

Benton, Kurt Rathmann, and Dirk Nelson. Funded by the Energy Foundation as part of the Vital Signs project, \$10,000 for FY1994-95.

Spring 1995-1997, Homesteading the Palouse: A Stewardship Interpretive Display. Designing and building a shelter and signage describing the early history of the Palouse. The shelter is located in the UI experimental forest near Harvard, Idaho. With Gena Ellis, Kurt Rathmann, and Andria Marcussen. Funded by the Idaho Humanities Council, \$3,150 for FY1996-97.

Fall 1995-1997, Reusing and Recycling Architectural Resources. A teaching module for an Architectural Compendium for Environmental Education. Building a demonstration shelter was part of the effort. With Kurt Rathmann. Funded by the University of Michigan, \$10,000 for FY1996-97.

Spring 1998, Case Studies of Four Seattle Buildings. Investigated the thermal and luminous properties of St. Ignatius Chapel, the Henry Museum, the Frye Museum, and Northwest Federal Credit Union. With Sandy Stannard and sixteen UI students. Funded by the Vital Signs Project, \$5,000 for FY 1998.

Fall 1998–2000, Vital Signs Toolkit Loan. Developed methods for use of environmental instruments in teaching and learning environmental technology issues for buildings. Developed building case studies based on student work. Funded by the Vital Signs Project, \$25,000 equipment loan for FY 1999 and 2000.

Spring 2000-2002, EcoDorm Remodel. Collaborative work with students from Architecture, Landscape Architecture, Environmental Science, and Natural Resources to redesign a 1950s dorm for sustainable living. See <<http://www.uidaho.edu/ecodorm/>>.

Fall 2000-2005, Agents of Change Project. Role as advisor and faculty trainer in Alison Kwok's (PI, University of Oregon) US Department of Education FIPSE funded (\$575,000) project to transform teaching of environmental technology courses. See <<http://aoc.uoregon.edu/>>.

Fall 2000-2001, Arch 463/464 Hands-On Learning Initiative. Incorporating hand-held instruments and teaching and learning activities into Arch 463/464. Funded by a UI Teaching and Learning grant, \$3,400 for FY 2001.

Fall 2002-Spring 2003, Scholar in Residence at Ove Arup & Partners Research & Development office, London, UK. Worked on a variety of research projects involving environmental conditions and occupant productivity as well as the Hotels of the Future project. Stipend: £30,000.

Fall 2006-present, McCall Carbon-Neutral Field Campus Project. Master plan, design, and build new facilities at the McCall campus that achieve a carbon-neutral learning environment. Collaborating with Steve Hollenhurst, Steve Drown, Rula Awwad-Rafferty, Frank Jacobus, and graduate students. EPA P3 grant: \$10,000 for 2007-08. EPA P3 awards \$2,000 in 2008.

Fall 2007-2009t, SBSE Carbon-Neutral Design Project (participant). Experimenting with, assembling, and distributing materials for teaching carbon-neutral studios. PIs: Jim Wasley (UWisM), Mary Guzowski (UMinn), Terri Meyer Boake (UWaterloo), and John Quale (UVa). AIA and anonymous grants: \$150,000 for 2008-09.

Fall 2010-present, The Next Generation project, a FIPSE grant proposal to organize and conduct a national design competition which clearly documents the design conception, technical execution, expert analysis, and operational practices that yield Zero-Net -Energy (ZNE) performance. PIs Walter Grondzik, Ball State; Bruce Haglund, Idaho; Bob Koester, Ball State; and Alison Kwok, Oregon.

Fall 2009-present, Naturally Lighted Artificial Sky explores the use of daylight to illuminate a consistent sky for testing daylighting models. With research assistants John Neary Fall 2009, Jonathan Gallup 2010-11, 20 Arch 570 students Fall 2011; Beau Tanner, Doran Myrie, Garrett

Lumens, Jennifer Meuller, Troy Phillips Spring 2012; Beau Tanner, Doran Myrie, Aaron Hoffman, Jennifer Meuller, Colin McCabe, Dan Flesher, Emilie Edde, Chaitali Ghandi, and Nan Wang; Fall 2012/Spring 2013, Emilie Edde, Dan Flesher, Brenda Gomez, Matt Garr, and Carly Overton Fall 2013/Spring 2014, Arch 570 students Fall 2014, Drew Gilbert and Malachi Payne Fall 2015 and Spring 2016. UI Seed Grant (\$12,000) awarded for construction and instrumentation of prototype sky July 2012–July 2013. Extended through June 2014.

Spring 2013 – Present, Green Cities Checklist project, Developing a subjective tool for evaluating the level of greenness of cities world-wide. A collaborative project with students in the London Studies Abroad seminars in Spring 2013 and 2015.

Fall 2014 – Present, Post-Occupancy Evaluation of 1.) the newly constructed Revery Classroom building at UI's Pitkin Nursery in Moscow. In collaboration with the Arch 571 seminar Fall 2014, Ben Ferry, Wesley O'Brien, Tessa Grundler, Matt Garr and Ryan McColly Spring 2015, David Waddoups Fall 2015, B. Tucker Haderlie Spring 2016. 2.) the newly reconstructed Education Building and new IRIC Building with Arch 570 seminar Fall 2016 and Macy Brannan, Michael Coleman, Luz Escalante, Byron Green, Hanna Kuipers, Xiaoyi Liu, William Ludgren, and Liuyingqin Yin Spring 2017.

Administration:

Summer 1993- Spring 1999, Chair, Department of Architecture, University of Idaho.

Fall 2003-Summer 2004, Interim Chair, Department of Architecture, University of Idaho.

Major Committee Assignments:

At University of Oregon:

Fall 1979-March 1982, Graduate Studies Committee, Department of Architecture

At University of Idaho:

1982-present, College and Department Committees including:

Gallery

Curriculum (chair, 1992-93)

Computers (chair, 1984-86)

Field Trip (chair, 1984-85, 1987-88)

Graduate Studies (chair, 1988-89, 1999-2001, 2004-present)

Design Coordination (chair 2000-2002)

Troutner Scholarship

Faculty Promotion and Tenure

Faculty Searches

Scholarship Committee (chair 2016-present)

1987-90, 2000-2001 University Research Council (vice chair, 1989-90)

1989, 1990, 1992, 2001 Vice President's or Provost's Dean Search Committee for College of Art and Architecture

1991-present, Environmental Science Faculty

1993, 2000, 2001, 2014, 2016, 2017 University Promotion Committee

1994-present, Environmental Science Graduate Admissions

1994-2001, Cooperative Education Steering Committee

1996-present, Environmental Science Steering Committee

2001-present UI Pollution Prevention Committee

2005-2010 Sustainable Idaho Initiative

2005-2012 UI Sustainability Center Steering Committee

2009-2011 UI President's Sustainability Symposium (co-chair w/Darin Saul)

Other Professional:

Employment:

- June 1972-January 1977, Computer Programmer/Analyst, Planning Research Corp (PRC), San Jose and San Diego, California. Full responsibilities as programmer/analyst and technical writer on various U.S. Department of Defense projects. Conducted user training and wrote User's Manual.
- January 1977-September 1978, Graphic Computer Programmer/Analyst, Computervision Corp., Santa Clara, California. Full range of programmer/analyst responsibilities for integrated circuit (IC) applications.
- November 1978-February 1979, Architectural Draftsman, James and Company, Eugene, Oregon. Residential and light commercial projects. Intense drafting, light design.
- February 1979-November 1979, Architectural Designer, Krumdeick Bros., Eugene, Oregon. Residential Designer for speculative and custom homes for Krumdeick Park and Crest Drive P.U.D.'s. Various other residential and small commercial projects. Responsible for full range of design activities. With James Hosey, Architect.
- Summer 1980, Designer, Solar Retrofit, Brian Johnson Residence, Eugene, Oregon. Thirty-seven foot greenhouse and rock storage.
- Summer 1981, Model Builder, Prince Residence with Equinox Design.
- Summer 1981, Text Book Illustrator, *Insideout*, with G. Z. Brown, John Reynolds, and Susan Ubbelohde.
- March-August 1982, Self-employed Architectural Designer, Eugene, Oregon. Emphasis on design with climate, building rehabilitation and reuse, and user involvement in design and construction.
- Projects:
- Solar Timber Frame Home, Robert Wilcockson, Yankton, S.D
 - Solar Retrofit, Jack Haglund, Batavia, Illinois.
 - Custom Home, Susan and David Dworski, Malibu, California. With Pepper Solberg.
 - Solar Home, Andy Simmons, Alpine, Oregon.

