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## overview of research and scholarship focus

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My scholarship establishes a line of research in design thinking through successful engagement in investigations of collaborations across disciplines through participatory processes. The focus is on the dynamics of collaboration and cooperation converging in a design intervention. I integrate this work in teaching, service and scholarship.

The value of collaboration across disciplines is evidenced through the global desire for innovative thinking. In order to be innovative in the global economy, collaboration must take place across age, culture and discipline. This work addresses collaboration in informal settings with children and youth pursuing a design problem; through academic experience related to learning outcomes for design students; and implemented into design practice.

Questions investigated include: 1) How do we collaborate successfully while designing? 2) What are the life skills we need to develop in order to be innovative collaborators pursuing design? 3) How do we develop collaborative skills in design? and 4) What strategies can be implemented to advance collaborative efficacy in the process of design?

The premise of this work is based on concurrent pursuit in teaching, research and service. Students play an integral role in the development, practice and assessment of collaborative strategies.

In 2012, work on collaborative processes in design thinking has been disseminated through three papers published in the peer-reviewed regional Journal of Kinesiology and Wellness, one paper in the peer-reviewed national journal Exhibitionist: Journal of Exhibition Making, seven refereed abstracts in regional and international conference proceedings, and two refereed abstracts for state-wide conferences. Co-authors in published work include design practitioners; faculty in interior design, landscape architecture, kinesiology, and science education; graduate and undergraduate students.

This scholarship is pursued through these avenues...

...Investigation of collaboration during the design process approached through the lens of scaffolded (built upon) learning beginning at the early stages of development of life skills by children, to pursuit as youth and young adult, and as adults.

...Using design activities to identify the structure of cross-disciplinary collaborative activities. This framework advances understanding of group processes during design activities. Understanding these results influences evolution of design collaboration strategies to implement in early education, university academics and in practice.

...Understanding the nature of collaboration within the design disciplines, and during group processes with cross-disciplines in design thinking activities. Focus on understanding collaboration as a transferable concept drives this work with design disciplines in research, academics and practice. Current collaborations in progress with faculty and students in interior design, landscape architecture, kinesiology, math, physics, biology, geology, chemistry and environmental sciences.

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## education

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**Master of Arts** Interdisciplinary Design Institute, Washington State University, Spokane, WA.  
*thesis:* Sketching as Creativity: Concept Development and Thinking Styles of Interior Design Students

**Bachelor of Science** Cornell University, Ithaca, NY.

*major:* Design & Environmental Analysis

*emphasis:* Interior Design and Human Factors. Gerontology certificate.

*senior thesis:* Healthcare - rehabilitation center design

**Associate of Arts** University of Montana-Missoula, Missoula, MT.

*emphasis:* Fine and Applied Arts, Energy and Education.

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## professional article, refereed, published or in review (## denotes graduate student #denotes undergraduate student)

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- (in review) Ryan, K.A. & Bruya, L.D. (in review). **Participatory Collaboration During the Design Process.** *Journal of Interior Design.*
- 2012 Ryan, K.A., Bruya, L.D., Woytovech#, C.J., Woytovech#, A., Shumate#, B., Malkusak, A., & Sievers, J.A. (2012). **Schoolyard collaboration/cooperation and social grouping.** *Journal of Kinesiology & Wellness.* Western Society for Kinesiology and Wellness.
- 2012 Ryan, K.A., Woytovech#, C.J., Bruya, L.D., Woytovech#, A., Shumate#, B., Malkusak, A., & Sievers, J.A. (2012). **Loose parts: the collaboration process for a school playground.** *Journal of Kinesiology & Wellness.* Western Society for Kinesiology and Wellness.
- 2012 Ryan, K.A., Bruya, L.D., Shumate#, B., Woytovech#, C.J., Woytovech#, A., Martensen#, B., Malkusak, A., & Sievers, J.A. (2012). **A collaboration process to produce a natural playscape.** *Journal of Kinesiology & Wellness.* Western Society for Kinesiology and Wellness.
- 2012 Ryan, K., Dawes, K, & Dawes, D. (2012). **Boxed and Ready to Travel: Taking Learning on the Road.** *Exhibitionist: Journal on Exhibition Making.* National Association for Museum Exhibition. 31(1) 40-45.

