

abstract

MEMBERS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

All physical systems in equilibrium obey the laws of thermodynamics. In other words, whatever the precise nature of the interaction between the atoms and molecules at the microscopic level, at the macroscopic level, physical systems exhibit universal behavior in the sense that they are all governed by the same laws and formulae of thermodynamics.

The speaker will review some recent history of universality ideas in physics starting with Wigner's model for the scattering of neutrons off large nuclei and show how these ideas have led mathematicians to investigate universal behavior for a variety of mathematical systems.

This is true not only for systems which have a physical origin, but also for systems which arise in a purely mathematical context such as the Riemann hypothesis, and a version of the card game solitaire called patience sorting.