

# Horizons Seminars 2019

30 Maggio, 17.45  
Aula A

Edificio F - Dip. di Fisica

Via Valerio 2, 34134, Trieste (TS)

17.45

SEMINAR

Dissipative adaptation:  
Thermodynamics and  
the origin of life

18.15

SEMINAR

Why is Universe  
made of matter?  
Matter - Antimatter  
asimmetry problem  
in a nutshell

18.45

DEBATE

Introductory 30-minutes seminars.  
By students for students, exploring  
current interests of modern physics.

by Mattia Moroder and Gabriele Degano  
Università di Trieste, Fisica, I magistrale

The “dissipative adaptation” theory describes the high level of organization of biological structures as a consequence of a spontaneous optimization of the relation between work supplied by external energy sources and heat dissipated in the environment. This phenomenon is observed in the population dynamics of “self-replicating” structures and may have some conceptual implications on evolution theories.

by Sebastiano Raiz and Pietro Smaniotto  
Università di Trieste, Fisica, I magistrale

In the early Universe, particles and antiparticles had the same number. Then, through a process called baryogenesis, a small asymmetry in Nature has led to the well known modern Universe, almost entirely made of matter. At the present day, why and how this has happened is one of the great unsolved problems in physics, which can lead to new physics beyond the Standard Model.