Consulting:

- Fall 1981, Daylighting Consultant with Marietta Millet and Equinox Design.
- Spring 1984, Technical Reviewer for John Wiley & Sons, *Mechanical and Electrical Equipment for Buildings*, 7th edition, chapters 2 and 4 (energy) and chapters 18-21 (lighting).
- Summer 1985, Workshop Organizer for Idaho Department of Water Resources. Topic: Daylighting.
- Summer 1987, Workshop Presenter for Passive Solar '87. Topic: Microcomputer Daylighting Design Tools with Gus Baker, Marc Schiler, Bill Ashton, and Steve Baker.
- Spring 1988-present, Product Evaluator for Washington State University Small Business Development Center. Evaluate energy-related products. Contact: Doug Hammel.
- Summer 1988, Workshop Organizer and Presenter for Idaho Department of Water Resources. Topic: Daylighting and Energy with Joel Loveland, University of Washington, and G. Z. Brown, University of Oregon.
- Fall 1989, Session Co-organizer and Co-presenter for Revitalizing Washington's Downtowns: The Governor's Training Institute, with Wendy McClure, May Lang, and Greg Turpen.
- Summer 1993, Environmental Technology Teachers' Workshop Presenter for Society of Building Science Educators. Topic: Using *Insideout* in Teaching Environmental Technology. With Joel Loveland.
- Summer 1994, Daylighting Consultant for BRS Architects, Boise, BRS Office Building, with Keith Scott
- Fall 1994, Technical Reviewer for VanNostrand Reinhold, *Spreadsheets for Architects: Swiss Army Knife Software*.
- Spring 1996, '97, '98, '99, '00, '02, '04, '05, '06 Workshop Presenter for Passive Solar Conferences. Topic: Designing High Performance Sustainable Buildings. With Murray Milne and Carlos Gomez.
- Summer 1997, Workshop Presenter for SBSE Continuing Education Workshop. Topic: Designing High Performance Sustainable Buildings. With Murray Milne and Carlos Gomez.
- Summer 1998, Workshop Presenter for SBSE Curriculum Development Workshop. Topic: Acoustic Models.
- Summer 1999, Workshop Presenter for SBSE Curriculum Development Retreat. Topic: Evaluating Malcolm Wells' Wilderness-Based Checklist for Design and Construction.

Fall 1999, Technical Reviewer for John Wiley, *Mechanical and Electrical Equipment for Buildings*, 9th Edition.

Spring 2000, Technical Reviewer for John Wiley, *Sun, Wind, and Light: Architectural Design Strategies*, 2nd Edition.

Summer 2000, Sunlight Penetration Study of the UI Student Recreation Center for R.G. Nelson, FAIA and Northwest Architectural Company.

Spring 2001, Workshop Presenter, & Participant, Agents of Change Workshop at University of Wisconsin, Milwaukee. Topic: Agents of Change Training.

Spring 2001, Workshop Organizer, Presenter, & Participant, National Building Museum. Topic: Tool Day. With Walter Grondzik and Alison Kwok

Summer 2001, Workshop Presenter, Seattle Lighting Design Lab (in Boise). Topic: Sunlight Penetration Study of the UI Student Recreation Center.

Summer 2001, Software Beta Tester, Building Green. Topic: *Green Building Advisor* v1.1.

Fall 2001, Workshop Presenter, Performance of the Exterior Envelopes of Whole Buildings VIII Conference. Topic: Taking the Vital Signs of a Building. With Christina Bollo, Walter Grondzik, Alison Kwok, Troy Peters.

Spring 2002, Workshop Organizer and Presenter. Topic: Boise Tool Day. With Alison Kwok.

Spring 2002, Workshop Organizer & Presenter, Environ Design 6 Conference. Topic: HEED: Designing High Performance Sustainable Buildings. With Murray Milne and Carlos Gomez..

Summer 2002, Workshop Organizer and Presenter. Topic: Patagonia Tool Day. With Walter Grondzik and Alison Kwok.

Summer 2002, Workshop Organizer & Presenter. Environmental Works. Topic: HEED: Designing High Performance Sustainable Buildings.

Spring 2003, Workshop Organizer and Presenter. Topic: Arup Tool Days, Manchester and Bristol, UK. With Walter Grondzik and Alison Kwok

Summer 2003, Workshop Presenter, Agents of Change Workshop at Oberlin College. Topic: Agents of Change Training. With Walter Grondzik and Alison Kwok.

Spring 2004, Workshop Presenter, Agents of Change Workshop at Arizona State University. Topic: Agents of Change Training. With Walter Grondzik and Alison Kwok.

Spring 2004, Conference Organization Steering Committee. Topic: Closing the Loop, Post-Occupancy Evaluation Conference at Winsor, UK. With Sue Raof et al.

Summer 2004, Workshop Organizer and Presenter. Topic: Brewery Blocks Tool Day. With Kathy Bash, Walter Grondzik and Alison Kwok.

Summer 2004, Workshop Organizer & Presenter. ASES Passive Solar Conference. Topic: HEED: Designing High Performance Sustainable Buildings. With Murray Milne and Carlos Gomez.

Fall 2004, Workshop Presenter, Agents of Change Workshop at Woods Hole Research Center. Topic: Agents of Change Training. With Walter Grondzik and Alison Kwok.

Fall 2004, Workshop Presenter, Tooling Around Clearwater at Building Envelopes IX Conference. Topic: Tool Day. With Walter Grondzik and Alison Kwok.

Fall 2004, Technical Reviewer for John Wiley, *Mechanical and Electrical Equipment for Buildings*, 10th Edition.

Summer 2005, Workshop Presenter, Agents of Change Workshop at Atlantic Center for the Arts. Topic: Agents of Change Training. With Walter Grondzik and Alison Kwok

Summer 2005, Workshop Organizer & Presenter. ASES/ISES Solar Congress. Topic: HEED: Designing High Performance Sustainable Buildings. With Murray Milne and Carlos Gomez.

Summer 2005, Workshop Organizer and Presenter. Topic: Florida Solar Energy Center Tool Day. With Walter Grondzik and Alison Kwok.

Summer 2006, Workshop Organizer and Presenter. Topic: Denver Tool Day at REI. With Walter Grondzik and Alison Kwok.

Spring 2007, Workshop Organizer and Presenter. Topic: Boise Tool Day at IDL. With Alison Kwok.

Spring 2007, Workshop Presenter. Topic: Building Performance Software at Department of Architecture, University of Minnesota.

Summer 2007, Workshop Organizer & Presenter. ASES Solar Conference. Topic: HEED: Designing High Performance Sustainable Buildings. With Murray Milne.

Summer 2007, Workshop Organizer and Presenter. Topic: Cleveland Tool Day at CEC. With Walter Grondzik, Peter Marks, Beth Lewis, & Nick Rajkovich.

Winter 2007, Workshop Presenter. Topic: Tool Day at Mithun. With Walter Grondzik, Alison Kwok, and Cristina Bollo.

Summer 2008, Workshop Organizer and Presenter. Topic: San Diego Tool Day at UCSD. With Walter Grondzik, Boone Hellmann, & Nick Rajkovich.
Spring 2009, Workshop Presenter. Topic: Carbon-Neutral Design Charette at UOregon Portland. With Walter Grondzik, Alison Kwok, Mike Utzinger, & Nick Rajkovich.
Spring 2009, Workshop Presenter. Topic: Carbon-Neutral Design Charette at AIA Convention San Francisco. With Walter Grondzik, Alison Kwok, Mike Utzinger, & Nick Rajkovich.
Summer 2009, Workshop Organizer and Presenter. Topic: Buffalo Tool Day at the Market Arcade. With Walter Grondzik, Alison Kwok, Troy Peters, & Nick Rajkovich.
Fall 2009, 3-Day Workshop Organizer and Presenter. Topics: Sustainability, daylighting, and zero-energy design. For Antonio Naranjo, Pontificia Universidad Catolica del Ecuador and ENNE Architects.
Summer 2010, Workshop Presenter. Topic: Carbon-Neutral Design Charette at AIA Convention Miami. With Walter Grondzik, Anna Maria Orru, Mike Utzinger, Margot McDonald & Muscoe Martin.
Summer 2010, Workshop Organizer. Topic: Phoenix Tool Day. With Walter Grondzik, Alison Kwok, & Troy Peters.
Summer 2017, Workshop Organizer. Topic: Edinburgh Tool Day. With Walter Grondzik & Alison Kwok.

