

# Mardelle McCuskey Shepley

## Web Bio

### Information

### Biography

#### Biographical Statement

Dr. Mardelle McCuskey Shepley, B.A., M.Arch., M.A., D.Arch., is a professor at Cornell University in the Department of Design and Environmental Analysis. Previously she served a professor at Texas A&M University (TAMU) and was director of the TAMU Center for Health Systems & Design from 2004-2014. Mardelle is a fellow in the American Institute of Architects and the American College of Healthcare Architects. She is LEED and EDAC certified.

Dr. Shepley has authored/co-authored five books, including *Healthcare Environments for Children and their Families* (1998), *A Practitioner's Guide to Evidence-based Design* (2008), *Design for Critical Care* (2009), *Health Facility Evaluation for Design Practitioners* (2010) and *Design for Pediatric and Neonatal Critical Care* (2014). Her papers have been published in *Healthcare Management Review*, *Indoor and Built Environment*, *Journal of Perinatology*, *Landscape Architecture & Urban Planning*, *Health Environments Design & Research*, *World Health Design*, *Children, Youth & Environments*, *Journal of Housing for the Elderly*, *Building Research Information*, *Evidence-based Medicine*, *Journal of Applied Gerontology*, *Journal of Interior Design*, *Child Health Care*, *Senior Housing & Care*, *Environment & Behavior*, *Perceptual & Motor Skills*, among other peer-reviewed venues. To enhance the link between research and practice, Dr. Shepley worked 15 years in practice prior to joining TAMU, and has served as a consultant to architectural firms regularly since 2000. She is founder of ART+Science, design research consultants.

### Teaching

#### Teaching and Advising Statement

I began teaching as an adolescent, tutoring in low-income communities. A decade later I taught design studio while working on my doctoral degree. After graduation I practiced architecture in the San Francisco Bay area, where I was a visiting faculty member at Cogswell College and Canada College. In 1993 I joined the faculty at Texas A&M University (TAMU) in a tenure-track/tenured academic position. Over the course of this journey I have taught and mentored thousands of undergraduate and graduate students and served as the chair of more than 280 masters and doctoral committees.

Teaching and design are similar in that both can be evaluated by the nature of their processes and the quality of their content/product. Regarding the *process* of

teaching, most of my non-studio classes are divided into lectures and workshops; I share the course material and then have students apply the content while in class to aid in the inculcation of concepts. Design studio is less lecture-driven but has additional parameters – the frequency and directness of the teacher-student interaction requires a high level of trust and respect to help a student discover and expand their skills. Concerning class *content/product*, I use my courses to promote the social agenda previously outlined in my research statement. Similar to my research agenda, the majority of my students on whose committees I serve focus on healthcare settings in the context of sustainability. All final study graduate thesis projects with which I am involved must meet LEED certification requirements.

I am interested in the abstract and formal processes associated with design theory as well as the technological components. The courses I have taught, which include design studio, programming and theory classes, tend to share this integration of the abstract and the concrete. Additionally, I integrate research principles in my design studio and architectural programming classes. I am EDAC (Evidence-based Design and Construction) certified and have provided course content to enable my students to achieve this credential. The success of these process and content features of my teaching style and agenda is supported by the quality of my course evaluations and the achievements of my students.

I am particularly proud of my record mentoring students from a broad range of backgrounds: I was a mentor for the NAPSA Minority Undergraduate Fellows Program and the Excel Mentor Program, two initiatives designed to support and encourage “first generation” students in higher education, and have been nominated as faculty-mentor-of-the-year for international students. I also organized a high school summer program that focused on recruiting students from lesser-represented communities into the fields of visual studies, architecture, landscape architecture, planning and construction science.

Two critical components of education are interdisciplinary collaboration and interaction with the external community. Regarding links to the external community, I have supported faculty/student initiatives involving service projects, such as hands-on activities with Habitat for Humanity and conceptual design services for non-profit organizations. Most recently my students and I were engaged in *pro bono* projects for the city of West Liberty, Little Angels of the Honduras, and the Children’s Hospital of Nigeria. An appreciable part of a student’s college education happens outside the classroom: in student organizations, health and wellness programs, and community service.

## **Professional**

### **Current Professional Activities**

Like many designers, I have a profound passion for architecture, and have contentedly pursued this profession throughout my life. Although I have been a full-time faculty member for the last 21 years, I have been continually engaged in practice full-time or part-time – interweaving practitioner and academic lives. While working on my master of architecture degree, I was employed as an urban

designer for the City of New York. I left New York for Central America where I became a registered architect in Panama, worked with the Ministries of Housing and Planning and managed a small design practice. Later, after matriculating as a doctoral student at the University of Michigan, I designed multiple homes and provided consulting services to a construction firm.

