UNIVERSITÄT INNSBRUCK
Institut für Mechanik
Univ.-Prof. Dr.-Ing.habil. G.I. Schuëller, Ph. D.
e-mail: G.I.Schueller@uibk.ac.at

Technikerstrasse 13, A-6020 Innsbruck
Tel.: +43 512 507 6841
Fax: +43 512 507 2905
e-mail: Mechanik@uibk.ac.at
http://mechanik.uibk.ac.at/

Innsbruck, 28. März 2006
GIS/ss

GASTVORTRAG

Prof. E. Zio
Politechnic of Milan, Italien

Thema: Genetic Algorithms and their Application to System Reliability and Fault Diagnostics

Zeit: Donnerstag, 6. April 2005, 16:00 Uhr **s.t.**

Ort: Baufakultät, Technikerstrasse 13, Hörsaal B619 (6. Stock)

Kurzfassung

Genetic algorithms (GAs) are powerful search and optimization algorithms inspired on the biological laws of genetics. The main features of these algorithms are that the search is conducted i) using a population of multiple solution points or candidates, ii) using operations inspired by the evolution of species, such as breeding and genetic mutation, iii) based on probabilistic operations, iv) using only information on the objective or search function and not on its derivatives. In this presentation, the basics of GAs will be reviewed and examples of application will be provided with respect to the problem of optimizing the redundancy allocation, maintenance and fault diagnostic strategies of complex industrial systems and components.

Über den Vortragenden

Prof. Zio (PhD, in nuclear engng., MIT, 1998) is a full professor of Nuclear Engineering at the Politecnico di Milano. He served as Vice-Chairm. ESRA ('0-'05) and Editor-in-Chief of the J. Risk, Decision and Policy ('03/'04). Research interests: reliability, safety and security of complex systems, particularly by Monte Carlo simulation methods, neural networks, fuzzy logic, genetic algorithms for system monitoring, fault diagnosis and optimal design. Publ.: 1 book, 90 Journ. Publ.

Gäste sind herzlich willkommen!