Membership in Professional and Scholarly Organizations:

American Solar Energy Society (ASES) Fellow 2009
National Trust for Historic Preservation
Society of Building Science Educators (SBSE)
Secretary/Treasurer, 1985
President-Elect, 1986
President, 1987
Board of Directors, 1986-88, 2007-present
Newsletter Editor, 1992-present
Daylighting Network of North America (DNNA)
National Board of Directors, member, 1987-90
Association of Collegiate Schools of Architecture (ACSA)
Association for Computer-Aided Design in Architecture (ACADIA)
Northeast Sustainable Energy Association (NESEA)
American Institute of Architects (AIA) Associate
AIA Idaho Executive Board (ex-officio), 1996-99, 2003-04
AIA/CES Providers Council, 1999-2002
Architectural Research Centers Consortium (ARCC)
National Board of Directors 1997-2001
National Vice-President 1998-2001
National Building Museum
USGBC Idaho Chapter

Other Experience:

Armed Forces:

June 1968-April 1972, U.S. Naval Officer, Pacific Fleet, Pearl Harbor, Hawaii, and Saigon, Viet Nam.

Community and Service:

Summer 1980-August 1982, West University Neighborhood, Neighborhood Advisory Group (NAG) and Neighborhood Housing Committee, Eugene, Oregon.
1984, 1985, Moscow Mardi Gras Committee worker.
1984-present, Solar Energy Consultant, listed locally with Appropriate Technology Extension Network.

Spring 1987, Main Street Study for Dayton, Washington, with the people of the community, my design students, and Betsy Hsu (WSU).

Spring 1989, Community Revitalization for Cle Elum and Roslyn, Washington, with the people of the communities and students in classes taught by Betsy Hsu (WSU), Dick Winchell (EWU), Wendy McClure (UI), and me.

Fall 1989, Northwest Boulevard Entrance Study for Coeur d'Alene, Idaho, with the community, city council, and students taught by Jim Kuska (UI) and me.

Spring 1990, Pend Oreille County Park Development for Pend Oreille County, Washington, with the community and students taught by Dick Winchell (EWU), Toru Otawa (UI), Wendy McClure (UI) and me.

Spring 1992, Community Development Study for Caldwell, Idaho, with the community and my design students.

Summer 1992, Environmental Park Master Plan Development for Moscow, Idaho (BLI) with Kate Grinde (UI) and architecture and landscape architecture students.

Fall 1993-Spring 1994, University of Idaho Long Range Plan Charettes to examine growth and expansion scenarios for 2020. With assorted UI faculty and students

Fall 1995, University of Idaho Housing Co-Planning project to assess future housing options with housing administrators and constituents. With Roger Oetli, Joanne Reece, Jonathan Reich, Gordon Walker and design students.

Summer 1997, UI Rural Town Symposium II: Tools for Change, co-organizer with Steve Drown. The symposium addressed design and development issues for small towns in Idaho and throughout the Northwest.

Spring 1998, UI Borah Symposium: Planetary Stewardship; Session S: Stewardship Through Architectural Design & Planning; co-organizer with Steve Drown. The symposium addressed stewardship across disciplines and worldwide. Our session's keynote speaker was Malcolm Wells.

Summer 2000, UI Rural Town Symposium III: Tools for Change, logistics assistance for organizer Gary Austin. The symposium addressed design and development issues for small towns in Idaho and throughout the Northwest.

Fall 2005, UI Sustainable Transportation Symposium, member of organizing committee

Fall 2009, UI President's Sustainability Symposium, "Transition to *Sustainable* Energy Systems," member of organizing committee

Spring 2011, UI President's Sustainability Symposium, "Building Campus Sustainability." Co-Organizer with Darin Saul.

Summer 2012, SBSE Curriculum Development Workshop, Co-Organizer with Bachman, Grondzik, Koester, and Kwok.

PUBLICATIONS:

Books:

Simulating Daylighting with Architectural Models, co-author with Boyer, Brown, Brown, Loveland, Millet, Schiler, Moore, Naavab, Leshi, Grover, Ellinwood. Published by DNNA with U.S. Dept. of Energy, 1987.

Insideout: Design Procedures for Passive Environmental Technologies, 2nd Edition, Co-author with Brown, Loveland, Reynolds, and Ubbelohde. Published by John Wiley, Spring 1992.

Book Chapters:

"Resource Conservation and Sustainability: Architecture and Community Development," *The Rural Town: Designing for Growth and Sustainability*, edited by Wendy McClure. Published CBDR, 1997.

"Chapter 35—Regeneration-based checklist" and "Chapter 37—Vital Signs" *POE Closing the Loop*, RIBA Enterprises, London, UK Sue Roaf, editor, 2004

"Case Studies: Arup Campus, BedZED, and Druk White Lotus School," *The Green Studio Handbook*, Walter Grondzik and Alison Kwok, Architectural Press, 2006.

“The Fitness Test: Building as a Response to Environmental Factors,” *The Built Environment*, with Tom Bartuska. Tom Bartuska and Wendy McClure editors, John Wiley & Sons, 2007.

“Designing with the Environment,” *The Built Environment*, with Mike Owen. Tom Bartuska and Wendy McClure editors, John Wiley & Sons, 2007.

“On Architecture 2030: Toward a Green Tomorrow,” Introduction to a book on sustainability in Ecuador by Antonio Naranjo, in press.

“Case Study: John Hope Gateway Edinburgh Royal Botanic Garden,” *The Green Studio Handbook*, second edition, Walter Grondzik and Alison Kwok, Architectural Press, 2011.

“As Simple as We Are,” *Transforming Architecture: A Festschrift in Honor of Professor GZ "Charlie" Brown*, University of Oregon, 2017, with Alison Kwok and Walter Grondzik.

“Case Study: NASA Sustainability Base,” *The Green Studio Handbook*, third edition, Walter Grondzik and Alison Kwok, Routledge, 2018, with Angie VanHoozer and Amy Probert.

Other Publications:

Final Report: Society of Building Science Educators Curriculum Assessment and Development Meeting, 1986, for U.S. Dept. of Energy.

Final Report: Society of Building Science Educators Curriculum Development Meeting, 1987, for U.S. Dept. of Energy.

“Thermal Mass in Passive and Energy-Conserving Buildings” a Vital Signs Resource Package, 1996, for Department of Architecture, University of California.

“Case Studies of Four Seattle Buildings” a homepage <http://www.aa.uidaho.edu/499light/> for the Vital Signs Project, 1998.

“Multnomah County Library: Award of Merit” a building critique for Architecture + Energy 1999 Design Awards publicity brochure, sponsored by NEEA and AIA/Portland, Oregon, 1999.

Book Review, “HEED Succeeds Solar-5,” for *Home Energy* magazine, March/April 2002.

“Presentation Transcripts,” pp53-68 & 95-110, Zero Net Energy Workshop & Design Charrette, Alison Kwok, Available on www.lulu.com, 2009.

“As Simple as We Are” for the G. Z. Brown Festschrift at the University of Oregon with Alison Kwok and Walter Grondzik, available on the ESBL web site at UO, 2016.

PAPERS PRESENTED AT SCHOLARLY MEETINGS (and published in proceedings):

April 1985, “Microclimates and Their Interaction with the Built Environment,” at the Environmental Planning Conference sponsored by University of Cincinnati and the U.S. Environmental Protection Agency.

August 1985, “Building Designer-Friendly Software, Microcomputer Energy Simulation that Goes Beyond User-Friendly,” at the Building Energy Simulation Conference sponsored by the U.S. Department of Energy.