When I finished my doctoral degree, rather than go directly to the university, I practiced architecture for 12 years and periodically taught design and research courses at local colleges. Although I ultimately wanted to join a university community, I knew it was critical to have a strong background in practice and complete my professional registration. As it turned out, this 12-year period was transformative. While I had the education of an architect when I started, the office experience transformed me into the “real thing.” Working with small offices, I was engaged in every aspect of practice and participated in the design of multi-family residential, commercial and healthcare projects. I became registered as an architect in California in 1985.

I began consulting with various architectural offices and in 2006 set up a design research company, ART+Science. During this period I initiated a relationship with a major Boston architectural firm that continues to this day. My work with architectural offices includes consulting on projects, conducting research, and lecturing to provide CEU credit. As a faculty member I have participated, with the help of my students, in more than 34 *pro bono* projects, which are listed in my CV.

Regarding my credentials as a practitioner, I have maintained my LEED certification as the program transitioned and the requirements expanded. I am certified by the Evidence-based Design and Construction (EDAC) program and the American College of Healthcare Architects (ACHA). I am a registered architect and was honored to be inducted in 2011 as a fellow in the American Institute of Architects and as a fellow in the American College of Healthcare Architects. In addition to consulting on large healthcare and education projects, I constantly seek opportunities to practice architecture at a more intimate scale (residential projects) to maintain my skills and support my infatuation with design.

## Research

### Current Research Activities

Research is equal parts art and science. Without that truth my decades-long fascination with the discipline might have dissipated. I see study hypotheses as brethren to design goals; in both cases the participant/observer is seeking to demonstrate the relationship between an objective and an outcome. Because of this interpretation, my research is characterized by its translational content; my colleagues and I generate data that can be applied to built projects. Many of my studies involve rigorous pre- and post-occupancy evaluations, as evaluation research is readily applicable to practice. Broad dissemination is also critical to creating this link. I have presented at more than 140 conferences and authored/coauthored several books as well as more than 80 peer-reviewed and invited publications. All of these presentations and papers are directed at both researchers and practitioners.

The second criterion that motivates my research agenda is the satisfaction I receive from addressing social needs, in particular human health and well-being, and environmental sustainability. Regarding the former, my recent book, *Design for Pediatric and Neonatal Critical Care*, is a culmination of my experience in healthcare settings for children, and an extension of my focus on environments for the most vulnerable populations, e.g., intensive care units, infusion suites for cancer patients, emergency rooms, and facilities for persons with AIDs. This focus has been of interest since my first major research project, i.e., my doctoral dissertation on spatial needs of the elderly and children. Health-related books that I have authored and co-authored are *Design for Critical Care*, *Health Facility Evaluation for Design Practitioners* and *Healthcare Environments for Children and their Families*. Concerning environmental sustainability, I am dedicated to the implementation of green principles. In December I will be completing a two-year project on the effectiveness of sustainable buildings in Qatar. The Qatar project builds on other studies and peer-reviewed papers I have published on sustainable healthcare environments.

A sampling of recent major research projects follows.

“ Developing a Standard for High Performance Buildings in Qatar  
(2012-present)

This is a \$620,000 two-year study to identify factors that affect sustainable building performance in Qatar. Three building types were addressed: commercial, residential, and educational. Research methodologies were: focus groups and surveys of facility management staff, metering of building performance, and performance simulations. The outcome will be to identify good practice procedures and make recommendations for building codes.

“ Collaboration and Creativity in Architectural Practice (2012-present)

We conducted an empirical analysis of a firm's culture and environment with the objective of evaluating the presence and implications of collaboration in architectural practice and the role of the design office environment in supporting creativity. This study identifies features of the office environment that staff members suggest have an impact on creativity. Additionally, the group who gave higher evaluations to the work environment have a significantly higher proportion of people showing more creative performance.

“ North Shore Facility Evaluation (2010-2012)

The North Shore Facility project was a pre- and post-occupancy study for a medical facility for persons with cancer. Participants included staff from Shepley Bulfinch, Architects, and architecture and landscape architecture graduate students from my programming class. This was the first in a series of evaluations of infusion suites, which together will provide data for a larger study. The research was published in *Building Research & Information*.

“ Adapt-a-Room Pre- and Post Evaluation (2008- 2012)

This study, conducted in collaboration with Perkins+Will Architects and hospital nursing staff, involved the comparison of pediatric patient room designs using evaluation survey and PedsQL quality of life assessment tools. This research was presented at Healthcare Design 2012 and is in press with the *Journal of Children, Youth & Environments*.

“ Concord Hospital Intensive Care Unit Light and Window Study (2008-2010)

My research collaborators included a principal from Shepley Bulfinch, a cardiologist, a facility manager, and a doctoral student. The study examined the impact of views and daylight on medical errors, staff absenteeism, patient pain, and length of stay. New and old facilities were compared. The study was presented at the World Conference on Design and Health in Singapore and CleanMed in Chicago. Results were published in *World Health Design* and the *Journal of Health Environments Design & Research*.

