

**JAMES PATRICK RAND**

Distinguished Professor Emeritus (NCSU and ACSA selections)  
 School of Architecture, College of Design, Box 7701,  
 North Carolina State University, Raleigh, North Carolina, 27695-7701  
 email: patrick\_rand@ncsu.edu

<b>EDUCATION</b>	Master of Architecture, University of Oregon Bachelor of Architecture, Virginia Polytechnic Institute	1975-77 1968-73
<b>TEACHING AREAS</b>	ARC 232; and ARC 232 Lab; Structures and Materials ARC 302; Architectural Design Studio: Technology (undergraduate) ARC 405; Architectural Design Fundamentals: Technology (graduate) <i>the following were taught in recent years until June 2021</i> ARC 432 and ARC 432 Lab; Architectural Construction Systems ARC 502; Professional Architecture Studio II ARC 534; Design of Architectural Details ARC 536; Materials for Design (taught as ARK E-4007 at Aalto Univ. Spring 2019) ARC 581; Final Project Preparation Seminar ARC 598; Final Project Studio ARC 697; Final Project Preparation	
<b>TEACHING AND ADMINISTRATIVE EXPERIENCE</b>	Professor, School of Architecture Associate Director of Architecture Director of Graduate Programs, School of Architecture Associate Dean for Research, College of Design, NCSU Assistant Dean, College of Design, NCSU Assistant Head, Department of Architecture Associate Professor of Architecture, College of Design, NCSU Assistant Professor of Architecture, College of Design, NCSU	1998-2021 2000-2005 1995-2005 1993-1995 1990-1993 1988-1990 1983-1998 1977-1983
<b>MEMBERSHIPS AND ASSOCIATIONS</b>	Board of Advisors, BioMason, Member Board of Directors, Building Enclosure Council, Research Triangle Section, Member Board of Directors, The Masonry Society, Member President, The Masonry Society Board of Directors, Triangle AIA, Member Sustainability Committee, The Masonry Society, Chair Building Technology Educators Society, Member The Masonry Society; Member American Institute of Architects Committee on Design, Member American Institute of Architects, Member	2013-present 2011-2021 1998-2004 2000-2003 2001-2005 2005-2009 2008-present 1989-present 1997-present 1977-present
<b>ACADEMIC AND PROFESSIONAL HONORS</b>	Board of Governor's Award for Teaching Excellence, University Award (one in univ.) Fulbright Distinguished Chair Scholar, to Aalto Univ., Finland (one of forty globally) Outstanding Research Award; NCSU Alumni Association, College Award Book Award; <i>Materials for Design 2</i> , selected by Building Technology Educators Society Thank a Teacher Award; NCSU Office of Faculty Development Distinguished Professor Award; ACSA (one of five nationally) Thirty Most Admired Design Educators in US; <i>Design Intelligence</i> ; Design Futures Council Board of Governors Award for Teaching Excellence, College Award Outstanding Advisor Award, College Award Patrick Rand Scholarship; annual scholarship program created and sponsored by CCMA College of Fellows, American Institute of Architects AIGA "50 Books/50 Covers"; <i>Materials for Design</i> selected in book category Fellow, The Masonry Society President's Award, The Masonry Society Alumni Distinguished Graduate Professor, College Award AIA Education Honor Award, Honorable Mention Board of Governor's Award for Teaching Excellence, Architecture Nominee Yorkdale Award (Best Masonry Paper in 3-year period), ASTM, Finalist Recognizing Teaching Excellence Award, College of Design Alumni Distinguished Undergraduate Professor; Univ. Award Alumni Distinguished Undergraduate Professor, College Award Education Commendation Award; CSI National Institute Scholar, American Institute of Architects, National Award Outstanding Teacher Award, NCSU Academy of Outstanding Teachers, NCSU Juror on twelve national or regional design awards competitions	2019 2018-19 2018 2017 2014, 2016 2014 2013 2011 2010 2008 2007 2007 2006 2005 1997, 2003, 2009 2002 2000 1999 1999 1994 1985, 1993, 1994 1991 1990 1983, 1986 1983 1988-present

**PUBLICATIONS**  
(since 1990)

"Gallery Fixes Hall-less House"; article regarding Zaytoun House; *Southern Living*, May 1990

"Architecture: The Act/Art of Building": Proceedings from the Southeast Region conference of the ACSA, Editor 1993

"Teaching Architecture through Technology Courses": co-authored with Hunt McKinnon; paper accepted for presentation through a juried review process, in proceedings, ACSA Technology Conference, Roger Williams Univ.; Bristol, R. I. 1994

"Teaching Architecture through Technology Courses": co-authored with Hunt McKinnon; Excerpts of paper presented at ACSA Technology Conference published in *Connector*; Volume III, number 2 1994

"Industry Needs a 'System' Focus"; *Masonry Construction* 1994

"Integrating Masonry Design and Construction Technology"; *Masonry Today* 1994

"Masonry in the University Curriculum", Carolyn Schierhorn, Aberdeen's Magazine of *Masonry Construction*, pp. 163-171, 1996

"Design Oriented Building Technology Courses"; article submitted to the Journal of Architectural Education, Aug. 1996