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## professional article, non-refereed, published

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- 2011 Vervoort, J., & Ryan, K. (Fall 2011) **Gallery: Images of Antarctica,** *Washington State Magazine.*  
<http://wsm.wsu.edu/s/we.php?id=293>
- 2010 McCoy, J., & Ryan, K. (May 2010) **Examining Place: The Need for Sustaining the Rural Environment.** *National Science Foundation: The Social, Behavioral and Economic Sciences* (SBE) Directorate, SBE 2020: Future Research in the Social, Behavioral & Economic Sciences White Paper: Examining the Social, Behavioral, and Economic implications of the changing rural landscape.

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## grants and extramural awards - proposals funded

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- 2012 Dawes, K., Berven, C., Ryan, K., & Kern, A. (2012). **Collaborative Research, Pathways Project: Project SOS - Making Connections using the Science of Sustainability.** National Science Foundation, Informal Science Learning, Foundation Directorate for Education & Human Resources Research on Learning in Formal and Informal Settings.
- 2012 Uniontown Community Development Association, Miller, D., Ryan, K., & Sleipness, O. (2012). **Creative Placemaking: Dahmen Barn.** Uniontown Community Development Association. National Endowment for the Arts - Our Town.
- 2012 Ross<sup>#</sup>, E. and Ryan, K. (2012). **Designing a Youth Center, Building a Future.** College of Agricultural, Human, and Natural Resource Sciences Undergraduate Research & Creative Project Proposal.
- 2011 McCoy, J., Sleipness, O., Ryan, K., Babine, M., & Gaffney, M. (2011). **Finding Linkages Symposium: Building a University-Community program addressing the Preservation of Washington State's Small Rural communities.** College of Agricultural, Human, and Natural Resource Sciences. "Initiation of Collaboration" Program.

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## selected abstracts refereed - accepted, published conference proceedings

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- 2013 Dawes, K., Lienhard, T., & Ryan, K.A. (2013). **Hands-on activities for pre-engineering outreach** (panel). Institute of Electrical and Electronics Engineers, IEEE Power and Energy Society General Meeting 2013, Vancouver, B.C.
- 2013 Rifenbery, S., & Ryan, K.A. (2013). **Enhancing Creativity through Collaboration in the Built Environment.** *Environmental Design Research Association, EDRA44 Providence Healthy + Healing Places*, Providence, RI. 05.29 to 06.01.2013.
- 2013 Collins-Anderson, M. & Ryan, K.A. (2013). **How Characteristics of the Classroom Impact Behaviors in Children with Autism.** *Environmental Design Research Association EDRA44 Providence Healthy + Healing Places*, Providence, RI. 05.29 to 06.01.2013.
- 2013 Vaux, D., & Ryan, K.A. (2013). **Spatial Distortions: Making Cognitive Connections between Hand and Digital Visualization.** IDEC 2013 Annual Conference Proceedings *IDEC 2013 Annual Conference Advancing Environmentally Responsible Design*, Indianapolis, IN.
- 2013 Sleipness, O.R., Krikac, R.J., & Ryan, K.A. (accepted). **Evaluating the Intersection of Interdisciplinary Design Education and Service Learning Activities.** *2013 ARCC Architectural Research Conference Proceedings 2013 ARCC Architectural Research Conference*, Charlotte, NC.
- 2012 Dawes, K., & Ryan, K.A. (accepted). **Science and Sustainability: From Hands-On Activities to Community Action.** Association of Science - Technology Centers (ASTC) 2013 Annual Conference. Albuquerque, NM. 10.19 to 10.22.2013. <http://astc.org/conference/future.htm>
- 2012 Ryan, K.A. & Bruya, L.D. (2012). **Design a playscape: participatory collaboration.** *57th Annual Conference of the Western Society for Kinesiology and Wellness*. Reno, NV.
- 2012 Ryan, K., & Sleipness, O. (2012). **Enhancing University Students' Sense of Ownership through a Cross-Disciplinary Community Participation Workshop.** *Environmental Design Research Association EDRA43*, Seattle, WA. ISBN 978-1-105-71404-7. p. 253-254.

