

PROFESSIONAL, PEDAGOGICAL AND RESEARCH INTERESTS AND GOALS

The last several years have seen tremendous change in the practice of architecture. This change has occurred not just in what and how structures are designed, but also in the way in which we practice. The profession is at a critical juncture, and educators need to respond to ensure that we are preparing adequately the next generation of architects. I have, and will continue, to devote my career to researching and implementing building technologies that will result in high performance buildings. Imparting that knowledge to the next generation has also been a cornerstone of my professional life.

Building Technology and the Environment

Architects have an immense role in the formation of the built environment. Buildings account for a significant portion of our national energy consumption and CO2 emissions. Practitioners have not done an adequate job in communicating the value of proper location, building siting, design, materials selection and environmental controls systems, or the impact that decisions made during the design process will have on the performance of the structure and the comfort of its occupants.

Building technology and building design are inseparable in today's world. Architects need a fundamental understanding of the thermal performance of structures, of human thermal comfort, and the thermal processes occurring in the built environment. My professional career has focused on high performance buildings. My projects have included a variety of alternative building materials and experimentation with building envelopes. I have worked closely with my consulting engineers to incorporate innovative mechanical systems and energy management systems. It is my intent to continue researching and developing new construction systems and methods for increased thermal performance. In addition, I will pursue my strong interest and expertise in urban climatology, and the relationship between the thermal performance of buildings and the microclimates of their specific sites. Finally, I intend to continue my research on the interaction between constructed and natural space, and how both can be manipulated for optimal building performance as well as comfortable spaces on the site itself.

In pursuing these interests in my practice, I hope to bring that expertise to the classroom. I have long operated a research based practice, providing interns – both students and emerging professionals on the path to licensure – with an opportunity to broaden their knowledge of high performance architecture. In an academic setting, I would blend traditional lectures, hands on exercises and field experience to provide the broadest background possible. In combining a research based practice with an academic position, I would have the opportunity to impart to students the best practices of the profession while also implementing in practice the knowledge gained through academic research.

Building Technology and Integrated Project Delivery (IPD)/Building Information Modeling (BIM)

As alternative project delivery methods have become increasingly common, with the current focus on integrated project delivery. This project delivery method requires all parties to work together toward a common goal of a successful project. As a practitioner for over 20 years, I have used this process in my practice dozens of times and seen the positive results which can be achieved. The most successful projects are those in which the architect takes on a leadership role to guide the project team. This role requires a fundamental understanding of building technology, of building materials, and of construction methods. It also requires the ability to listen, to problem solve and to team build. The foundation for this knowledge and skill set begins in academia and continues with the professional internship. It is something that I have focused on as I have supervised and mentored numerous interns. It would also be a key area of importance in an academic setting. Utilization of Building Information Modeling requires collaboration from the entire project team. For emerging professionals and students, this technology serves as a powerful tool for understanding how a building goes together.

Mentoring, the Profession, and the Process of Architectural Education

It is important to allow the freedom to explore and implement design theory in an academic setting. This freedom, however, cannot come at the expense of the realities of the industry. If architects are to be effective, they must be trained in a setting which merges both theory and practice. The realities of construction should not begin after graduation, but rather, they should be a part of the architectural curriculum. Conversely, the profession must step up assume responsibility for enhancing and augmenting the theoretical training by providing a broad based work environment for emerging professionals, which includes exposure to the real world design process as well as all phases of a projects implementation. Technology courses lend themselves to a lecture/laboratory syllabus, where students can design and construct mock-ups based on the theory learned in the classroom. Personal experience in the form of site visits to actual construction site is invaluable in reinforcing what is learned in the classroom, and is also a critical component in of the professional internship experience. Finally, BIM technology allows for the virtual construction of a structure and a greater understanding of the design possibilities.