"Brick Veneer Developments Research"; *Brick Quarterly* magazine, Summer; pp. 12-14 1997

"Integrating Design and Construction"; Aberdeen's Magazine of *Masonry Construction*, October; pp. 519-522 1997

"Teaching Architecture through Technology Courses"; co-authored with Hunt McKinnon, included in The Best of *Connector*, Volume IX 2000

"Rethinking Masonry; A Call for Collaborative Innovation" invited paper, *Masonry* magazine, February, pp: 12-18. 2001

**Materials for Design**

2006  
(2003-2006)

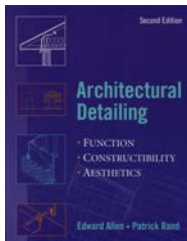


Book co-authored with Victoria Ballard Bell. Published by Princeton Architectural Press. Rand responsible for analyses and technical critiques of 60 international contemporary architectural projects that are exemplary with regard to their use of construction materials. The materials investigated include glass, plastics, metals, concrete and wood.

Selected for AIGA "50 Books/50 Covers" exhibit and publication in 2007; 1 of only 2 textbooks nationally. At one time ranked #1 architectural materials book on Amazon. Distributed in Europe by Laurence King Publishing.

**Architectural Detailing: Function, Constructibility, Aesthetics**

2007  
(2004-2007)



Book co-authored with Edward Allen. Second edition; first edition was published in 1993. Second edition includes substantial revisions, and addition of approximately 33% new content. Published by John Wiley & Sons.

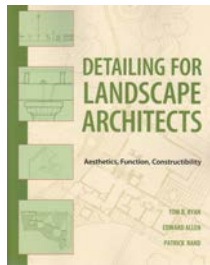
In 2009 licensed by John Wiley & Sons to Thomson - Groupe Modulo, Inc., Montreal Canada, who translated it to French and published it in Canada and other French markets worldwide. In 2010 licensed by John Wiley & Sons to Kimoondang Publishing; it has been translated to Korean and published in South Korea.

“Books”; Review of *Materials for Design*, written by William Morgan, *Architectural Record* magazine, excerpt: “In short, this is the textbook that many of us wish we had in architecture school.” August 2007

“Breathing Easy”; Invited by publisher to write article regarding new addition to Phipps Conservatory and Botanical Gardens; *Architect* magazine, Hanley-Wood, publisher. November 2007

“Designing Leakproof Details”; online lesson available on Wiley’s Continuing Professional Education website. This lesson is among 10 that Wiley included in its initial offering of continuing education programs. This lesson addresses principles that building designers may use to control water leakage, and is intended chiefly for practicing professionals. The lesson is based on one chapter of the book *Architectural Detailing; Function, Constructibility, Aesthetics*, which Rand co-authored with Edward Allen. (<http://www.wiley.com/WileyCDA/Section/id-320255.html>) 2008

“Buildings Don’t Stand Still”; online lesson for Wiley’s Continuing Professional Education website. At the publisher’s request, Rand prepared an online lesson that addresses principles that building designers may use to accommodate building movement. The lesson is based on one chapter of the book *Architectural Detailing; Function, Constructibility, Aesthetics*, which Rand co-authored with Edward Allen. 2009



**Detailing for Landscape Architects** 2011 (2009-2011)  
 Book co-authored with Edward Allen and Thomas Ryan. This book identifies principles of detailing that are relevant to landscape architecture applications. It shares the approaches toward writing and illustration that are used in *Architectural Detailing; Function, Constructibility, Aesthetics*, which Rand co-wrote with Edward Allen in 2007. Published by John Wiley & Sons in 2011. Rights sold for translation to Chinese and publication in China in 2014.

*“This eminently readable, profusely illustrated book is obviously designed as a professional reference, but its effect is more like consulting with a passionate expert than merely receiving a listing of standard recommendations. This pattern-based approach, in lieu of a mechanical categorization based on materials or application, focuses on conveying general principles, as well as specific details, across a range of conditions, which is impressive. This emphasis on aesthetics — and not just visual, but aesthetics that appreciate elegance, simplicity, and timeless details — permeates the book, and is part of what lifts it above other catalogs of technique.”*

“Life Cycle Assessment; The Basis for Design & Construction Decision-making”; Invited by publisher to write article regarding how current life cycle assessment parameters apply to masonry design and construction; *Masonry Edge* magazine Vol. 5, No.1. Published by the Masonry Advisory Council, Chicago, IL. Selected to be vehicle for AIA CES credits. June/July 2010



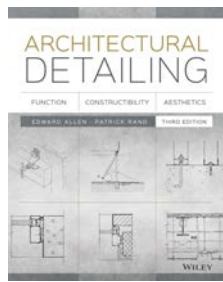
**Materials for Design; Volume 2** 2014 (2011-2014)  
 Contracted October 2011; published February 2014 by Princeton Architectural Press, Co-authored with Victoria Ballard Bell. Published in Europe by Laurence King Publishing.