- 2012 Holtman, A. & Ryan, K. (2012). **The Biophilic concept: Framing learning with nature.** *Environmental Design Research Association EDRA43*, Seattle, WA. ISBN 978-1-105-71404-7. p. S2 .312.
- 2012 Ryan, K., & Krikac, R. (2012). [synthesis] **The physical aspects of ‘home’ based in theory and experiential learning.** *Environmental Design Research Association EDRA43*, Seattle, WA. ISBN 978-1-105-71404-7. p. S2.359.
- 2012 Zimmer, A. & Ryan, K. (2012). **Sense of place in the rural community identified through the food bank physical and psychosocial environment.** *Environmental Design Research Association EDRA43*, Seattle, WA.
- 2012 Sleipness, O.R., & Ryan, K.A. (2012). **RCDI: Prioritizing Challenges Facing Small Rural Communities in the Pacific Northwest: Role of Participatory Design.** *CELA2012 Finding Center: Landscape & Values*, Champaign, Illinois. March 2012. Proceedings ISBN: 978-0-9853013-0-9. p. 272.
- 2010 Ryan K., & Bunker-Hermance, R.L. (2010). **The design charrette: an avenue for collaboration between university and high-school students. Policy focus.** *Environmental Design Research Association EDRA41* conference. Atlanta, GA. ISBN 978-0-9827851-0-2. p. 157-158.
- 2010 Ryan K., & Bunker-Hermance, R.L. (2010). **The design charrette: a bridge for collaboration between university and high-school students.** *Interior Design Educator Council National Conference Proceedings, Celebrating Our Foundations*. Austin, TX. p. 224-229.
- 2009 Ryan, K. (2009). **Concept formation through sketching and writing for novice designers: a demonstration of the stages for student application**, selected one of the top 10 conference presentations. *Interior Design Educator Council National Conference Proceedings, The Spirit of Exploration: The Gateway to New Frontiers*. St. Louis, MO. p. 663-672.

undergraduate and graduate student work (## denotes graduate student # denotes undergraduate student)

Washington State University Academic Showcase, Pullman, WA

*Submissions to the WSU Academic Showcase serve as the initial step to preparing projects for submission to regional, national and international venues. I engage undergraduate and graduate students in development of the research aspects, analysis and results in projects they are involved in through my oversight.*

- 2013 Woytovech#, C.J., Ryan, K., Bruya, L., Shumate#, B., Woytovech#, A., Martensen#, B., Malkusak, A., Sievers, J.A. (2013). **RCDI: Collaboration Between Designers And Children To Produce Natural Playscape.**
- 2013 Markle#, C., Ross#, B., Coughlin#, S., Hartley#, A., Krikac, R., & Ryan, K.A. (2013). **RCDI: Rural town history museum co-designed.**
- 2013 Weisenberger#, C., Krikac, R., & Ryan, K. (2013). **RCDI: Rebuilding the Core of LaCrosse.**
- 2012 Zimmer##, A. & Ryan, K. (2012). **RCDI: A Rural Food Bank Defined by Community Participatory Design.**
- 2011 Ryan, K., Krikac, R., Kirk#, A., Mack#, C., Westom#, L., Weisenburger#, C. & Wu#, L. (2011). **Synthesis of Experience and Design.**
- 2011 Holtman##, A. & Ryan, K. (2011). **The Biophilic concept: Framing learning with nature.**

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*Showcase for Undergraduate Research and Creative Activities (SURCA), Pullman, WA.*

*Submissions to the WSU Academic Showcase serve as the initial step to preparing projects for submission to regional, national and international venues. I engage undergraduate and graduate students in development of the research aspects, analysis and results in projects they are involved in through my oversight.*

