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Clifford J. Astill - In Memoriam

George K. Lea [1]

Our colleague and friend, Clifford J. Astill, succumbed to metastatic melanoma last December 23^{rd}. Cliff was an individualist and a very private person; however, his long-term service at the National Science Foundation is a matter of public record. Therefore, it is most fitting, on the anniversary of his passing; the mechanics community remembers his con-tributions with this special issue.

Cliff started life at NSF, in the early seventies, as associate program director in Engineering Mechanics Program when Engineering was a Division in the research Directorate. He survived and sometimes even benefited from the numerous reorganizations of the "engineering program" at the Foundation. Unlike most of the academics that migrated to NSF, Cliff had work for a number years in the aircraft/aero space industry, first in Australia; then in UK and Canada; finally in the US. His specialty was flutter analysis for both fixed and rotary wings, in academic terms this is referred to as aeroeleasticity.

When he was the Program Director for Solid Mechanics in the late seventies and early eighties, he wanted to develop a manufacturing and design sub-activity within his program. This was not the traditional IE thinking of the day, rather one that included material behavior (material science), stress analysis (solid mechanics) and the implementation of new analysis tools (applied mathematics). Cliff felt that this approach to problem solution needed special attention, as it will be the future, if not the survival, of solid mechanics.

Multi-discipline and cross-disciplinary projects were unheard-of in those days. It was pure frustration to convince those relevant communities that engineers should solve problems, that eigen-value search is not mathematics research, and the quality of the research is not tarnished by the usefulness of it's outcome. Cliff never wavered from this belief and paid dearly for this vision. Often the most boisterous and most critical were supporters of status quo. On the other hand, he would be ill at ease going on the stage to receive a well-deserved recognition. Cliff's early efforts and the foundations laid by the Solid Mechanics Program, I believe, laid the fundamentals for design and manufacturing at the Foundation.

Cliff was an early participant in High Performance Computing and Grand Challenges. He encouraged a number of sold mechanics grantees to attend a 1983 workshop at NCAR where the concept of NSF supported "supercomputing" was introduced. This workshop has left a long lasting impression on engineering users of NSF Centers. Cliff continued his interest in large-scale simulation and his support of a Carnegie Mellon University group resulted in the 2003 Gordon Bell Prize for Special Accomplishment Based on Innovation, for their work on forward and inverse earthquake modeling on terascale computers. This was the first, until now the only, Gordon Bell Prize awarded to members of a civil engineering department.

Before retiring from the Foundation, he was building a group focusing on tsunami run-up and damage. This includes the integration of laboratory experiments, field data, with large-scale simulation. The tragedy in Southeast Asia caused by multiple tsunami run-ups initiated by a submarine quake off the coast of Sumatra clearly shows that Cliff's instincts had not been blunted by time. The spectrum of engineering mechanics topics within these pages illuminates Cliff's vision and the ready response by the contributors attest to his success as a NSF Program Director.

I shall miss a colleague who explored beyond the horizon, a friend who enjoyed Bach as much as blue grass, but most of all a person who never quits.

Acknowledgement: It was an honor to have been invited by the Editor of Computer Modeling in Engineering Sciences to serve as a Guest Editor. I thank him for giving me an opportunity to work with the members of the mechanics community to honor a valued colleague, a friend and above all, a soul mate.

[1] NSF Program Director, retired