

VORTRAG

**Analysis of Representation and Operators:
Towards the Design of more Efficient Biological Inspired
Algorithms**

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Abstract :

A fundamental issue in the development of evolutionary algorithms is the representation of a candidate solution. The success of this type of approaches relies on choosing a representation that allows the algorithm to be efficient and accurate. Additionally, it is important to understand its role and the interplay with heuristics. Within combinatorial optimization problems, this becomes even more relevant since they possess a strong practical application in many diverse fields. The analysis of evolutionary components, mainly representation and genetic operators, plays a crucial role in the design of biological inspired algorithms and is a key issue to improve search performance. Understanding their effects when solving a problem is important so that new and more efficient techniques can be developed. This will lead to the ultimate case when the designer is the evolutionary algorithm itself, bringing self-organization and evolution into a common problem solving framework.