Seminar/Talk

Universality everywhere: from spin models to automata

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Why is it so easy to generate complexity? Because essentially every non-trivial system is universal, that is, capable of exploring all complexity in its domain. I will argue that there is universality eveyrwhere and will discuss this concept of universality in two domains: for spin models and for automata (or, equivalently, formal languages). I will explain the first step toward linking them rigorously, by which we describe spin hamiltonians as automata. The latter leads to a new complexity measure of hamiltonians, with a different threshold between easy and hard than the computational complexity of the ground state energy problem.

Thursday, January 16, 2020 03:00pm - 04:15pm

Mondi Seminar Room 2, Central Building

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