

# Rana Zadeh

## Web Bio

### Information

#### Biography

##### Biographical Statement

**Rana Sagha Zadeh**, M.Arch., Ph.D., Associate AIA, LEED AP, EDAC, is a tenure-track assistant professor and the co-director of the Health Design Innovations Lab in the Department of Design & Environmental Analysis at Cornell University. Dr. Zadeh's interest includes **healthcare design, evidence-based design, sustainability** and the **translation and application** of scientifically tested research about **design innovation** into real-life policy and practice to achieve the best possible **health, safety, quality, and efficiency outcomes** via systems approach. Zadeh is the recipient of the Center for Health Design's **2011-12 New Investigator Award** for high-quality research in the field of evidence-based healthcare facility design and the 2013 Architectural Research Centers Consortium **ARCC King Medal** for innovation, integrity, and scholarship in environmental design research.

#### Teaching

##### Teaching and Advising Statement

"My teaching has three main emphases—communication across disciplines, engagement in real-life projects, and the concentration on human-centered and evidence-based design. Communication and work across disciplines is an essential skill when working as a professional in industry, academia, or government. Therefore, my classes emphasize the development and improvement of **multidisciplinary dialogue** among those involved in design, research, policy, and practice. The three DEA classes that I teach welcome Cornell students from all disciplines and, in the past, have included students from the fields of design, architecture, interior design, urban and regional planning, business administration, real estate and finance, mechanical engineering, information science, policy analysis and management, public health, global health, landscape architecture, facility management, ergonomics, environmental psychology, medicine, premedical studies, and biology and society. Based on my own experiences as a student, I strongly believe in **simulating real-life practices** to maximize the educational benefits and motivation for learning fundamentals for our emerging professionals. The use of real-life projects presented by clients and community members creates a learning laboratory with a **two-way information exchange between the students and the community partner**. These current and critical projects help extend personal learning into **community engagement** and social justice. With real-life projects comes unpredictability. My students and I learn to embrace these experiences and **build interpersonal and professional competencies**. We improve our awareness about the sophistication and sensitivity of research in human environments, especially in healthcare, and describe ways to **engage stakeholders in fostering positive change**. My teaching focuses on the concepts of **human-centered design, evidence-based design, and design creativity**. With the help of my students, I develop pilot models, tools, and methods to combine creativity and science and to document the lessons learned for future practical applications. In my classes, we practice respect of others, tolerance of **diversity, teamwork, public speaking, team leadership, personal and group reflection, and networking**. Over the past two years, I have employed various rubrics and teaching aids for each of these goals."

#### Professional

##### Current Professional Activities

Zadeh is an elected member of the Center for Health Design's **Research Coalition**, and currently serves as a **volunteer on CHD's the Agency for Healthcare Research Quality's project to create a risk assessment tool for patient safety**, is a grant reviewer for the **New Investigator Award** and has served on the **CHD's Behavioral Health**. Zadeh is a **founding member of the Nursing Institute for Healthcare Design** and associate member of American Society of Heating, Refrigerating, and Air-Conditioning Engineers, and a member and former president of a student chapter of the Illuminating Engineering Society of North America.

Zadeh's professional activities go beyond research and volunteerism and has involved service learning projects for community members including Hoag Healthcare (Spring 2013), Hospice of Tompkins County, and Cayuga Medical Center (Fall 2013 and Spring 2014), Brigham & Women's Hospital and CAMA Inc. (spring 2014), and New York Presbyterian Hospital (Spring 2015).

#### Research

##### Current Research Activities

"The scope of my work is on the **safety, quality, and efficiency of healthcare**—especially for those areas with the greatest need, such as **acute settings, elderly care, and end-of-life care**. My team utilizes **qualitative and quantitative methods** to elicit user information, develop new evaluation methods and tools, generate novel interventions, **translate the latest scientific research into practice, and evaluate the social, organizational, and economic outcomes**. As an **environmental design specialist, I collaborate closely with stakeholders, community members, practitioners, and scientists**. Solving complex real-life issues requires a **multidisciplinary systems approach**. This is why I collaborate with experts and students both in my field and in other fields, including **social and behavioral sciences, policy, medicine, nursing, and engineering**."

#### Extension

#### Education

##### Education

2012 Ph.D., College of Architecture, Texas A&M University  
2005 M.Arch., School of Art & Architecture, Azad University of Tehran

#### Courses

##### Courses Taught

##### DEA 6550 – Innovations in Healthcare Research & Design

- Analytical and scientific approach to **design innovation**
- **Evidence-based design certification and accreditation** (EDAC)
- **Innovation series:** client-led research and design project on cutting-edge solutions to healthcare problems

##### DEA 4500 – Policy Meets Design: High Impact Facilities of the 21st century

- In conjunction with the new **health policy reforms** and aimed to educate future leaders to improve health, quality of life, and cost efficiency
- Connecting **policy, people, and design practice** through real-life projects and guest lectures

- Collaboration with leaders at **Kaiser Permanente** and **FreemanWhite**

#### **DEA3530: Planning and Managing the Workplace: Evidence-Based Design and the Organizational Ecology (2014)**

- Principles of design for knowledge workers to improve health and performance and the overall organization's business outcomes
  - Development of **translational guide for practitioners** for workplace design
- Based Design and the Organizational Ecology (2014)
- Sponsored and co-created by HKS Architects, CADRE, and Herman Miller Healthcare

