

Evolutionary dynamics in cancer growth and therapies: a multidisciplinary approach

Scientific area: Scientific Computing

Structured populations and multi-population models are mathematical tools useful for capturing evolutionary dynamics affected by the spatial and epigenetic characterization of the tumor mass. In particular, in the field of oncology therapy, the synergy between mathematical models and empirical studies represents a promising resource, giving the possibility to suggest and reveal the underlying dynamics of phenomena which are not exhaustively explainable with current theoretical knowledge and observable processes.

In this mini-symposium, we want to give an overview of the current research topics in the direction of a personalized medicine that keeps into account patient-specific data in order to better predict cancer growth and optimize therapy outcome. For the completeness of the representation of the state of the art, the minisymposium consists of a gender-balanced group of young speakers from a wide range of countries and conducting their research in different scientific backgrounds.

Talks include contributions to the biomedical characterization of the problem and to the development and numerical simulation of mathematical models for the evolutionary dynamics involved. The analytical results are presented in a representative and predictive perspective of medical and clinical data.

Organizers:

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