HONORARY DOCTORATE

Computer expert awarded an honorary doctorate

The University of Pretoria awarded an honorary doctorate in Computer Science to Italian researcher Prof Marco Dorigo in April 2015. He has been recognised for his study of the complex social behaviour of ants and application of his findings to computer science in order to solve difficult combinatorial optimisation problems.

His so-called ant colony optimisation algorithm is capable of solving computational problems by finding the shortest paths through graphs in the same way that ants, using only pheromones to navigate, can find the shortest path from their nest to a food source. He described the conception of the algorithm as follows: "I imagined a bunch of simple artificial agents imitating real ant behaviour to solve difficult mathematical problems. Although it sounded like a crazy idea then, today it is accepted even by professional theoretical computer scientists and software engineers."

Prof Dorigo is Research Director of the Belgian National Fund for Scientific Research (NFSR) and Co-Director of Intstitut de Recherches Interdisciplinaries et de Developpements en Intelligence Artificielle (IRIDIA), the artificial intelligence laboratory of the Université Libre de Bruxelles. His current research interests include swarm intelligence, swarm robotics and metaheuristics for discrete optimisation.

He is a fellow of the Institute of Electrical and Electronics Engineers (IEEE), the Association for the Advancement of Artificial Intelligence (AAAI) and the European Coordinating Committee for Artificial Intelligence (ECCAI). He has received many international prizes in recognition of his scientific contributions.

Prof Dorigo encourages computer science graduates to consider research and science as possible alternatives to a corporate career.

He says that to be a successful researcher or scientist, one needs to be creative, self-confident and passionate about one's work. He encouraged graduates to make a difference in the lives of those who are less privileged. "We should never forget that we are among the lucky ones and that we should be at the service of [those who are] less fortunate. Do not forget to spend part of your energy building a better world with fewer inequalities and less injustice," he concluded.