#### **Websites**

##### Related Websites

HealthDesign Innovations Lab: <http://hdil.human.cornell.edu/>

Boscia, T. (Fall 2013). Students help alumnus with hospital redesign. Link Magazine: The Magazine for Human Ecology Alumni. website: [http://issuu.com/humec\\_comm/docs/linkfall2013/11?e=5110236/5189003](http://issuu.com/humec_comm/docs/linkfall2013/11?e=5110236/5189003)

Cutler, S. (November 12, 2013). New course blends health policy and facility design. CornellChronicle. website: <http://www.news.cornell.edu/stories/2013/11/new-course-blends-health-policy-and-facility-design>

AHRQ. (November 2013). Cornell University's Faculty Uses AHRQ's Transforming Hospitals DVD, Agency for Healthcare Research & Quality: Impact Case Studies, Patient Safety. website: <http://www.ahrq.gov/policymakers/case-studies/cquips1308.html>

Lian, J. (April 11, 2013). A healing space. OHS Canada. website: <http://www.ohscanada.com/news/a-healing-space/1002221788/>

MEDICA.de. (February 4, 2013). Hospitals: Improving Floor Design Against Fatigue. MEDICA. website: [http://www.medica-tradefair.com/cipp/md\\_medica/custom/pub/content.oid.41215/lang.2/ticket.g\\_u\\_e\\_s\\_t/local\\_lang.2](http://www.medica-tradefair.com/cipp/md_medica/custom/pub/content.oid.41215/lang.2/ticket.g_u_e_s_t/local_lang.2)

#### **Administration**

##### Administrative Responsibilities

Dr. Zadeh is the co-founder and co-director of the HealthDesign Innovations Lab (HDIL), a multidisciplinary community of faculty, students, practitioners, and community members committed to cutting-edge research on healthcare environments.

#### **Publications**

##### Selected Publications

#### **Peer-Reviewed Journal Articles**

**Sagha Zadeh, R.**, Sadatsaffavi, H. & Xue, R. (In review). Evidence-based healthcare design: An economic evaluation of the safety and quality.

**Sagha Zadeh, R.**, Xian, X. & Shepley, M. M. (Accepted). Sustainable healthcare design: Current state, existing challenges, and future trends. *Facilities*.

**Sagha Zadeh, R.**, Shepley, M. M., Williams, G. & Chung, S. S. E. (2014). The impact of windows and daylight on acute-care nurses' physiological, psychological, and behavioral health. *Health Environments Research & Design Journal*, 7(4), 36-62.

**Sagha Zadeh, R.** Shepley, M. M., Waggener, L. & Kennedy, L. (2013). Workplace design: Design characteristics of healthcare environments: The nurses' perspective. *World Health Design*, 80-85.

**Sagha Zadeh, R.**, Shepley, M. M. & Waggener, L. T. (2012). Rethinking efficiency in acute care nursing units: Analyzing nursing unit layouts for improved spatial flow. *Health Environments Research & Design Journal*, 6(1), 39-65.

Shepley, M., Gerbi, R., Watson, A., Imgrund, S. & **Sagha Zadeh, R.** (2011). The impact of daylight and views on patients and staff. *Health Environments Design & Research*, 5(2), 46-60.

Nanda, U., Eisen, S., **Sagha Zadeh, R.** & Owen, D. (2010). Effect of visual art on patient anxiety and agitation in a mental health facility and implications for the business case. *Journal of Psychiatric and Mental Health Nursing*, 18(5), 386-393. doi: 10.1111/j.1365-2850.2010.01682.x

#### **Peer-Reviewed Conference Proceedings**

**Sagha Zadeh, R.** & Khadse, G. (2010). "Measuring the outcomes of environmental quality in healthcare buildings: An EBD report on Hillcrest Hospital, Tulsa, OK," *EDRA 41 - 2010: Policy and the Environment*, 203-204.

Mills, G. & **Sagha Zadeh, R.** (2010). "From morphology to policy to urban design: Creating sustainable 21st-century cities," *EDRA 41 - 2010: Policy and the Environment*, 269-270.  
[http://edra.org/component/jombib/?task=showbib&id=5143&return=index.php%3Foption%3Dcom\\_jombib%26amp%3Bcatid%3D0](http://edra.org/component/jombib/?task=showbib&id=5143&return=index.php%3Foption%3Dcom_jombib%26amp%3Bcatid%3D0)

**Sagha Zadeh, R.** (2009). "Green healing design strategies," *EDRA 40 - 2009: The Ethical Design of Places*, 291.  
[http://edra.org/component/jombib/?task=showbib&id=3616&return=index.php%3Foption%3Dcom\\_jombib%26amp%3Bcatid%3D0](http://edra.org/component/jombib/?task=showbib&id=3616&return=index.php%3Foption%3Dcom_jombib%26amp%3Bcatid%3D0)

#### **Non-Peer-Reviewed Research & Design Translational Reports**

Eshelman, P., **Sagha Zadeh, R.**, Setla, J. & Krieger, A. (January 20, 2015). "Designing end-of-life care setting to enhance quality of life: Informing the conversation among designers, users, and stake holders," submitted to Hospice of Central New York, Hospicare of Tompkins County, Francis House, a Social Home Model, and Cayuga Medical Center's Palliative Care Program.

**Sagha Zadeh, R.** & Gilmore, R. (May 15, 2013). "Emergency department of the future, a guideline addressing health, safety, and efficiency," submitted to HOAG Healthcare and Jacobs Engineering.

**Sagha Zadeh, R.** & Gilmore, R. (May 15, 2014). "Transforming patient experience for Brigham & Women's Hospital," submitted to CAMA Design and Brigham & Women's Hospital.

**Sagha Zadeh, R.** (January 5, 2015). "Translational guide for workplace design," submitted to Herman Miller Healthcare & HKS Architects.