“ Arlington Free Clinic Facility Evaluation (2009-2010)

This study involved collaboration between the facility designers (Perkins+Will), the medical staff, students in my programming class, and doctoral students. The purpose was to develop pre- and post-occupancy evaluations for a replacement outpatient clinic, which was completed in 2009. Questionnaires were developed in three languages to support the diverse clientele. This study was presented at the Healthcare Facilities Symposium in September 2010 and a summary paper was published in the *AIA Academy Journal*.

“ Eco-Effective and Evidence-Based Healthcare Design (2008-2009)

This study, which explored the relationship between sustainable design and evidence-based design, was a recipient of the 2007 AIA Upjohn Grant and a grant from the Boston Society of Architects. We used the following methods: focus groups, snowball expert survey, best practice survey, and design facility manager survey. The research was published in: *World Health Design*,

*Proceedings of the Architectural Research Center Consortium, AIA Report on University Research* and, *Health Environments Research and Design*. This work was presented at the Clean Med conference in Chicago, Health Design 2009 in Orlando, and the ARCC annual conference in San Antonio, TX.

“ Shepley Bulfinch Office Pre- and Post-occupancy Study (2007-2009)

In 2006, the principals at Shepley Bulfinch initiated a focused research program as part of the firm’s cultural practice. The program, which emphasizes post-occupancy evaluation, began with an evaluation/comparison of their old and new offices. The study assessed the effectiveness of the architectural intentions expressed during programming. Professional and administrative staff responded to surveys. The study was published in the peer-reviewed *Journal of Interior Design*.

“ Single Family Room Neonatal Intensive Care Unit Family Behavior Study (2005-2006)

Research collaborators in this study included a neonatalologist, nursing director, and interior architect. The study was funded by the AIA and used behavior mapping to compare the interactions of families in single-family-rooms and open bay neonatal intensive care units. Design guidelines were generated regarding spaces that best support family interaction. The study was presented at Healthcare Design ’08 in Washington, DC, the High-Risk Infant conference in Clearwater, FL, the AIA annual meeting (2008) in Boston, and the ACSA conference in Quebec City. The research was published in *The AIA Report on University Research*.

## **Extension**

### **Current Extension Activities**

I am currently working with the Angels of the Honduras on a hospital for Women & Infants.

## **Education**

### **Education**

- “ Doctor of Architecture, University of Michigan, 1981
- “ Master of Arts in Psychology, University of Michigan, 1979
- “ Master of Architecture, Columbia University, 1974
- “ Bachelor of Arts, Columbia University, 1971

## **Courses**

### **Courses Taught**

- “ 3<sup>rd</sup> year undergraduate studio

- .. 4<sup>th</sup> year undergraduate studio
- .. 1<sup>st</sup> and 2<sup>nd</sup> year masters studio
- .. portfolio design
- .. design research methods
- .. graduate health design seminar
- .. architectural programming and research
- .. undergraduate theory seminar

## **Websites**

## **Administration**

### **Administrative Responsibilities**

- .. Texas A&M University  
 Director, Center for Health Systems & Design, 2005–present; Interim Director, 2004–05; Associate Director, 1994–2004  
 Interim Head, Department of Architecture, 2005–06  
 Associate Dean of Student Services, College of Architecture, 2001–05  
 Program Coordinator, PhD in Architecture, 1999–2001  
 Program Coordinator, Third-year Design Studios, 1996–1998

## **Publications**

### **Selected Publications**

### **Books**

1. Shepley, M. (2014). *Design for Pediatric and Neonatal Critical Care*. New York: Architectural Press. o Reviewed in Feldman, M. (2014). *Health Environments Research & Design*
2. Shepley, M. (2010). *Health Facility Evaluation for Design Practitioners*. Myersville, MD: Asclepion Publishing. (Reviewed in *World Health Design, Health Environments Design & Research, Environmental Design Research Association*) o Reviewed in Falter, E. (2011). *Nursing Administration Quarterly*, 35(4), 363–364. o Reviewed in Kanakri, S. (2013). *EDRA Newsletter* o Reviewed in Seo, MY. (2011). *Health Environments Research & Design*
3. Hamilton, D. & Shepley, M. (2009). *Design for Critical Care: An Evidence-based Approach*. New York: Architectural Press o Reviewed in

Davidson, J.E. (2010). *Health Environments Research & Design*. o Reviewed in  
Thompson, D. (2010) *Critical Care Medicine*, 39(9), 2210.

4. Harris, D., Joseph, A., Becker, F., Hamilton, D., Shepley, M., & Zimring, C.  
(2008). *A Practitioner's Guide to Evidence-based Design*. Concord, CA: CHD.

5. Shepley, M., Fournier, M.A., & McDougal, K. (1998). *Healthcare  
Environments for Children & Their Families*. Dubuque, IA: Kendall Hunt.