June 1986, “Using Local Examples of Daylighting in Teaching Lighting Design,” at the Eleventh National Passive Solar Conference sponsored by the American Solar Energy Society.

- June 1986, "Architectural Designer-Friendly SLR Software," at the Eleventh National Passive Solar Conference sponsored by the American Solar Energy Society (presentation only).
- July 1987, "Microcomputer Software as a Means of Informing the Design Process on Passive Heating," at the Twelfth National Passive Solar Conference sponsored by the American Solar Energy Society.
- August 1987, "Dayton, Washington, Seeking Revival Through Community Action," at the First Aesthetics of the Rural Renaissance Conference sponsored by the Dept. of Urban Planning, California Polytechnic State University, San Luis Obispo, with Betsy Hsu, WSU, co-author.
- November 1987, "Energy Research Directions," an invited respondent paper at the Annual Research Conference sponsored by the American Institute of Architects and the Association of Collegiate Schools of Architecture.
- February 1988, "A History of the Decline of Daylighting Design," at the ACSA Technology Conference sponsored by the Association of Collegiate Schools of Architecture.
- October 1988, "Toward a Computer Integrated Design Studio," for the ACADIA '88 Workshop "Computing in Design Education" sponsored by the Association for Computer Aided Design in Architecture, with Brian Sumption (published only).
- June 1989, "*Insideout* Redux: (Re)Writing an Environmental Technologies Workbook for Future Architects," for the Fourteenth National Passive Solar Conference sponsored by the American Solar Energy Society, with Joel Loveland, University of Washington.
- February 1990, "Facts, Slides, and Videotape: Technologies for Daylighting Case Studies," for the ACSA Technology Conference sponsored by the Association of Collegiate Schools of Architecture, with Brian Sumption and Alex Zabrodsky.
- March 1990, "Facts, Slides, and Videotape II: Technologies for Daylighting Case Studies," for the Fifteenth National Passive Solar Conference sponsored by the American Solar Energy Society, with Brian Sumption and Alex Zabrodsky.
- February 1991, "Imagining Light," for the ACSA Technology Conference sponsored by the Association of Collegiate Schools of Architecture, with Brian Sumption and Alex Zabrodsky.
- August 1991, "Visualization of Daylighting in Buildings," for the ISES Solar World Congress sponsored by the International Solar Energy Society, with Brian Sumption and Alex Zabrodsky.
- January 1993, "Daylighting and Visualization," for the ACSA Technology Conference sponsored by the Association of Collegiate Schools of Architecture, with Brian Sumption (presentation only).
- April 1993, "Computer Methods vs. Traditional Methods in Daylight Design," for the Eighteenth National Passive Solar Conference sponsored by the American Solar Energy Society, with Brian Sumption and Keith Scott.
- July 1995, "Decade-old Solar Buildings Revisited," for the Twentieth National Passive Solar Conference sponsored by the American Solar Energy Society, with Kurt Rathmann.
- June 1995, "Resource Conservation and Sustainability: Architecture and Community Development," to The Rural Town: Designing for Growth and Sustainability Symposium, with Tom Bartuska (published as a book chapter).
- October 1999, "Northwestern Lights: A Vital Signs Case Study of Four Seattle Buildings," for the ACSA West Regional Meeting, with Sandy Stannard.

April 2001, "Malcolm Wells' Wilderness-Based Checklist for Design and Construction Revisited," for the ASES Twenty-Sixth National Passive Solar Conference.

April 2001, "Can a 1950s Dormitory Become Sustainable?," for the ASES Twenty-Sixth National Passive Solar Conference, with Jason Eaton.

September 2001, "Greening a 1950s Dormitory," for Greening of the Campus IV sponsored by Ball State University, with Jason Eaton.

September 2002, "Teachers' Choice: Sustainable Waterscape at Five Scales," for International Conference Landscapes of Water: History, Innovation, and Sustainable Design sponsored by Istituto per la Residenza e le Infrastrutture Sociali del CNR, with Alison Kwok.

June 2003, "The Agents of Change Project: Changing Perceptions of Building Performance," for ASES Twenty-eighth National Passive Solar Conference, with Walter Grondzik, Alison Kwok, and Troy Peters.

September 2003, "Workplace Performance Monitoring: Analysing the Combination of Physiological and Environmental Sensory Inputs," for IEE Wearable Computing Conference, with Duncan Wilson.

April 2004, "Infusing POE into Architectural Education" for Closing the Loop Conference, Great Windsor Park, UK, with Walter Grondzik and Alison Kwok.

June 2004, "The Workplace Performance Projects—A Case Study in Research Collaboration," for ARCC/EAAE Research Conference, Dublin, IE.

June 2004, "Tool Days: Translating Architectural Education Research into Practice," for ARCC/EAAE Research Conference, Dublin, IE. with Walter Grondzik and Alison Kwok.

July 2004, "English Green Building," for ASES National Solar Conference, Portland, OR.

July 2004, "The Agents of Change Project: The Power of Peer-to-Peer Teaching" for ASES National Solar Conference, Portland, OR with Walter Grondzik, Alison Kwok and others.

December 2004, "From Vital Signs to Practice: A Technology Transfer Case Study" for Building Envelopes IX Conference, Clearwater Beach, FL with Walter Grondzik, Alison Kwok.

June 2006, "A Tale of Two City Halls: Icons for Sustainability in London and Seattle," for WIT Eco-Architecture Conference, New Forest, UK CO with Diane Armpriest.

July 2006, "City Hall as Symbol for Sustainability" for ASES National Solar Conference, Denver, CO with Diane Armpriest.

July 2007, "McCall Field Campus: A Pioneering Carbon-Neutral Studio Project" for ASES National Solar Conference, Cleveland, OH.

Oct 2008, "Pioneering the 2010 Imperative in Studio: Carbon-Neutral Studios 2006 and 2007" for PLEA 2008, Dublin, Ireland.

Mar 2010, "Sustainability: Designing a Pervasive and Integrative Curriculum," for ACSA Annual Meeting, New Orleans, LA, with Wendy McClure and Frank Jacobus.

Oct 2011, "Feasibility and design of a daylighted artificial sky," for PLDC 2011, Madrid, Spain

May 2012, "A Prototype Daylighted Artificial Sky," for WREF 2012, Denver, CO.

- Nov 2012, "A Proposal for Passive, Low-Energy Artificial Skies" for PLEA 2012, Lima, Peru, (presented as a poster) with Brad Dunbar, Garrett Lumens, Jennifer Mueller, Doran Myrie, Troy Phillips, and Beau Tanner.
- Feb 2014, "Changing Mindsets: A Passive-First Artificial Sky" for ARCC/EAAE Research Conference, Honolulu, Hawai'i, with Emilie Edde, Daniel Flesher, and Brenda Gomez.
- May 2014, "The Occupant Experience of a Living Test-Bed Office Facility: Sustainability Base at NASA Ames Research Center" for EDRA 2014, New Orleans, LA, by Angela VanHoozer with Robert Heinse and Bruce Haglund.
- Oct 2014, "Spaces of transformation: the experience of architecture students" for the 11th International Transformative Learning Conference, New York, NY with Alison Pooley, Anglia Ruskin University, UK.
- Jun 2016, "A Passive-First Artificial Sky: An Educational Tool" for the EAAE/ARCC Research Conference, Lisbon, Portugal with Drew Gilbert and Malachi Payne.
- Jul 2016, "A Green Cities Checklist: A Subjective Rating Rubric" for the PLEA 2016 Conference, Los Angeles, CA with Malachi Payne.
- Jul 2016, "The Pitkin Nursery Classroom Building: Simulation and Post-Occupancy Evaluation" for the PLEA 2016 Conference, Los Angeles, CA with Ben Ferry, Matt Garr, Tessa Grundler, B. Tucker Haderlie, Ryan McColly, Wesley O'Brien, and David Waddoups.
- Jul 2017, "New Buildings, New Lighting, New Critique: Student Analysis of Integrating Daylight and LED Lighting" for the PLEA 2017 Conference, Edinburgh, Scotland, with Macy Brannan, Michael Coleman, Luz Escalante, Byron Green, Hanna Kuipers, Xiaoyi Liu, William Lundgren, and Liuyingqin Yin. Michael Coleman and Luz Escalante presented.
- Nov 2017, "Integrating Daylight and LED Lighting: A student research project," a for PLDC 2017, Paris, France, with Macy Brannan, Michael Coleman, Luz Escalante, Byron Green, Hanna Kuipers, Xiaoyi Liu, William Lundgren, and Liuyingqin Yin. Poster presentation with Macy Brannan.