- 2013 Markle<sup>#</sup>, C., Ross<sup>#</sup>, B., Coughlin<sup>#</sup>, S. & Hartley<sup>#</sup>, A. (2013). **RCDI: Rural town history museum co-designed.** Winner of *Crimson (1st place) Award*. Faculty Mentors: K. Ryan and R. Krikac.
- 2013 Weisenberger<sup>#</sup>, C. (2013). **RCDI: Rebuilding the Core of LaCrosse.** Winner of *Gray (2nd place) Award*. Faculty Mentors: K. Ryan and R. Krikac.
- 2013 Martensen<sup>#</sup>, B. (2013). **Designer collaboration working with the sciences.** Faculty Mentor: K. Ryan.
- 2013 Giron<sup>#</sup>, U. (2013). **Cross-Disciplinary Playscape Design through collaboration of Kinesiology and Interior Design.** Faculty Mentor: K. Ryan.
- 2013 Ross<sup>#</sup>, E. (2013). **RCDI: Youth Center design.** Faculty Mentor: K. Ryan.
- 2013 Westom<sup>#</sup>, L. (2013). **RCDI: Cross Disciplinary work to design a cooperative and collaborative playscape.** Faculty Mentor: K. Ryan.
- 2012 Hewitt<sup>#</sup>, D. & Martensen<sup>#</sup>, B. (2012). **RCDI: Palouse-Clearwater Environmental Institute Playscape.** Winner of *Novice Award*. Faculty Mentor: Kathleen Ryan.

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#### selected awards

- 2013 Bronze Award, CASE District VIII 2013 Communications Competition for Biofuels exhibit at the Future of Flight Museum, Everett, WA.
- 2012 Mentor award, Interior Design graduating class 2012.
- 2012 CAHNRS Early Career Excellence Award 2012, nominee.
- 2011 Orchid Award (2011). Restoration work of the historic church building at 420 East Second Street, Moscow Historic Preservation Commission
- 2007 Interior Design Educators Council Graduate Scholar, 2007.
- 2006 Wasmer Fund for Arts and Culture Award 2006, for design for Palouse Discovery Science Center.
- 2005 Museum Association of Arizona, 2005 Professional Recognition Award, Saguaro Discovery Trail.
- 2004 ASID Design Excellence Award 2004 Arizona South - Showhouse/Model, refereed.
- 2003, 2001, 1999 Tucson Museum of Art Showhouse Design selection, refereed.
- 1992-1993 Pratt Institute Juried Traveling Exhibition "What is Socially Conscious Design?" 1992-1993, finalist.
- 1992 National Symposium on Healthcare Design, rehabilitation center design 1992, commendation.

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#### awards - student

- 2013 *Crimson (1st place) Award* for Markle<sup>#</sup>, C., Ross<sup>#</sup>, B., Coughlin<sup>#</sup>, S. & Hartley<sup>#</sup>, A. (2013). **RCDI: Rural town history museum co-designed.** Student Undergraduate Research and Creative Activities (SURCA). Faculty Mentors: K. Ryan and R. Krikac.
- 2013 *Gray (2nd place) Award* for Weisenberger<sup>#</sup>, C. (2013). **RCDI: Rebuilding the Core of LaCrosse.** Student Undergraduate Research and Creative Activities (SURCA). Mentors: K. Ryan and R. Krikac.

- 2012 CAHNRS 2011-2012 Undergraduate Research and Creative Projects - Design Disciplines, **“Designing a youth center, building a future”** Beth Ross, Honor Thesis.
- 2012 *Novice Award for “Palouse-Clearwater Environmental Institute Playscape”* students – Hewitt, D. & Martensen, B. Cross-disciplinary project - Interior design and Landscape Architecture.
- 2010 Brass Ring Award 2010, student – Rachael Aust for work completed in ID203.
- 2009 IIDA Student Portfolio 2009, student – Karla Lee for on-line blog created in ID197.
- 2009 WSU International Programs, International Merit Award 2009, student – Moah Son

## graduate advising

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### *Master of Arts Interior Design Committee Chair*

- 2013 Anderson, Melissa Collins. May 2013, *“The Physical Environment & Cognition: How Characteristics of the Classroom Impact Learning & Behaviors in Autistic Students.”* Non-thesis project.
- 2013 Rifenberg, Shanon. May 2013, *“Enhancing Collaborative Creativity through the Built Environment”* Non-thesis project.
- 2012 Zimmer, Alyse. May 2012 *“The Food Bank Environment: Sense of Place in Kettle Falls, WA”* Non-thesis project.
- 2012 LeBaron, Trish. May 2012 *“Biophilic materials and preference in residential interiors”* Non-thesis project.
- 2011 Holtman, Ashlee. May 2011 *“The Biophilic concept: Framing learning with nature.”* Non-thesis project.

