Evolutionary Optimization

The FLAIRS special track on Evolutionary Optimization focuses on the application of evolutionary algorithms (EAs) to complex optimization problems. EAs are global search methods that simulate some of the processes taking place in natural evolution. They maintain a population of potential solutions to a given problem that are transformed, over successive generations, via processes of selection and genetic modification. Even though simplistic from a biologist's viewpoint, these algorithms are robust enough to provide competent adaptive search mechanisms. There is a large class of optimization problems for which no reasonably fast algorithms have been developed. Many of them are real-world situations, where good solutions are essential. EAs are a natural choice to adopt in this scenario. They are a powerful and robust search technique, being able to identify high quality solutions within a reasonable time. In the past few years, EAs have been successfully applied to a large number of optimization problems. Some of the most relevant examples belong to the class of combinatorial optimization problems such as scheduling, packing, or routing, as well as many other situations appearing in industrial, economic, and scientific domains. Given the growing interest in the application of EAs to this class of problems, this special track aims at promoting a widespread discussion about this topic.