TALKS AND LECTURES PRESENTED AT UNIVERSITIES AND TO PROFESSIONAL ORGANIZATIONS:

- February 1985, "20th Century Lighting," to the University of Idaho American Institute of Architecture Students, University of Idaho, Moscow, Idaho.
- May 1988, "Daylighting in Building Design," to the Inland Empire Section of Illuminating Engineers Society, Spokane, Washington.
- June 1989, "Daylighting - Historic Perspective and Case Study," to Inland Empire Section of Illuminating Engineers Society, Spokane, Washington.
- September 1989, "Design as Technology: Case Study of Dayton, Washington," to Revitalizing Washington's Downtowns: The Governor's Institute, Central Washington University, Ellensburg, Washington.
- November 1991, "Daylighting Design and the Energy Code in Commercial Buildings," to Association of Idaho Cities Northwest Energy Code Conference, Sun Valley, Idaho.
- December 1991, "Lightscapes and Superlite," to Northwest Daylighting Forum, Seattle, Washington.
- July 1993, "Design and Environmental Technology: Using the Design Workbook InsideOut" to Society of Building Science Educators Summer Curriculum Development Workshop, Timberline, Mt. Hood, Oregon.

July 1994, "Sustainable Architecture Seminar and Studio," to Society of Building Science Educators Curriculum Development Retreat, Green Gulch Zen Farm, Marin County, California.

July 1994, "Lightscapes," to Northwest Daylighting Forum, Portland, Oregon.

November 1996, "Site Optimization: How to Assure a Low Energy Residence," to Idaho Energy Codes Conference, Sun Valley, Idaho.

November 1997, "From Concept to Practice" to the Continuing Education Symposium, ACSA Administrators Conference, Jackson, Mississippi.

April 1998, "Physical Acoustic Modeling" to Alison Kwok's Environmental Controls class at Cornell University, Ithaca, New York.

May 1998, "Vital Signs Case Studies of Four Seattle Buildings" to the Northwest Daylighting Forum, Seattle, Washington.

June 1998, "Physical Acoustics Models" to Society of Building Science Educators Curriculum Development Retreat, Taos Ski Valley, New Mexico.

September 1998, "Vital Signs Case Studies" to Bob Koester's Environmental Controls honors class at Ball State University, Muncie, Indiana.

July 1999, "Okham's Razor Doesn't Cut It" to Society of Building Science Educators Curriculum Development Retreat, Tadoussac, Quebec.

March 2001, "Updating Malcolm Well's Wilderness Based Checklist" to UI Green Forum, Moscow, ID.

April 2001, "Procedure for Determining Unknown R-Values" to Alison Kwok's Vital Signs class at University of Oregon, Eugene, Oregon.

June 2002, "Tool Days, Tool Days, Good Old Ecological Rule Days" to Society of Building Science Educators Curriculum Development Retreat, Hope Valley, California.

December 2002-February 2003 "From Vital Signs to Arup" to Ove Arup and Partners offices in London (with Alison Kwok), Bristol, Cardiff, Manchester, and Newcastle, UK and to students at University of Portsmouth and Cardiff University, UK.

November 2002-April 2003 "Why Sustainability" to students at Oxford Brookes University and Portsmouth University, UK, Oberlin College studies abroad, London, UK and at University College Dublin, Ireland.

August 2003, "Tool Days at Arup: Teaching in the Office" to Society of Building Science Educators Curriculum Development Retreat, Morgantown, Indiana.

October 2003, "Is London's City Hall Green?" to IURDC students and local practitioners, Boise, Idaho.

July 2004, "Research in Practice: SBSE Visiting Scholar's Report" to Society of Building Science Educators Curriculum Development Retreat, Cascade Head, OR.

October 2004, "English Green Building" to AIA Idaho Northern Section, Moscow, ID and at IDL grand opening week, Boise, ID.

June 2005, "Designosaurus vs. the Creature from the Green Lagoon: Commonalities in Ecological and Aesthetic Literacy in Beginning Design" to Society of Building Science Educators Curriculum Development Retreat, Savannah, GA, with Phil Mead.

September 2005, “How Do You Know It’s Sustainable?” to the Sun Valley Sustainability Conference, Sun Valley, ID.

September 2006, “Passive Design and Carbon Emissions” to the Sun Valley Sustainability Conference, Sun Valley, ID.

November 2006, “Passive Design and Carbon Emissions” to the Betterbricks Professional Training Program at the IDL, Boise, ID.

December 2006, “Experiment: Carbon-Neutral Studio” to UI GreenHows series sponsored by Sustainable Idaho.

April 2007, “Experiment: Carbon-Neutral Studio” to the ARCC Annual Research Conference, Eugene, OR

June 2007, “Tale of Two City Halls” to NBBJ Architects, Seattle, WA.

July 2007, “Greening the Curriculum: Process Practice and Potential” forum member at the ASES Solar 2007 Conference, Cleveland, OH

May 2008, “Passive Energy Perferred” forum member at the ASES Solar 2008 Conference, San Diego, CA.

Oct 2008, “Low Carbon Building Design: American Experience” Heriot-Watt University, Edinburgh, UK.

Jun 2009, “Carbon-Based Tool for Design and Construction,” based on Wells’ methodology to Society of Building Science Educators Curriculum Development Retreat, Québec City, Québec.

Jul 2009, “Pioneering the 2010 Imperative in Studio: Carbon-Neutral Studios 2006 and 2007” Center for Alternative Technology Graduate School of the Environment, Machynlleth, UK.

Sep 2009, “Pioneering the 2010 Imperative in Studio: Carbon-Neutral Studios 2006 and 2007” Pontificia Universidad Catolica del Ecuador, Quito, Ecuador.

May 2010, “Teaching Design for Water Systems: A Hands-On Approach,” to Society of Building Science Educators Curriculum Development Retreat, Las Vegas, NV.

Jun 2011, “Integrated Design Studio,” to Society of Building Science Educators Curriculum Development Retreat, Albuquerque, NM.

Jul 2011, “A Daylighted Artificial Sky” lecture and “Natural Acoustics” teaching module, Center for Alternative Technology Graduate School of the Environment, Machynlleth, UK.

Nov 2011, “Accentuate The Positive—Climate Responsive Design” lecture, AIA + 2030 Workshop: Prepare for the New Energy Future, Boise, ID.

May 2012, “Shading: A Major Solar Strategy,” forum member at WREF 2012, Denver, CO with Norbert Lechner, John Reynolds, and Rick Morris. Presented “Shading for Daylighting.”

Jul 2013, “A Daylighted Artificial Sky” lecture and “Natural Acoustics” teaching module, Center for Alternative Technology Graduate School of the Environment, Machynlleth, Wales, UK.

Jun 2014, “A Resilient Artificial Sky for Testing Daylighting Models,” to Society of Building Science Educators Curriculum Development Retreat, Biosphere2, Oracle, AZ.

July 2014, “Using a Passive-First Daylighted Artificial Sky,” for ASES National Solar Conference, San Francisco, CA, with Emilie Edde, Daniel Flesher, Matt Garr, Carly Overton, and Brenda Gomez.

July 2015, “Spaces of transformation: the experience of architecture students” for The Center for Alternative Technology (CAT), Machynlleth, Wales, with Alison Pooley, Anglia Ruskin University, UK.

Jul 2016, "Drivers of Change Workshop," to Society of Building Science Educators Curriculum Development Retreat, Pacific Energy Lab, San Francisco, CA, with Chris Luebke, Arup.

Oct 2017, "Learning from London," to American Solar Energy Society Solar 2017 Conference, Denver, CO.

Oct 2017, "Signs of a Green City," American Solar Energy Society Solar 2017 Conference, Denver, CO.