This book illustrates the critical relationship between properties of materials and design intentions. It combines inspirational well-designed works with technical information regarding materials. Rand chiefly responsible for analyses and technical critiques of 60 new international contemporary architectural projects that are exemplary with regard to their use of construction materials. The materials investigated include glass, plastics, metals, concrete, wood and masonry. Analyses of each case study describe aesthetic and physical qualities, connections, details, and environmental performance. Selected by Building Technology Educators Society jury in 2017 for one of two book awards nationally.

*“The breadth of projects is amazing, and the clarity with which they are presented is perfect. What I like most is the conviction with which the design quality has been maintained with an equal nod to the technical aspects that bring great design to fruition. It is rare that I am so taken by a publication that I jump from my chair!”* -- Dan Rockhill, Studio 804 and Rockhill+Associates

“Most Efficient Investment; NCSU Explores Embodied Energy and CO<sub>2</sub> Costs of Cladding Over Service Life”, invited article, *Dynamics of Masonry* magazine, Vol. 2, No.2; pp: 26-30. Selected to be vehicle for AIA CES credits. December. 2014

"Fire in downtown Raleigh leaves 250 displaced; 10 buildings damaged"; Becca Heilman. 2017  
 Article contained excerpts of interview regarding use of light wood frame construction for large multi-use building. The Daily Tarheel, UNC-CH, March.



**Architectural Detailing: Function, Constructibility, Aesthetics** 2016  
 In Sept. 2013 Rand and Allen contracted with Wiley to produce a Third Edition of this book. (2013-2016)  
 Rand responsible for all revisions and additions. Published by John Wiley & Sons in 2016.  
 Book translated into Simplified Chinese for publication in China. Wiley / New York entered into this agreement with Publishing House of the Electronics Industry, China. Fall 2017.

This is the industry-standard guide to designing well-performing buildings. *Architectural Detailing* systematically describes the principles by which good architectural details are designed. Principles are explained in brief, and backed by extensive illustrations that show you how to design details that will not leak water or air, will control the flow of heat and water vapor, will adjust to all kinds of movement, and will be easy to construct. This new third edition contains approximately 25% new content. It conforms to current building and energy codes, and updates information about new materials and construction technology. Sustainable design issues are integrated where relevant.

*"Excellent! The primary use for me has been to establish a framework for detailing future projects - giving me the "why" and "how" of a WIDE variety of detailing options rather than the what. It provides a set of principles in support of detailing projects for protection from water, for graceful aging, using the minimum number of parts, etc., and then lets the architect do what architects do best - create meaningful solutions that both accomplish their purpose and reinforce the essence of the project. It goes so far beyond providing cut-and-paste solutions. To use an analogy, this book will teach you how to fish. By teaching us how and why to fish, rather than providing a list of currently popular fish, this will be the definitive architectural detailing text for students, new and old professionals for many years to come."*  
 Jake Heffington reader comment, Amazon

"Five Questions with Patrick Rand" 2019  
 Interview by Emily Packard for publication in NC State University website and print publications.  
 As recipient of the Board of Governor's Award for Teaching Excellence, Rand responded to questions to provide some perspective regarding background as an educator, the relationship between teaching and research, the impact of teaching on students, and research interests.  
<https://provost.ncsu.edu/news/2019/04/five-questions-with-patrick-rand/> April 2019

"The Challenges that the UNC System's Top Teachers See for the Future" 2019  
 Interview related to selection as BOG Teaching Award recipient; Anthony Hennin, Martin Center for Academic Renewal; April 2019.  
<https://www.jamesgmartin.center/2019/04/the-challenges-that-the-unc-systems-top-teachers-see-for-the-future/>

"Foreword" 2019  
 In book *Situate, Manipulate, Fabricate: An Anthology of the Influences on Architectural Design and Production*. Invited by Editor Chad Schwartz to submit. The Foreword is intended to set the context for readers to engage the book. To be published by Taylor & Francis / Routledge in 2020.

**Architectural Detailing: Function, Constructibility, Aesthetics** 2022-present  
 In February 2022 Rand and Jason Miller contracted with Wiley to produce a Fourth Edition of this book. Rand responsible for all setting forth the strategic direction, scope and graphic conventions of the book and will oversee all revisions and additions. To be published by John Wiley & Sons in 2024. Manuscript to be submitted to publisher August 2023.

**PAPERS and PRESENTATIONS**  
 (since 1990)

"Project On-Site"; Presentation and panel discussion about efforts to integrate field experience and technical considerations into architectural construction classes. Presented at CSI Southeast Regional Conference 1990

Two invited papers presented at the University Professor's Masonry Workshop; University of Florida: 1992  
 "Architecture: Teaching Masonry in the Design Studio"  
 "Masonry Research: A Primer for Architecture Faculty"

Three invited papers presented at Education Conference of the N. C. Waterproofing Contractors Association: 1993  
 "Flashing and Anchors in Theory and Practice"  
 "Cavity Construction and Drainage; How to Get the Water Out"  
 "The Contemporary Wall: Identifying Problems/ Finding Solutions"

