

**Meeting:** 1001, Evanston, Illinois, SS 9A, Special Session on Solving Polynomial Systems

1001-14-221      **Ilias S. Kotsireas\*** (ikotsire@wlu.ca), Department of Computing, Wilfrid Laurier University,  
75 University Avenue West, Waterloo, ON N2L 3C5, Canada. *Genetic Algorithms for  
zero-dimensional ideals.*

Genetic Algorithms are an algorithmic paradigm which mimics biological processes that occur in the theory of evolution. Genetic Algorithms have a very wide range of applicability and they are a powerful alternative to conventional search algorithms. The basic principles and the mechanics of Genetic Algorithms will be briefly reviewed and illustrated with a particular application in finding exact solutions to big polynomial systems of equations (corresponding to zero-dimensional ideals) that are not easily solvable (to the best of our knowledge) with any other general-purpose method. (Received August 26, 2004)