GRANTS AND CONTRACTS:

Washington Water Power Grant, Passive Solar Heating Prediction Software, 1984-87, \$120,000.

Idaho Department of Water Resources Contract, Daylighting Workshop Preparation, 1985, \$1,200.

Small Travel Grant, University of Idaho, to travel to the 1988 ACSA Technology Conference, San Francisco, \$443.

Idaho Department of Water Resources Contract, Daylighting Workshop Presentation, 1988, with G.Z. Brown and Joel Loveland, \$14,000.

Northwest Area Foundation Contract, Cle Elum and Roslyn Community Development Assistance, 1989, with Wendy McClure, \$3,386.

Pend Oreille County Contract, Pend Oreille County Park Development Assistance, 1990, with Toru Otawa and Wendy McClure, \$3,000.

Small Travel Grant, University of Idaho, to travel to the 1990 ASES National Passive Solar Conference, Austin, Texas, \$600.

Bonneville Power Administration Grant, Lightscares Software Development, 1991-93, with Brian Sumption, Alex Zabrodsky, and Keith Scott, \$52,000.

Small Travel Grant, University of Idaho, to travel to the 1992 ACSA Technology Conference, San Diego, California, \$498.

Better Living Incorporated, Environmental Park Master Plan Development Grant, 1992, with Kate Grinde, \$9,000.

Small Travel Grant, University of Idaho, to travel to the 1993 ASES Passive Solar Conference, Washington, D.C., \$600.

University Seed Grant, Lightscares Software Development, 1993-94, with Alex Zabrodsky, \$6,000.

Energy Foundation Grant, Vital Signs Project, Thermal Mass in Passive Solar and Energy-Conserving Buildings, 1994-95, with Cris Benton, Kurt Rathmann, and Dirk Nelson, \$10,000.

University of Idaho Contract, Housing Co-Planning Project, 1995, with Jonathan Reich, Sandy Stannard, and design students, \$9,000.

Idaho Humanities Council Grant, Homesteading the Palouse, 1995, with Gena Ellis, Kurt Rathmann, and Andria Marcussen, \$3,150.

University of Michigan Grant, Reusing and Recycling Architectural Resources, 1996, with Kurt Rathmann, \$10,000.

Vital Signs Project Grant, Case Studies of Four Seattle Buildings, 1998, with Sandy Stannard, \$5,000.

Vital Signs Toolkit Loan, 1998-2002, equipment valued at \$25,000.

Teaching and Learning Grant, University of Idaho, Arch463/464 Hands-On Learning Initiative, 2000, \$3,400

Small Travel Grant, University of Idaho, to travel to the International Conference Landscapes of Water: History, Innovation, and Sustainable Design sponsored by Istituto per la Residenza e le Infrastrutture Sociali del CNR, Monopoli, Italy, 2002, \$1,200.

US EPA P3 Grant, "Architecture as Pedagogy: Interdisciplinary Design and Creation of a Carbon-Neutral Idaho Environmental Learning Center at the University of Idaho McCall Field Campus" with Steve Hollenhorst, Rula Awwad-Rafferty, Steve Drown, and Lynne Westerfield. 2007, \$10,000.

AIA & Anonymous Donor Grant, "SBSE Carbon Neutral Design Teaching Materials Project" participant. James Wasley, UWM; John Quale, UVa, Mary Guzowski, UMn, and Terri Boake, UWaterloo Co-PIs. 2008-09 \$150,000.

US DOE FIPSE Grant, "The Next Generation," with Walter Grondzik, Alison Kwok, and Bob Koester, 2010, \$750,000, (denied).

US EPA P3 Grant, "Building Green for Economic Stimulus" with Kat Brown, Matt McAnulty, and Chris Cummings. 2010, \$15,000, (denied).

Seed Grant, University of Idaho "A Daylighted Artificial Sky," 2011, \$15,000, (denied).

Seed Grant, University of Idaho "Design, Build, Test, and Instrument a Prototype Artificial Sky," 2012, \$12,000. Funding extended thru May 2014.

International Programs Office Grant, University of Idaho, "Studies Abroad in Peru," Supported two students' travel to Lima and Machu Picchu, 2012, \$1,000.

Dean's Travel Grant to Peru to present at PLEA 2012 and teach a studies abroad course in Peru. \$500.

Global Innovation Initiative Grant, "The Built Environment Sustainability and Quality of Life (BESQOL) Assessment Methodology Teaching and Research Collaboration," Dr. Paola Sassi, Oxford Brookes University, UK, Principal Investigator; with Prof. Circe Monteiro, Federal University of Pernambuco, Recife, Brazil; Profs. Paulo Regal and Ana Ce, Pontifical Catholic University of Rio Grande do Su, Porto Alegre, Brazil, to test, evaluate, further develop and disseminate the Built Environment Sustainability and Quality of Life (BESQoL) assessment methodology developed and piloted at Oxford Brookes University through community development workshops in the UK, Brasil, and the US. The partnership would also develop collaborative research initiatives related to the BESQoL research field and investigate options for collaborative teaching programmes. £145,560 to support sustainability workshops in three countries: United Kingdom, United States, and Brasil. About £48,640 (~\$80,000) will support UI faculty and student travel to Brasil and the UK to conduct the workshop. Denied.

Dean's Travel Grant to Hawai'i to present at ARCC/EAAE 2014 at the University of Hawai'i. \$500.

SCHOLARLY WORK Foci:

Computer-Aided Passive Solar Design. Development of new computer programs which are educational and analytical tools for the design of passive solar buildings. This work was funded by Washington Water Power Company from 1984 to 1987. It has resulted in papers presented at scholarly meetings in August 1985, June 1986, and July 1987. The computer software, UISUN, was released as shareware for educational and professional use.

Environmental Technology Pedagogy. Development of teaching methods for architectural educators. This work has led to the development of the second edition of an environmental technology textbook, *Insideout*, and chapters of a second book, *Simulating Daylighting with Architectural Models*. Other outcomes include a paper in June 1989; numerous workshop presentations in the summers from 1987

to present; work in reviewing, organizing, and chairing paper sessions for national and international conferences; and talks and workshops for professional organizations. Participation in curriculum development workshops sponsored by SBSE has been instrumental in development of this work. The Vital Signs Project Grants for developing teaching methods for understanding thermal mass, compiling case studies, and using building performance instrumentation are also an outgrowth of this work. My role as a trainer in the Agents of Change project fits into this focus. Summer teaching at the Center for Alternative Technology in Wales is another aspect of Environmental technology pedagogy and has led to publication and presentation of "Spaces of transformation: the experience of architecture students" for the 11th International Transformative Learning Conference.

Building Response to Climate. Development of a theory for prediction of microclimatic effects caused by site and building interaction based on the work of McHarg and Brown & Novitski combined with Geographic Information System technology. This work has resulted in a paper presented in April 1985 and a funded study done by M. Joseph Numbers, M.Arch., 1987, as part of his master's work. Results of this work have been incorporated in a chapter of *Insideout*. Recent efforts include a study of thermal mass effects in buildings, supported by an Energy Foundation grant to the Vital Signs project. Other outcomes are book chapters in *The Built Environment*, *Closing the Loop*, and *The Green Studio Handbook*. Work on the McCall Field Campus Carbon-Neutral Design/Build and SBSE Carbon-Neutral Design projects continue this line of inquiry. Post-Occupancy evaluation of the NASA Sustainability Base, the Pitkin classroom building, Education Building, and IRIC is included in this focus.

Daylighting History. A historic case study of daylighting in a prototypical small town (Moscow, Idaho) is being prepared. The case study reveals technical innovations and social attitudes during the ascent of electrical lighting and the resultant decline in the use of daylighting. This work has resulted in papers presented in June 1986 and February 1988.

Community Design. Use of visualization methods for aiding communities and community-based organizations gain an understanding of the design issues involved in their development and revitalization. This work has resulted in several small grants for community-based projects, a paper in August 1987, a workshop presentation in November 1991, and participation in the Rural Town Symposium I & II and the Center for Community Design and Rural Planning. New grant-writing activity centers around the creation of the Idaho Urban Research and Design Center (1998). Other efforts include work on the Bio-Regional Planning "Building Sustainable Communities" initiative. The 2013 GII grant proposal with schools from the UK and Brasil as well as the Green Cities Checklist project is included in this focus.