### *Master of Arts Interior Design Committee Co-chair*

- 2010 Goguen, Deanna. May 2010 *“Making a Brand Entrance: The effects of atmospheric and brand on retail environments.”* Non-thesis project.

### *Master of Arts Interior Design Committee member*

- 2013 Ross, Kayla. May 2013. *“Optimizing the Dental Office Environment to Minimize Stress.”* Non-thesis project.
- 2013 Mostareeh, Ghadah. May 2013. *“Privacy and Employees’ Satisfaction in Mixed Gender Offices in Saudi Arabia.”* Non-thesis project.
- 2012 Rollis, Regina. August 2012 *“Designing a Community Kitchen: Examining the Role of the Built Environment in Nutritious Food Access.”* Non-thesis project.
- 2011 Witham, Laura. May 2011 *“Environmental study of Assisted Living Facilities to Facilitate Social Support.”* Thesis.
- 2011 Day, Julia. May 2011 *“A Study of Daylight Variability, Control, Occupant Satisfaction and Perceived Performance.”* Non-thesis project.
- 2010 Vaux, Dana. May 2010 *“Interior People Places: The design of the built environment & the third place experience.”* Non-thesis project.

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- 2010 Liisa Pangborn, May 2010 “*Connecting through Music Design, Live Music, and Sense of Community.*”  
Non-thesis project.

*Master of Architecture Committee member*

- 2011 Foster, Stephen. December 2011 “*Attention Restoration And Aquatic Viewing.*” Non-thesis project.  
2010 Kinker, Lauren. December 2010 “*The new vintage: Winery Design for the Millennial Generation.*”  
Non-thesis project.

**undergraduate advising**

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- 2013 *Chair: Undergraduate Honors College Thesis*  
Beth Ross, May 2013 “*Designing a Youth Center, Building a Future*”
- 2011 *Evaluator: Undergraduate Honors College Thesis*  
Janae Mosely, May 2011 “*Learning How Students Learn Outside of School through Visual Means*”
- 2009 - present *Advisor* Interior Design Student Council (student club). Activities include civic-engagement through work with Court-Appointed Special Advocate (CASA), Habitat for Humanity, and selected organizations; social activities; and networking.

**professional certification**

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- 2001 - present National Council for Interior Design Qualification, NCIDQ certificate number 017739.  
1983 - 1992 National certified commercial/multi-family/residential energy auditor. Multifamily Design/  
Construction Technical Assistance. Department of Energy, Residential Conservation Service (RCS).

**professional organizations**

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- 2013 - present American Indigenous Research Association  
2013 - present Institute of Translational Health Sciences  
2013 - present Northwest Association of Teacher Education  
2011 - present American Association of Museums, 2011 to present.  
2010 - 2012 Environmental Design Research Association, 2010 to 2012  
2008 - 2010 Interior Design Educators Council, 2008 to 2010  
2008 - present Cascadia Chapter-USGBC, 2008 to present  
2002 - present American Society of Interior Designers, ASID, Professional Member, 2002 to present

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## academic experience

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- 2009 - present **Assistant Professor** - Interior Design, Washington State University, Pullman WA.  
Teaching, Scholarship and Service
- ID101 Design Issues:** Sensory awareness as a design determinant; introduction to basic design elements in problem identification and solving processes
- ID103 Transfer Studio:** An intensive studio introducing basic elements and principles of design; basic technical skills (drafting, sketching, rendering, model building)
- ID197 Design Communication I:** Beginning design communication skills, including manual and digital methods.
- ID201 Interior Design Studio II:** Interior design problem-solving grounded in theories of human behavior.
- ID203 Interior Design Studio III:** Interior design problem-solving grounded in theories of spatial organization.
- ID205 Visual Communication:** Course focuses on the various methods in which the interior designer may choose to visually communicate design concepts
- ID312 Design Theory:** Theory, principles, and determinants of interior design applied to current practice.
- ID333 Interior Design Studio IV:** Interior design problem-solving grounded in place theories.
- ID333 Interior Design Studio V:** Interior design problem-solving grounded in organizational theories.
- ID498 Special Topics:** Research Methods for Design

