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Foreword

The International Journal of Intelligent Hybrid Systems (IJIHS) provides a valuable new venue for promoting the important task of incorporating multiple approaches to the modeling of intelligence into a single algorithm or system. Throughout history, examples of biological intelligence - in particular, scientific or heuristic explorations of how the mind works and of how species adapt - have provided a rich source of examples from which to develop new concepts and mechanisms with which to elucidate intelligent processes. Artificial intelligence, neural networks, fuzzy logic, and genetic algorithms, among others, are all fruits of the universal human passion to understand how biological intelligence works. Each of these approaches to understanding intelligent behavior has its own particular strengths and weaknesses. These different approaches to understanding intelligence have, by and large, developed in parallel but non-interacting, streams during the past few decades. Significantly, each of these streams has led to significant scientific progress.

These developments have reached the point where we can now beneficially integrate into a single hybrid system several different types of approach to solve challenging scientific and technological problems. Hybrid intelligent systems have become popular due to their ability to handle complex real-world problems, notably problems that involve imprecision, uncertainty and vagueness, high-dimensionality, and the need to reconcile both analog and symbolic computation. A rapidly growing number of investigators have been developing hybrid systems with gratifying success, laying the groundwork for IJIHS to provide a new medium whereby to promote such discoveries in a visible way. The journal plans to become a central forum for exhibiting the widest possible range of new research on hybrid and integrated intelligent systems, including both their theoretical and methodological aspects, and the applications of such systems to real-world problems from science, technology, business, or commerce.

November 20th, 2003

Prof. Stephen Grossberg

Honorary Editor