Scientific Visualization of Lighting. New computer-based technologies for representing lighting information are being explored. Both short term, interim methods (videotape) and long term methods (digital visual information) are being considered. Case studies of a Spokane building and UI faculty offices are being developed using the technologies. This work has been funded by Bonneville Power Administration and the University of Idaho. Since 1990 six papers and two talks have resulted from it. Collaborated with Brian Sumption, Alexander Zabrodsky, and Keith Scott.

Daylighted Artificial Sky. Feasibility study and prototyping of a daylighted artificial sky to be used for testing design options for daylighting buildings. This work has been accomplished with the assistance of graduate students. Since 2010 four papers and four talks have resulted from it. Collaborating with graduate students John Neary, Jonathan Gallup, Arch 570 (20 students in Fall 2011), Emilie Edde, Daniel Flesher, Matt Garr, Brenda Gomez, Aaron Hoffman, Colin McCabe, Carly Overton, Nan Wang, Chaitali Ghandi, Brad Dunbar, Garrett Lumens, Jennifer Mueller, Doran Myrie, Troy Phillips, and Beau Tanner.

HONORS AND AWARDS:

Teaching:

Fellowship to MIT/ACSA Summer Institute on Design/Energy, 1984

Alumni Award for Faculty Excellence, University of Idaho, 1984 (Kent Hanway)

Graduate Faculty Appointment, University of Idaho, 1985
 Alumni Award for Faculty Excellence, University of Idaho, 1986 (Chuck Horgan)
 Fellowship to Oregon/ACSA Summer Institute on Design/Energy, 1986
 Alumni Award for Faculty Excellence, University of Idaho, 1988 (Marc Corney and Bart Krokosh)
 Fellowship to Washington/ACSA Summer Institute on Design/Energy, 1989
 Nominated for 1990 AIAS National Educator Honor Award by the American Institute of Architecture Students Chapter at the University of Idaho
 Guest Design Studio Critic, University of North Carolina Charlotte, 1990
 Honors Faculty Selection, University of Idaho, 1991
 Alumni Award for Faculty Excellence, University of Idaho, 1991 (Amy Dowty)
 Alumni Award for Faculty Excellence, University of Idaho, 1992 (Rochelle Nagata)
 Alumni Award for Faculty Excellence, University of Idaho, 1993 (Jordy Guth)
 Faculty Sponsor, Honorable Mention Vital Signs Case Study Competition, 1997 (Rajat Randev)
 Invited Workshop Presenter, Cornell University, Ithaca, NY, 1998
 Invited Workshop Presenter, Ball State University, Muncie, IN, 1998
 Invited Workshop Presenter, HOPES Conference, University of Oregon, 1999
 Faculty Sponsor, 3rd Place Environmental Science Poster Competition, UI, 2000 (Coreen Crouch)
 Faculty Recognition Certificate, UI/WSU NROTC, 2001 (Brian Foster)
 Invited Workshop Presenter, University of Oregon, 2001
 UI Sabbatical, Ove Arup & Partners R&D, London, UK 2002-2003
 Guest Lecturer, Portsmouth University, UK, 2002
 Guest Lecturer, Cardiff University, UK, 2003
 Guest Lecturer, Oxford Brookes University, UK, 2003
 Guest Lecturer, University College Dublin, IE, 2003
 Guest Lecturer, Oberlin College Studies Abroad, London, UK, 2003
 Guest Design Studio Critic, Portsmouth University, UK, 2003
 Guest Lecturer, University of Idaho IURDC, Boise, 2003
 Faculty of the Year Award, UI AIAS, 2004
 Guest Lecturer, University of Idaho IDL, Boise, 2004
 Alumni Award for Faculty Excellence, University of Idaho, 2005 (Charles Baxter & Megan Compton)
 Guest Lecturer, University of Idaho IDL, Boise, 2006
 UI Advising Excellence Award Nominee, 2007
 Alumni Award for Faculty Excellence, University of Idaho, 2007 (John Faley)
 Faculty Sponsor, Honorable Mention, Integrating Habitats design competition, Portland Metro, 2008 (Jeff Brajcik, Bryan Ferguson, & Patrick Sullivan)
 Faculty Sponsor, Honorable Mention, US EPA P3 Competition, Washington, DC, 2008 (McCall interdisciplinary team)
 Faculty Sponsor, Green Building Initiative P3 Award, Washington, DC, 2008 (McCall interdisciplinary team), \$1,000
 Faculty Sponsor, AIChE YCOSST P3 Design Award, Washington, DC, 2008 (McCall interdisciplinary team), \$1,000
 Guest Lecturer, Heriot-Watt University, Edinburgh, UK, 2008
 Guest Lecturer, Centre for Alternative Technology, Graduate School of the Environment, Machynlleth, UK, 2009, 2011, 2013, 2015
 Guest Lecturer, Pontificia Universidad Catolica del Ecuador, Quito, Ecuador, 2009
 Nominated for UI Distinguished Professor Award, 2012, 2013, 2014, 2018
 Faculty Sponsor, Autodesk Excellence in Analysis Award, Dan Temple, 2013

Service (professional):

Technical Session Chair, "Architecture and Climate," ASES Eleventh National Passive Solar Conference, Boulder, Colorado, 1986
 Session Organizer and Referee, "Design and Technology," ACSA Annual Meeting, Los Angeles, California, 1986
 Jury Member, Washington State Trust for Historic Preservation Annual Awards of Merit, 1987
 Session Chair and Referee, "Technology: Energy," AIA/ACSA Council on Architectural Research Annual Research Conference, Boston, Massachusetts, 1987
 Member, Energy Edge Regional Training Advisory Committee, 1989-1995

Technical Session Co-Chair, "Mirror Box Sky Simulators," ASES 14th National Passive Solar Conference, Denver, Colorado, 1989, with Richard Crenshaw

Session Chair, "Envelope," ASES 15th National Passive Solar Conference, Austin, Texas, 1990

Technical Committee Member, 1992 ASES 17th National Passive Solar Conference, Cocoa Beach, Florida, 1992

Session Referee and Co-Chair, "Making and Doing I," ACSA Technology Conference, San Diego, California, 1992, with Gil Snyder

Session Chair, "Education I" and "Passive Cooling II," ASES 17th National Passive Solar Conference, Cocoa Beach, Florida, 1992

Technical Paper Reviewer, ACSA Technology Conference, Tempe, Arizona, 1993

Symposium Organizer and Chair, "Daylighting: Design Transfer," ASES 18th National Passive Solar Conference, Washington, D.C., 1993

Technical Paper Reviewer, ACSA Technology Conference, Ann Arbor, Michigan, 1994

Jury Member, Interior Designers of Idaho, Chair Affair Competition, Boise, Idaho, 1994

Technical Paper Reviewer, ACSA Mini-Technology Conference, Boston, Massachusetts, 1995

Session Chair, "Innovative Systems and Technologies—Integrating the Envelope and Lighting Systems," Sustainable Building Northwest, Seattle, Washington, 1997.

Technical Paper Reviewer, ARCC Conference on Architectural Research, Atlanta, Georgia, 1997.

Session Chair, "Design Tools I," ASES 23rd National Passive Solar Conference, Albuquerque, New Mexico, 1998.

Member, Seattle Lighting Design Lab Regional Advisory Committee, 1998-present

Symposium Co-Organizer and Co-Chair, "Research Symposium," ARCC Annual Meeting, Washington, D.C., 1998. With Michael O'Brien.

Jury Member, AIA Portland, Energy + Architecture Competition, Portland, Oregon, 1999.

Member, AIA/CES Providers Council, 1999-2002

Technical Paper Reviewer, ACSA Technology Conference, Montréal, Québec, 1999.

Session Chair, "Information Technology and Building Technology," ACSA Technology Conference, Montreal, Quebec, 1999.

Technical Paper Reviewer, EAAE/ARCC Conference on Architectural Research, Paris, France, 2000.

