

Colin Olson

Colin received his B.S. in Mechanical Engineering from Colorado State University and has continued with his graduate studies at the University of California, San Diego. He is a graduate of 2002 Los Alamos Dynamic Summer School. He currently has a M.S. in Structural Engineering from that institution and is conducting research in the Structural Health Monitoring (SHM) field as part of his Ph.D.



dissertation. He has an interest in evolutionary programming and time series analysis as they pertain to SHM and would ultimately like to couple SHM with aerospace applications.

His current research is focused on dynamic interrogation of structures for the purposes of damage identification. Recent work in this area has explored the use of chaotic excitations and state-space analyses for improved damage detection. Within this context, he is employing an evolutionary program to search the space of possible excitations, subject to a constraint hierarchy, for those excitations that are best suited to appropriately interact with the structure for enhanced damage detection. He will then simulate damage in a finite-element model and determine whether or not the tailored excitations improve damage detection when compared to non-optimized waveforms.