Evidence-Based Design for Multiple Building Types

D. Kirk Hamilton, Center for Health Systems Design, Texas A & M University, and David H Watkins, WHR Architects. John Wiley and Sons, NY, Publisher, 2009.
Chapter 9 "Evidence-Based Environments for Science" begins with the following quote from Michael Chippendale of Chippendale Consulting, LLC:

Institutions are taking a new look at research and education buildings needed to take advantage of this new integration of science and technology. Considerable attention is being placed on how building design influences interdisciplinary research and education programming. There is a strong national trend towards the construction of flexible modular laboratory space for research and education in the life sciences. The space is organized to maximize interaction and opportunities for exchanges across disciplines. An atrium, café and commons areas are often included as design features to foster human interactions and a sense of community within the building.

The integration of science and technology is opening up new horizons for research through advances in such areas as genomics, proteomics, systems biology, bioinformatics, computer technology, nanotechnology, and robotics. These advances are opening up frontiers that are allowing a new integration of research and technology in the agricultural, biomedical, biological, environmental, and engineering sciences. The new knowledge is being harnessed in the form of new products and services that are being commercialized. Value to society is provided in many ways including improved health care, better food and nutrition, increased protection of natural resources and improved quality of life. The challenges involved in promoting entrepreneurship and developing a knowledge based economy are complex and require a critical infrastructure and a long-term commitment. At the same time, the advances open up challenges in the socio-economic arena as society deals with the ethical, legal, regulatory, and policy issues of harnessing the new technologies. Underpinning the harnessing of newly acquired knowledge in life sciences are strong research and teaching universities that are the essential idea generators for the new technology and the source of the skilled workforce.

Commercialization cannot occur without the new knowledge, the availability of a technically skilled work force, an entrepreneurial culture, essential facilities, sustained funding, and a long term commitment.

Source: © Michael Chippendale, Chippendale Consulting LLC, excerpt from "Designing for Collaboration: The Stakeholders' Perspectives," January 2008.

The authors follow up the quote with this commentary on p.142 "As Dr. Chippendale correctly points out, the challenge of designing a new research facility often means not only designing to accommodate more amenities for recruitment and retention, but also planning for areas that encourage the interaction and cross-pollination that come from the increased multidisciplinary, team-based research that is occurring. This adds to the ongoing debate over how much open versus closed laboratory space should be provided."

Two key points the authors make in the conclusion section of their book are:

p. 255 "Today, architects are not only required to design a more diverse range of building types, but they are also asked to respond to an increasingly complex and expansive set of design criteria. Today's buildings involve vastly more domains of knowledge and must respond to a broader range of client and user expectations."

p. 258 "We have attempted to illustrate in this inaugural exploration that evidence-based design is an approach already gaining acceptance, even thriving, in some areas of practice (most notably healthcare, sustainability, and workplace design). We have also attempted to show that it is an approach that should not be entirely foreign to practitioners in other areas of practice, some of whom are already using similar, but possibly less rigorous, design methodologies."