Two invited papers presented at the University Professor's Masonry Workshop; Washington University, St. Louis: "Architecture: Teaching Masonry in the Design Studio" "Masonry Research: A Primer for Architecture Faculty"	1993
Three invited papers presented at the University Professor's Masonry Workshop; University of Texas at Arlington: "Architecture: Teaching Masonry through Design" "Why Teach Masonry" "Masonry Research: A Primer for Architecture Faculty"	1994
Five invited papers presented annually at the University Professor's Masonry Workshop; various venues: "Why Teach Masonry Construction to Architecture Students" "Masonry Teaching Resources; An Annotated Bibliography of Books and Monographs" "Masonry Computing Software Survey" "Teaching Masonry Through Design" "Masonry Research: A Primer for Architecture Faculty"	1996-2001
"Integrating Design and Construction"; invited paper, Annual Meeting of The Masonry Society, Phoenix, Arizona	1997
"Detailing Masonry Wall Systems" "Creative Uses of Masonry Materials" Invited presentations, Architects' Symposium at Mason Contractors Association of America Conference, Orlando, Florida	1998
"The Contemporary Masonry Wall: Problems and Solutions"; peer-reviewed paper presented at Eighth North American Masonry Conference, Austin, Texas. Paper selected as Finalist (top ten) for Yorkdale Award, recognizing best paper of the year regarding masonry design worldwide	1999
"Understanding and Specifying Masonry"; Invited paper presented at Masonry Industry Federal Officials Seminar; Washington, DC; Nov.	2001
Invited papers presented at the University Professor's Masonry Workshop; Ohio State University; Columbus, Ohio "Designing with Masonry" "Masonry Detailing" "Environmental Issues in Masonry"	2002
"The Significance of Masonry Construction Today"; Invited paper presented at Design Awards Program, Convention of the National Concrete Masonry Association; Kansas City, MO	2002
"The Masonry Wall as an Enclosure System; Findings and Recommendations" invited presentation; Masonry Institute of Northern Virginia, September	2002
"Flashing and Weeps in Contemporary Masonry Walls "; Building Inspector's Seminar, Martinsville, Virginia, February	2003
"Incorporating Masonry into the Curriculum" "Masonry Teaching Resources" "Design and Detailing Masonry" "Materials Laboratory Courses and Other Hands-On Learning Events" Invited papers presented at the University Professor's Masonry Workshop; Arizona State University, Tempe, AZ, March	2003
Presentation of recommended masonry construction details and masonry research results to Building Inspectors in Virginia; February	2003
Presentation of masonry research results and experiment demo at research facility to NC Mason Contractor's Association; NCSU Research Annex, August	2003
"How to Make Masonry Walls that Work"; North Carolina Mason Contractor's Association Annual Meeting, Myrtle Beach, SC; May	2003

<p>"How to Make Masonry Walls that Work"; Washington Area Masonry Expo; Northern Virginia Masonry Association; Bethesda, MD, Sept.</p>	<p>2003</p>
<p>"How to Make Masonry Walls that Work"; Masonry Seminar to architects; Blue Ridge Masonry Association; Roanoke, VA, Oct.</p>	<p>2003</p>
<p>"The Masonry Wall as an Enclosure System; Findings and Recommendations"; peer-reviewed paper presented at Ninth North American Masonry Conference, Clemson, SC; June</p>	<p>2003</p>
<p>"Advancing the Knowledge of Masonry; Where Should We Go from Here?"; Plenary address; 9th North American Masonry Conference, Clemson SC; June</p>	<p>2003</p>
<p>"A Final Project Model; Optimal Independence to Address Three Basic Elements"; peer-reviewed paper presented at ACSA Regional Conference. Paper described and reflected on process for Final Projects in the Bachelor of Architecture degree program at NCSU; Univ. of South Florida, Tampa, FL, Nov.</p>	<p>2003</p>
<p>"Incorporating Masonry into the Curriculum"                  "Masonry Teaching Resources"                  "Design and Detailing Masonry"                  "Materials Laboratory Courses and Other Hands-On Learning Events"                  Invited papers presented at the University Professor's Masonry Workshop; NCSU College of Design, Raleigh NC. March</p>	<p>2004</p>
<p>"Incorporating Masonry into the Curriculum"                  "Masonry Teaching Resources"                  "Design and Detailing Masonry"                  Invited papers presented at the University Professor's Masonry Workshop; Univ. of Minnesota College of Arch., Minneapolis, MN. March</p>	<p>2005</p>
<p>"Masonry Education in Colleges and Universities"; Presentation at The Masonry Society Annual Conference plenary session; Preliminary findings and methodology presented regarding comprehensive survey of architecture, engineering and related disciplines at institutions in North America. October</p>	<p>2005</p>
<p>"Incorporating Masonry into the Curriculum"                  "Masonry Teaching Resources"                  "Design and Detailing Masonry"                  "Laboratories and Other Hands-On Learning Events"                  Invited papers presented at the University Professor's Masonry Workshop; Portland St. Univ., Portland, OR. AIA CE credits. March</p>	<p>2006</p>
<p>"Incorporating Masonry into the Curriculum"                  "Masonry Teaching Resources"                  "Masonry Design and Detailing"                  "Designing Masonry for Durability and Sustainability"                  Invited papers presented at the University Professor's Masonry Workshop;                  Georgia Tech, Atlanta, GA. AIA CE credits. March                  Drexel Univ., Philadelphia, PA. AIA CE credits. March</p>	<p>2007                  2008</p>
<p>"Evaluation of Masonry Education in the United States and Canada"; peer-reviewed paper presented and published in proceedings; 10th North American Masonry Conference, St. Louis, MO; June</p>	<p>2007</p>
<p>"Mastering the Details of Masonry Construction"                  Invited presentation as part of a series of seminars in the first annual North Carolina Masonry Contractors Association Certification Program. Presented in 2 locations in NC. December</p>	<p>2007</p>
<p>"Mastering the Details of Masonry Construction"                  Invited presentation as part of a series of seminars in the North Carolina Masonry Contractors Association Certification Program. Presented in Greensboro, NC.</p>	<p>2008, 2009,                  2011, 2013,                  2014, 2016                  2018, 2021</p>

