



ICTP | International Centre for Theoretical Physics
SAIFR | South American Institute for Fundamental Research

Campus of IFT-UNESP – São Paulo, Brazil

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**SCHOOL ON
 BIOLOGICAL PHYSICS
 ACROSS SCALES:
 PATTERN FORMATION**



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Systems as different as the cellular cytoskeleton, microbial communities in soil, and savanna landscapes have in common the emergence of patterns: random yet organized spatial structures that form in an otherwise translationally invariant space. These structures emerge due to the local, individual-level interactions of agents – proteins, cells, trees – that, on a larger scale, result in nonlinear dynamics for the density field. Crucial phenomena hinge on the formation of these patterns: mitosis, embryo development, bacterial population survival, ecosystem’s robustness to aridification.

While broadly different in scale, these systems can be theoretically described by similar statistical physics frameworks, an approach pioneered by Alan Turing in 1952 and still the focus of very active development. The goal of this school is to bring together experts on these different systems using mathematical modeling, experimental approaches and modern data-driven techniques to engage in an interdisciplinary dialogue about pattern formation in living systems.

There is no registration fee and limited funds are available for local expenses.

Application deadline: September 8, 2024

Online application and more information:

ictp-saifr.org/sbpspf2024



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