### Outreach Facilitator

- 2013 **RCDI community workshop in Valley, WA.** for ID333, 02.23.2103
- 2012 **RCDI community workshop in Uniontown, WA.** for LA363, Community Studio 12.13.2102.
- 2012 **SOS: Science of Sustainability.** Participation workshop with community leaders from Rosalia, WA; Plummer, D. (Coeur d'Alene Indian Tribe); and Kendrick-Julietta, ID for project development related to National Science Foundation Informal Science Learning directorate funded project.
- 2012 **RCDI community workshop in St. John, WA.** for ID425, Community Studio. 10.24.2102.
- 2012 **RCDI community workshop in St. John, WA.** for ID425, Community Studio 10.05.2102.
- 2012 **RCDI community workshop in Uniontown, WA.** for LA363, Community Studio. 09.08.2102.
- 2012 **RCDI community workshop in LaCrosse, WA.** 07.11.2012.
- 2012 **RCDI community workshop in St. John, WA.** 07.11.2012.
- 2012 **Finding Linkages Symposium** supporting the Rural Communities Design Initiative. 02.09.2012.
- 2007 **Solar Decathlon 2009 Design Charrette.** School of Architecture + Construction Management.

### Workshops developed/taught

- 2008 to present **Digital presentation workshop.** School of Design + Construction
- 2008 **Sustainable Home Design** - Continuing Education, Lewis and Clark State College, Lewiston, ID.
- 1983 - 1988 **Commercial and Residential energy efficiency and super-insulation.** Energy Resource Center, Duluth MN.

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selected projects | professional design practice

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**Interior Design** - Commercial/Residential 1990 to present

**Palouse Discovery Science Center**, Pullman WA 2003 to 2008

20,000sf remodeling project. Develop color concept, research and specify materials, finishes, fixtures, finishes, and equipment; develop exhibit and staff area floor plan; develop construction details; design custom casework; develop and design interpretive graphics and science exhibits.

**Moscow Food Co-op**, Moscow ID 2003 to 2008

15,000sf grocery remodeling project Develop color concept, research and specify sustainable materials, finishes, fixtures, finishes, and equipment; coordinate sustainable building practices.

**Tohono Chul Park**, Tucson AZ 1999 to 2009

Coordinate interpretive design and writing teams; research/select graphic elements; design and select exhibit materials and techniques; coordinate bids, fabrication and installation of interpretive exhibits and systems; develop wayfinding strategy and directional signage for retail and public environments. [www.tohonochochulpark.org/saguarodiscoverylooptrail.html](http://www.tohonochochulpark.org/saguarodiscoverylooptrail.html)  
<http://www.tohonochochulpark.org/wordpress/gardens/walk-trails/saguaro-discovery/> and  
<http://www.tohonochochulpark.org/wordpress/gardens/visit-gardens/sin-agua-garden/>

**Arizona-Sonora Desert Museum**, Tucson AZ 1993 to 2005

Develop museum/zoo interpretive exhibits; design food service facilities, display casework, display systems, interpretive and directional graphics; coordinate production; develop wayfinding strategy and directional signage for retail and public environments; coordinate all aspects of projects including design, specifications, construction supervision and on-time installation.

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selected projects | professional energy practice

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**Commercial/Residential Energy Consultant** 1981 to 1989

**Energy Resource Center**, Duluth MN

Develop business operation plan and secure funding; direct public relations; design energy conservation services for residential and commercial sector; present seminars to contractors, homeowners, and building managers; research and write publications on energy issues. Organize community participants on energy and infrastructure issues.

**Community Action Program**, Duluth MN

Perform certified residential, and multi-family energy audits; implement energy efficient strategies, such as wall and attic insulation, window and door replacement.

**School District #1**, Missoula MT

**Missoula City-County Government**, Missoula MT

Perform certified commercial energy audits; develop operations and maintenance routines; establish energy recording and monitoring systems.