<p>"Sustainable Masonry Design; Thinking beyond LEED"                  Invited presentation to architects in St. Louis. Sponsored by the Masonry Institute of St. Louis. Presentation outlined qualities of masonry buildings that are currently recognized in the LEED rating system, but also several that are currently under-rewarded. January</p>	2009
<p>"Sustainable Masonry Design and Construction"                  Juried presentation to architects, builders and manufacturers attending Concrete / Masonry construction industry convention. Presentation provided continuing education credits to professionals; outlined qualities of masonry buildings that can be used to address sustainable design objectives, with an emphasis on life cycle analysis. February</p>	2009
<p>"Sustainable Masonry Design; A Life Cycle Perspective "; invited presentation in Hyde lecture series; College of Arch., Univ. of Nebraska</p>	2009
<p>"Masonry and Life Cycle Assessment"; Invited presentation at The Masonry Society Annual Conference plenary session. Embodied energy, resource availability, durability and maintenance Implications of masonry design and construction. Chicago, IL October</p>	2009
<p>"Sustainable Masonry Design; A Life Cycle Perspective "; invited presentation; Quality Masonry Conference; Nebraska Concrete Masonry Association; Kearney and Omaha NE, January</p>	2010
<p>"Sustainable Masonry Design; A Life Cycle Perspective"; Invited presentation as Hammurabi Speaker at Annual Design Awards presentations; Masonry and Ceramic Tile Institute of Oregon. Portland, OR, February</p>	2010
<p>"Comparison of Masonry and Other Cladding Materials in terms of Embodied Energy and Carbon Dioxide Costs"; peer-reviewed paper accepted for presentation at Eleventh North American Masonry Conference, Minneapolis, MN; June 2011</p>	2010
<p>"Materials Matter"; invited presentation regarding <i>Materials for Design</i> book, with substantial new analyses of recent projects not in that book. Presented at AIA / Asheville (NC) meeting, February</p>	2011
<p>"Masonry Sustainable Design: Beyond LEED"; invited co-presenter regarding masonry's latest contributions to sustainable design, some of which are not yet recognized by LEED. Presented at North American Masonry Conference, Minneapolis, MN, June</p>	2011
<p>"Life Cycle Assessment How Masonry Stacks Up"; Invited presentation at national conference of The Masonry Society, San Antonio, TX, November</p>	2011
<p>"Comparison of Masonry and Other Cladding Materials in terms of Embodied Energy and Carbon Dioxide 'Costs' "; Invited presentation at meeting of The Building Enclosure Council, Raleigh, NC, January.</p>	2012
<p>Two invited presentations at Kansas Masonry Institute conference. Kansas City, MO. February.                  "Masonry Sustainable Design: Beyond LEED"                  Reviewed how masonry can contribute to sustainable design in general, how it has qualified under LEED™, and how current developments in green rating systems and codes offer opportunities and challenges for designers.                  "Embodied Energy &amp; Carbon Dioxide 'Costs' ..Masonry vs. other Cladding Materials"                  Compared various exterior wall materials in terms of their energy and carbon dioxide impact. Demonstrates a simple methodology that architects can use to compare materials in terms of their life cycle performance.</p>	2012
<p>Four invited papers presented at national conference: University Professor's Masonry Workshop (AKA Masonry Educators Workshop); Attendees are architectural educators from the US and Canada;                  Sponsored by The Masonry Society;</p>	
<p>Cal Poly / SLO; San Luis Obispo, CA; June</p>	2012
<p>Univ. of Nevada / Las Vegas, NV; March</p>	2014
<p>Pennsylvania State Univ. / State College, PA; March</p>	2015
<p>Univ. of Cal / San Diego / La Jolla, CA; March</p>	2016

