

Editorial

Welcome to a New Journal

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Welcome readers and authors to the new *Journal of Biomusical Engineering*. And special thanks to Dr. Daniel J. Schneck for coming up with this idea and title, and for urging the publishers to make this very important and timely Journal a reality. Why “*biomusical engineering*”? This refers to investigating the impact of music on the human body—our well-engineered systems of life that can think, respond to, and become activated by the well-engineered system of sounds we call *music*! The journal is devoted to furthering the understanding of *why* and *how* this thing called “music” has such a profound impact on human function and behaviors. Those in the field of engineering sciences have much to contribute to this understanding. Now that the study of music and the brain is rigorously pursued, science and engineering proposes new questions. For instance, *what* transpires after various brain and sensory areas have processed and perceived “music”? *Why* and *how* does music proceed to contribute to feedback/feedforward systemic control systems? *What* paradigms investigating the profound effects of music on physiologic systems can be researched and proven? *How* can this information be applied in clinical treatment using music as interventions for diseases, syndromes and pathological conditions?

The title of our Journal is self-defined. Its scope is broad uniting, for the first time, many areas of science and engineering with areas of music in human adaptation and therapy. We understand what “music” means—combinations of rhythm, melody, harmony, timbre, dynamics and form. The noun “to engineer” is defined by Encyclopedia Britannica (online) as

“Engineering” . . . the application of science to the optimum conversion of the resources of nature (in this case, sounds created into “music”) to the uses of humankind. The field has been defined by the Engineers Council for Professional Development, in the United States, as the creative application of “scientific principles to design or develop structures, machines, apparatus, manufacturing processes, or works utilizing them singly or in combination; or to

construct or operate the same with full cognizance of their design; or to forecast their behavior under specific operating conditions; all as respects an intended function, economics of operation and safety to life and property.” <http://www.britannica.com/EBchecked/topic/187549/engineering>.

The definition defines why we use the term *Biomusical Engineering* to encompass the broad spectrum of music engineering, science, medicine, and human behavior. Scientists and Biomedical Engineers study the human system from cells to sensory systems, clinicians “engineer” music interventions through the targeted use of any or all of the six basic elements to address human function. Technological advancements aid in research and deeper looks at music, physiologic function and emotional behaviors; neuroscientists tell us how the brain organizes and processes music information; and composers ultimately reflect human functionality through their creations. There is much to ask, learn, discuss, investigate, and bring forth. This is a beginning. We invite authors from the sciences, engineering, medicine, technology, creative and clinical work to develop paradigms that question and investigate the phenomenon of music’s impact on the human being, the *what*, *why*, and *how*, and to contribute to the increasing curiosity about the role of music in human physiologic function.

We look forward to your partnership in bringing important new information to the readers.

Dr. Dorita S. Berger
Editor-in-Chief