Technical Paper Reviewer, ARCC Conference on Architectural Research, Blacksburg, VA, 2001

Technical Paper Reviewer, ASES Forum 2001, Washington, DC, 2001

Session Chair, "Sustainability the Big Picture," ASES Forum 2001, Washington, DC, 2001

Technical Paper Reviewer, ACSA Technology Conference, Austin, TX, 2001.

Technical Paper Reviewer, ARCC Conference on Architectural Research, Montréal, Québec, 2002

Session Chair, International Conference Landscapes of Water: History, Innovation, and Sustainable Design sponsored by Istituto per la Residenza e le Infrastrutture Sociali del CNR, Monopoli, Italy 2002

Book Proposal Reviewer, Architectural Press, Oxford, UK, 2002-present

Journal Article Reviewer, *ISES Solar Energy Journal*, 2003

Session Chair, "Design Origins," ARCC/EAAE Research Conference, Dublin, Ireland, 2004

Technical Paper Reviewer, ACSA Technology Conference, Miami, FL, 2004

Book Chapter and Book Proposal Reviewer, John Wiley & Sons, New York, NY, 2004-present

Session Chair, "Sustainability Curriculum," ASES Solar 2004, Portland, OR, 2004

Technical Paper Reviewer, ASES/ISES Solar Congress 2005, Orlando, FL, 2005

Session Chair, "Passive Architecture in Perspective," ASES/ISES Solar Congress 2005, Orlando, FL, 2005

US Green Building Council Idaho Organizing Committee member, 2005

Technical Paper Reviewer, ACSA Annual Meeting, Salt Lake City, UT, 2006

Technical Paper Reviewer, ARCC Annual Research Conference, Eugene, OR, 2007

Technical Paper Reviewer, ASES Annual Solar Conference, Cleveland, OH, 2007

Session Chair, "Building Components," ASES Solar 2007, Cleveland, OH, 2007

Technical Paper Reviewer, PLEA Annual Conference, Singapore, 2007

Technical Review Committee, ASES Solar 2008, San Diego, 2008

Technical Paper Reviewer, PLEA Annual Conference, Dublin, IR, 2008

Session Chair, "Sustainable Skins," ASES Solar 2008, San Diego, CA, 2008

Forum Leader, "Buildings and Environment," The Oxford Conference, Oxford, UK, 2008

Session Chair, PLEA 2008, "Passive Design and Policy," Dublin, IR, 2008

Technical Paper Reviewer, PLEA Annual Conference, Quebec City, QB, 2009

Technical Paper Reviewer, ACSA Annual Meeting, New Orleans, LA, 2010
Research Proposal Reviewer, Academy of Finland, Helsinki, 2010
Scientific Committee Member, Sustainable Futures Conference, Kampala, Uganda, 2012
Technical Paper Reviewer, ASES Annual Conference, Baltimore, MD, 2013
Scientific Committee Member, ISES Soalr World Congress 2013, Cancun, Mexico, 2013
Technical Paper Reviewer and Session Chair, ARCC/EEAA Research Conference, Honolulu, HI, 2014
Session Chair, "Building Simulation & Design Tools," ASES Solar 2014, San Francisco, CA, 2014
Technical Paper Reviewer, PLEA Annual Conference, Los Angeles, CA, 2016

Service (academic):

Participant and Session Organizer, SBSE Curriculum Development Workshop, Heceta Head, Oregon, 1986
Participant and Session Organizer, SBSE Curriculum Development Workshop Mt. Rainier, Washington, 1987
Jury Member, McCarthy Communication Program for McCarthy Communication Award, University of Idaho, College of Business and Economics, 1988, 1989, 1990
Participant, SBSE Curriculum Development Workshop, Harvard Forest, Massachusetts, 1988
Participant, Lawrence Berkeley Labs Faculty Retreat on "Hypermedia and Future Building Design Tools for Daylighting," Berkeley, California, 1988
Participant, SBSE Curriculum Development Workshop, Pack Forest, Washington, 1989
Participant, SBSE Curriculum Development Workshop, Green Gulch Zen Center, Marin County, California, 1990
Participant and Co-Organizer, SBSE Curriculum Development Workshop, Clark Fork Campus, Clark Fork, Idaho, 1991
Participant, SBSE Curriculum Development Retreat, Seahorse Key, Florida, 1992
Participant and Presenter, SBSE Curriculum Development Workshop, Timberline, Mt. Hood, Oregon, 1993
Participant and Presenter, SBSE Curriculum Development Retreat, Green Gulch Zen Farm, Marin County, California, 1994
Participant, SBSE/Vital Signs Training Session, Berkeley and San Francisco, California, 1995
Participant, SBSE Curriculum Development Workshop, Pomona, California, 1996
Participant, Vital Signs Training Session, Berkeley and San Francisco, California, 1996
Co-Organizer, CAA Rural Town Symposium II, Sun Valley, Idaho, 1997
Participant, SBSE Curriculum Development Workshop, Santa Barbara, California, 1997
Participant, Vital Signs Training Session, Berkeley and San Francisco, California, 1997
Co-Organizer, "Stewardship Through Architectural Design and Planning" sessions, Borah Symposium, Moscow, Idaho, 1998
Participant and Workshop Presenter, SBSE Curriculum Development Workshop, Taos Ski Valley, New Mexico, 1998
Participant and Workshop Presenter, SBSE Curriculum Development Workshop, Tadoussac, Quebec, 1999
Participant, SBSE Curriculum Development Workshop, Taliesin, Spring Green, Wisconsin, 2000
Advisory Board Member, University of Oregon Agents of Change Project, 2000-2005
Participant and Co-Organizer, SBSE Tool Day at the National Building Museum, Washington, DC, 2001
Participant and Co-Organizer, SBSE Curriculum Development Workshop, Redfish Lake, Idaho, 2001
Co-Organizer, Boise Tool, Boise, Idaho, 2002
Participant and presenter, SBSE Curriculum Development Workshop, Hope Valley, California, 2002
Co-Organizer, SBSE Tool Day at the Patagonia, Reno, Nevada, 2002
Co-Organizer, SBSE Tool Day at the CMPBS, Austin, TX, 2003
Participant and presenter, SBSE Curriculum Development Workshop, Morgantown, Indiana, 2003
Participant and presenter, SBSE Curriculum Development Workshop, Cascade Head, Oregon, 2004
Co-Organizer, SBSE Tool Day at the Brewery Blocks, Portland, OR, 2004
Participant and presenter, SBSE Curriculum Development Workshop, Savannah, GA, 2005
Co-Organizer, SBSE Tool Day at the Florida Solar Energy Center, Cocoa, FL, 2005
Co-Organizer, UI Sustainable Transportation Symposium, Moscow, ID, 2005

Co-Organizer, SBSE Tool Day Denver, Denver, CO, 2006
Participant, SBSE Curriculum Development Workshop, Pingree Park, CO, 2006
Co-Organizer, SBSE Tool Day Cleveland, Cleveland, OH, 2007
Co-Organizer, SBSE Retreat, "Out of the Box," Bainbridge Island, WA, 2007
Forum Organizer, "Environment and Buildings," Oxford Conference, Oxford, UK 2008
Co-Organizer, SBSE Retreat, "Resetting the Agenda," The New Forest, UK, 2008
Co-Organizer, SBSE Tool Day San Diego, UCSD, San Diego, CA, 2008
Participant and Contributor, SBSE Carbon-Neutral Design Summit, Milwaukee, WI, 2008
Participant and presenter, SBSE Curriculum Development Workshop, Quebec City, Quebec, 2009
Session Co-Chair, UI President's Sustainability Symposium, Idaho Falls, ID, 2009
Participant and presenter, SBSE Curriculum Development Workshop, Las Vegas, Nevada, 2010
Participant, SBSE Curriculum Development Workshop, Albuquerque, New Mexico, 2011
Participant and Co-Organizer, SBSE Curriculum Development Workshop, McCall, Idaho, 2012
Participant and presenter, SBSE Curriculum Development Workshop, Biosphere 2, Oracle, AZ, 2014
Participant and presenter, SBSE Curriculum Development Workshop, San Francisco, CA, 2016
Co-Organizer, SBSE Tool Day Edinburgh, UK, 2017