	<p>Univ. of South Florida / Tampa, FL; March                      "Incorporating Masonry into the Curriculum"                      "Masonry Design and Detailing – An Architect's Perspective"                      "Designing Masonry for Durability and Sustainability"                      "Innovative Approaches to Masonry Education"</p>	2018
	<p>"Materials Matter"; invited presentation regarding <i>Materials for Design 2</i> book, describing methodology used to research and write the book, and examples of projects contained in the book. Presented at NCSU Architecture Friday Forum series, and at So And So Books in Raleigh. March.</p>	2014
	<p>"Distinguished Professor Awards / Research"; invited presentation regarding research endeavors over my academic career; ACSA National Conference, Miami. April.</p>	2014
	<p>"Comparison of Masonry and Other Cladding Materials in terms of Embodied Energy and Carbon Dioxide 'Costs' "; Invited presentation at meeting of Construction Specifiers Institute, RTP, March.</p>	2015
	<p>"Sustainable Cladding; An Empirical Comparison of Exterior Building Materials"; Invited presentation; How various exterior wall materials used on a college campus compare, and inventory of their energy and carbon dioxide impact in terms of initial construction and maintenance processes. Demonstrates a simple methodology that architects can use to compare materials in terms of their life cycle performance. Includes new buildings and current EE/EC factors. Presented at The Masonry Society's Annual Meeting, Raleigh, NC, October.</p>	2016
	<p>"Materials for Design 2"; invited presentation regarding book that received award. Building Technology Educators Society National Conference, Des Moines, Iowa, June.</p>	2017
	<p>"Sustainable Cladding; A Comparison of Masonry and other Exterior Building Materials"; Invited presentations. How various exterior wall materials used on a college campus compare, and inventory of their energy and carbon dioxide impact in terms of initial construction and life-cycle analyses. Presented at masonry-related symposia in Iowa City, IA and at St. Louis. February and March.</p>	2018
	<p>Three invited papers presented at virtual national conference: Masonry Educators Workshop; Attendees were educators from the US and Canada; Sponsored by The Masonry Society. June 21-23.                      "Incorporating Masonry into the Architecture Curriculum"                      "Masonry Design and Detailing – An Architect's Perspective"                      "Innovative Approaches to Masonry Education"</p>	2022
<b>PATENT</b>	<p>"Inflatable Tent"; U. S. Patent 4,031,674, issued 28 June                      A lightweight camping tent that requires no poles for support.                      Patent Citations: 9, Non-Patent Citations: 1, Referenced by others: 21</p>	1977
<b>RESEARCH</b> (sponsored)	<p>"Alternatives for Housing Recovery Following an Earthquake Disaster"; Comprehensive research and design project addressing housing shortages anticipated in the Los Angeles area. Co-investigator with Prof. Donald Comer, University of Oregon. Sponsored by the National Science Foundation. (\$48,000)</p>	1981-1983
	<p>"Brick Construction: A History of Craftsmanship"; documentation of exemplary historic and contemporary brick buildings in North Carolina; Sponsored by the Brick Association of North Carolina. (\$18,000)</p>	1984-1988
	<p>"Wood in Architectural Education"; Report summarizing building technology courses and curricula present in ACSA-member schools; based on national survey of faculty teaching construction and structures courses; Sponsored by the American Wood Council, administered by ACSA. (\$5,000)</p>	1985-1987
	<p>"New Technologies in Masonry Construction"; AIA Institute Scholars Program; awarded in competitive review process. Innovative construction materials and assemblies developed, tested, and documented. Supplementary funding from AKZO Industries, Brick Association of North Carolina, Brick Institute of America and Carolinas Concrete Masonry Association. (funding to date: \$51,650)</p>	1988-present



"Survey of Masonry Education at Universities and Colleges";  
 Co-Principal Investigator. Survey of faculty at universities and colleges in the US and Canada regarding the level of masonry education currently provided at their institutions. Gathered current information regarding needs in masonry education. This information was used by the University Professors' Masonry Workshop (UPMW) Steering Committee, the Education Committee of The Masonry Society (TMS), and by the masonry industry to help influence and enhance masonry education. Administered by The Masonry Society. Sponsored by the Council of Masonry Research. (\$20,000) 2004-2006

National Science Foundation; EFRI-SEED--Roofing systems Integrating daylighting, electric lighting, photovoltaics, HVAC, and structure. Rand is Senior Personnel on six-person team; Wayne Place is Principal Investigator. Rand would contribute expertise regarding architectural materials, architectural design, and life cycle assessment. Proposal; Spring. 2010

"Knowledge Building about Architecture and Design" 2018-19  
 Four decades of scholarship and practice have provided a valuable perspective about how to prepare rising design professionals to do more with less. This teaching and research work in Finland is meant to synthesize teaching and scholarship experience, and place it in an international context that will test it in new ways. This will yield findings that will be shared at the host and home institutions, and through publications and presentations, with an international audience. The essential goal is to dig deeply into the regional wisdom of Finland and other Nordic countries regarding contemporary design and construction, and regarding durable, life-cycle building strategies. Meritorious lessons found will be elevated from regional knowledge to global knowledge. Sponsored by the Fulbright Scholar programs in the US and Finland, and by the Dept. of Architecture at Aalto University, Otaniemi, Espoo, Finland.

**PROFESSIONAL EXPERIENCE**

All aspects of practice experienced during years of employment with various architectural, planning and structural engineering firms. Projects included offices, schools, religious and residential buildings.

