

1023-00-1757

Elaine Chew* (echew@usc.edu), 3715 McClintock Avenue GER 240 MC:0193, Los Angeles, CA 90089-0193. *A multi-pronged approach to the creating of an interdisciplinary research program in mathematics and computation in music.*

Generating interest and garnering support in, and educating our colleagues and students on, the area of mathematical and computational modeling of music can be challenging as a sole proponent of research in the area, as many of us are wont to be at our respective institutions. The challenge can be approached from multiple synergistic directions. This talk presents an example in the creating of the Music Computation and Cognition Laboratory at the University of Southern California (USC) Viterbi School of Engineering. The lab is home to numerous research projects ranging from computational music analysis and visualization to expressive performance analysis and synthesis. The education and recruitment of research students is conducted through a special topics course on engineering approaches to music cognition that addresses current research trends. Outreach activities include an upcoming lecture-recital on the Mathematics in Music, featuring contemporary music (including a new commission) with discussions on their mathematical bases (transformations, rhythmic tiling & Sudokus), and real-time interactive visualizations of computer analyses of tonal and bitonal pitch patterns, to take place at USC's Thornton School of Music as part of the university's Arts and Humanities Initiative. (Received September 26, 2006)