Evolution and Computation

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—————— **Abstract** ——————

Over the last two centuries there have been tremendous scientific and mathematical advances in our understanding of evolution, life and its mysteries. Recently, the relatively new and powerful tool of computation has joined forces to develop this understanding further: the underlying tenet is that several natural processes, including evolution itself, can be viewed as computing or optimizing something – *evolution is computation*. Furthermore, as in computation, efficiency is an important consideration in evolution. As many of these evolutionary processes are described using the language of dynamical systems, this entails understanding how quickly such systems can attain their equilibria. This endeavor not only has the potential to give us fundamental insights into life, it holds the promise that we will unveil new computational models and techniques. In this talk we will see some vignettes of this interplay between evolution and computation.

Keywords and phrases Evolution, Dynamical Systems, Algorithms, Complexity

Category Invited Talk

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