Rand Architect; Principal 1980-present

- Commissions since 1990:
- Sacred Heart Cathedral Elementary School; renovation 1990
  - St. Bernadette Catholic Church; master plan and church, project 1990
  - St. Mary's Catholic Church; master plan and parish hall, project 1990
  - Haycock Residence 1992
  - Barbercheck Residence 1998
  - Padilla Residence 2001
  - Rand Utility Building (Shed); design and construction 2002-2004
  - Keith Residence; Analysis of masonry exteriors, arbitration, repair 2005
  - Expert witness providing analyses in copyright infringement or construction. 2006-present  
 (Wyche Burgess Freeman & Parham; Roberts Construction Law; Peter Newberry; Nexsen Pruet Jacobs & Pollard, and Oxendine Price Law)

Design and technical consultant with various firms (Lucy Daniels Foundation; Duda Paine Architects, The Freelon Group, Frank Harmon Architect) 1984-present

**REGISTRATION**

Registered Architect in North Carolina 1977-present

**SERVICE TO PROFESSION AND COMMUNITY**

NAAB Accreditation Team member, Washington State Univ. 1977

(academic committees available upon request)

Collaborator with Steve Wainwright, Zoology Dept., Duke Univ. on "Big Blue Marble" project; use of large scale air-supported structure to help teach elementary school students about scientific phenomena 1990

Organized Architectural Construction Systems class to provide labor for construction of College of Design's Habitat for Humanity house in Orange County, NC. 1991

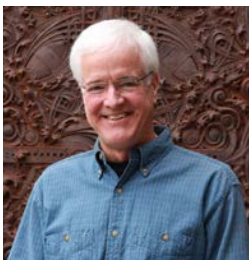
Conducted Seminar "Preparing for the Architectural Registration Exam: Division H: Materials and Methods" for architecture interns practicing in the Baltimore area; sponsored by the Baltimore AIA 1992-1996

Presented Research findings and recommendations at Mason's Association meeting; Raleigh, NC	1994
Reviewer of Papers, ACSA National Conference, Technology Session and Practice Sessions	1995
Moderator; ACSA National Conference, Practice Session; Seattle, Washington	1995
NAAB Accreditation: Exhibition of Student Work; with Roger Spears; collected, evaluated and exhibited student work from the previous five years for review by the public and by the NAAB Visiting Team.	1995
American Institute of Architects (national) Committee on Design	1995-present
Advisor to alums who are completing Intern Development Program; meet quarterly with each advisee to monitor progress toward completion of program	1995-2005
Urban Design Assistance Team; Salisbury, NC: Participated in intensive weeklong design charrette as a member of a multi-disciplinary team. UDAT organized by Peter Batchelor. Carried out analysis of downtown district and proposed short term and long term improvements.	1995
Center for Engineering Technologies Advisory Committee; Riverside High School, Durham North Carolina	1995
Presented Research findings and recommendations at Mason's Association meeting; Raleigh, NC	1996
Presentation about Research Project at College of Design Research Symposium	1996, 1998, 2002
Review of Manuscript: provided pre-publication review of proposed monograph "The Tao of Detailing" by Paul A. Zorr; Van Nostrand Reinhold	1996
Continuing Education Seminar Series; presented recent developments in the design of masonry buildings to practicing architects; sponsored by the Brick Association of North Carolina; over 100 architects took part in Wilmington, Greensboro and Asheville, NC.	1996
Reviewer of Papers, ACSA National Technology Conference	1996
Review of Manuscripts: provided pre-publication review of proposed monographs "The Illustrated Building Code Handbook" and "The Architectural Design and CAD Working Drawing Handbook" by Terry Patterson; McGraw-Hill	1997
Reviewer of Papers, ACSA National Technology Conference, Moderator of paper session, Dallas TX	1997
Reviewer of Papers, ACSA National Technology Conference, Moderator of paper session, Cleveland, OH	1998
Reviewer of Papers, ACSA International Technology Conference, Moderator of paper session, Montreal, Quebec	1999
Board of Directors, AIA Triangle Section, AIA	1998-2004
Member, Editorial Board, <i>Masonry Construction</i> magazine, Hanley Wood Publications	2000-2003
Reviewer of Papers, 9 <sup>th</sup> North American Masonry Conference	2002
Initiated American Institute of Architects/Triangle Section 'House Clinic'; Provided access by general public to architects for advice related to residential design; Served on committee to plan and execute Clinic; Event held during national 'Architecture Week' at Triangle Town Center, Raleigh; Sept.	2003
Hosted groups on three occasions to observe design and construction of Shed, designed by Patrick Rand. AREA Group (Arch. Research & Environmental Accelerant), Young Architects' Forum, American Institute of Architecture Students, NCSU	2003

