Modeling biological systems using dynamical survival models. Lessons from the recent pandemic.

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In the talk I will briefly outline the basic idea of the so-called dynamical survival analysis (DSA) which is a framework for using survival analysis methods to build approximate models of individual level ecological dynamics based on mean-field approximations. I will show the DSA connection with the classical agent based models for epidemics as well as certain frailty models that have been successfully applied to analyzing the recent COVID-19 epidemic.