As President of The Masonry Society, set forth agenda and presided over 6 meetings in US and Canada during term. Wrote column in bi-monthly newsletter. Initiated and implemented Strategic Planning process. Enhanced international liaisons substantially.	2001-2003
Review of Book Proposal: provided pre-publication review of proposed monograph: "Exterior Masonry Wall Systems; Design & Detailing Recommendations and Guidelines for Architects, Engineers, Inspectors, Builders, and Building Owners." by Patrick Conway. At request of publisher, John Wiley & Sons	2003
Exhibited summaries of teaching, research and practice in Architecture Faculty Exhibit, Brooks Hall Gallery, Nov.	2003
Review of Book for Revision: provided review of existing monograph: "Fundamentals of Residential Construction" (c: 2000) by Edward Allen and Rob Thallon. At request of publisher, John Wiley & Sons	2004
Host of University Professor's Masonry Workshop; national conference for architecture and engineering faculty; NCSU College of Design, Raleigh NC. March	2004
Reviewer of technical papers for International Building Lime Symposium. At request of conference Chair	2004
ARE Seminar "Preparing for the Architectural Registration Exam: Materials and Methods" full-day seminar for architecture interns. Organized by College of Design.	2003, 2004, 2005
Reviewer of scholarly papers for Ethics in Construction sessions ACSA National Conference. At request of conference Chair.	2005
Review of Book Proposal: provided pre-publication review of proposed monograph: "An Introduction to the Technology of Architecture" by Peter Silver and William McLean. At request of publisher, Elsevier Limited, Oxford, England	2006
Reviewer of Posters, ACSA National Conference, Chair of poster session regarding Materials, Houston, TX, March	2008
Panelist, "President's Roundtable"; ACSA National Conference, Discussion of taxonomy of environmental design; Houston, TX, March	2008
Reviewer of Papers, ACSA West Region Conference, Chair of paper session regarding Materials, USC, Los Angeles, Oct.	2008
Reviewer of Posters, ACSA National Conference, Chair of poster session regarding Materials, Portland, OR, March	2009
Reviewer of Papers, 11th Canadian Masonry Symposium, Reviewer of papers regarding masonry as enclosure system, Toronto	2009
Review of Book Proposal: At the request of Routledge Press, reviewed manuscript for new book with working title: <i>Material Culture; making architecture</i> , by Gail Borden and Michael Meredith. Offered comment regarding quality and value. Book published in 2011.	2009
Reviewer of Posters, ACSA National Conference, Chair of poster session regarding Materials, New Orleans, LA, March	2010
Review of Book Proposal: At the request of McGill-Queen's University Press, reviewed full manuscript for new book with working title: <i>Architectonics: A Return to Basics; Materials, Structure, Construction &amp; Design</i> , by Eric Dluhosch.	2010
Review of Book Proposal: At the request of Routledge Press, reviewed manuscript for new book with working title: <i>The Place of Construction: a phenomenology of construction past and present</i> , by Frank Weiner and Michael OBrien.	2010
Review of Book Proposal: At the request of Routledge / Taylor & Francis Press, reviewed manuscript for new book with working title: <i>Process Logics: Material Matters and Spatial Tectonics</i> , by Gail Borden and Andrew Atwood. June	2011
Reviewer of Papers, Building Technology Educator's Society sessions at the annual meeting of the Association of Collegiate Schools of America, held in Boston, March 2012.	2011

Review of Book Proposal: At the request of John Wiley & Sons, reviewed manuscript for new book with working title: <i>Fundamentals of Building Materials</i> , by Ryan Smith. August	2011																								
AIANC Fellows' Committee Pinups, Juror in pinups by AIA members who are candidates for Fellowship. June - August	2012, 2014																								
Reviewer of Papers, North American Masonry Conference 2015, to be held in Colorado	2014																								
ARE Seminar "Preparing for Building Design / Construction Systems Exam" half-day seminar for architecture interns. Organized by AIAT / YAF. Sept.	2015																								
Review of Book Proposal: At the request of Routledge / Taylor & Francis Press, reviewed manuscript for new book with working title: <i>Fabrication 2.0; The Architect's Guide</i> , by Pete Silver and Will McLean. May	2016																								
Review of Book Proposal: At the request of Routledge / Taylor & Francis Press, reviewed manuscript for new book <i>Comprehensive Tectonics; Technical Building Assemblies from the Ground to the Sky</i> . Ten case studies by firms such as Tod Williams Billie Tsien Architects, Freelon Group, and Olson Kundig Architects. by Alexis Gregory. February	2019																								
Fulbright Finland Proposal Review Panel, Reviewed applications and dossiers of 29 applicants	2019																								
Fulbright Finland Applicant Orientation; US Faculty Panel, University of Helsinki, Finland; April	2019																								
Fulbright Finland Pre-Departure Orientation: Fulbright Alum and US Faculty Panel; Kuntatalo, Helsinki, Finland; May	2019																								
Currently Member of the following Committees in The Masonry Society: Awards Comm.	2016-present																								
Formerly Member of: Sustainability (Founding Chair in 2005, after 2020 renamed Building Performance Comm.) Education & Outreach (renamed Membership and Outreach Comm.) Architectural Practices (currently on hiatus)																									
External Reviewer of credentials of candidates for promotion and tenure in Architecture programs at:	1996-present																								
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**PERSONAL**



Born: 23 November 1950  
 Married: Christine Ann Nalepa  
 Address: 225 Furches St. Raleigh, North Carolina, 27607-4055,  
 t: 919 833 9555  
 c: 919 561 4724  
 e: patrick\_rand@ncsu.edu