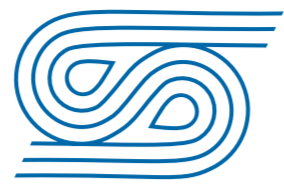




MATHEMATICS  
OF LIFE

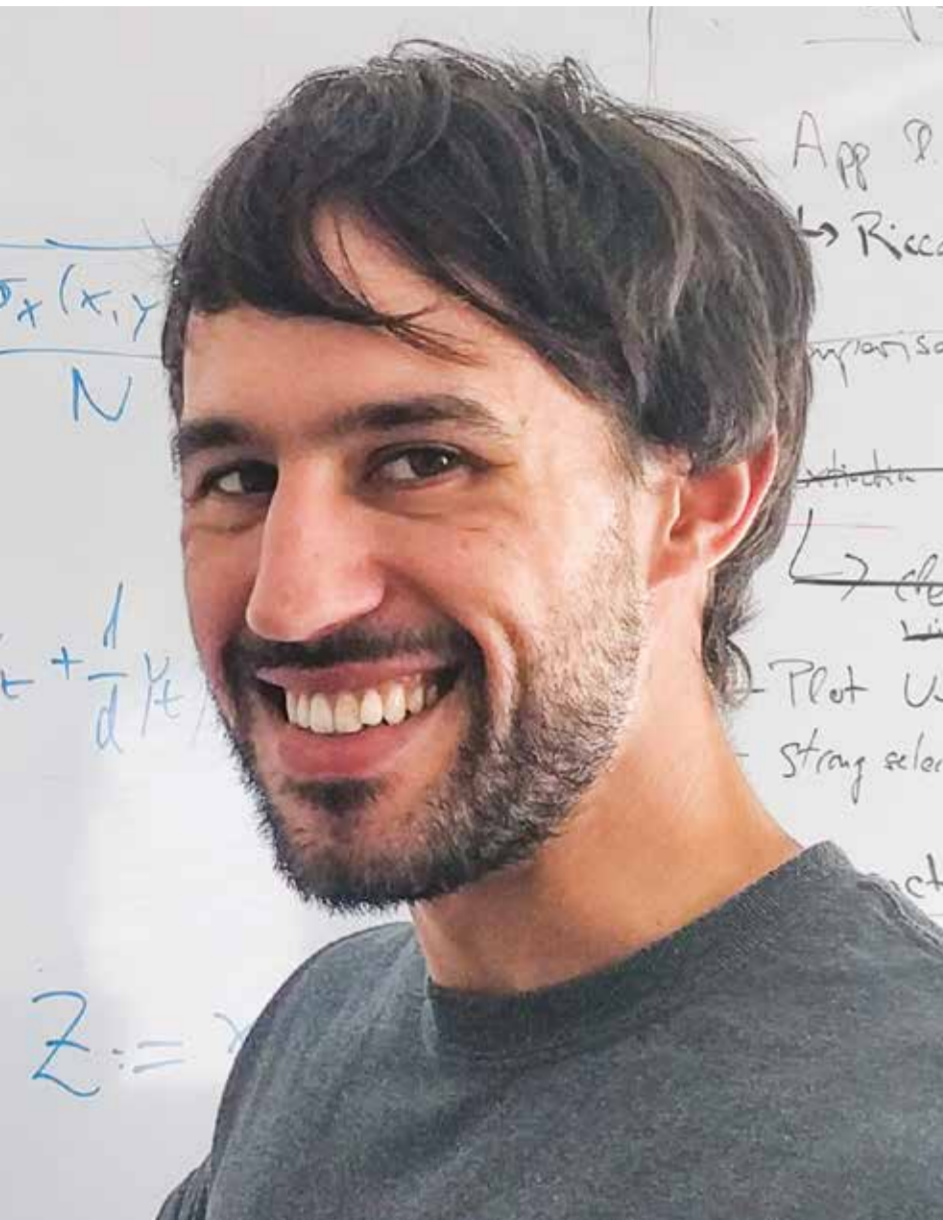


HGS  
MathComp

IWR  
Interdisciplinary Center  
for Scientific Computing



UNIVERSITÄT  
HEIDELBERG  
ZUKUNFT  
SEIT 1386



# Fixation Probabilities under Demographic Fluctuations

Talk • Special Interest Group “Mathematics of Life”

**Dr. Peter Czappon**  
**Max Planck Institute for Evolutionary Biology**

We consider a population consisting of two species. Each type gives birth and dies independently of the other one. Population size is regulated by intra- and interspecific competition events letting the model follow generalized Lotka-Volterra dynamics. A quantity of interest in finite populations is the probability of fixation/extinction of one type. While it has been studied broadly in the context of fixed or deterministically varying population sizes we approximate the fixation probability in populations with stochastically fluctuating sizes. In order to do so we will take the limit of weak selection, i.e. the „fitness“ benefit of one type over the other is very small.

“Mathematics of Life” is a special interest group organized by doctoral students of the HGS MathComp.



**November 9, 2017 • 16:00**

Bioquant • SR 043

Im Neuenheimer Feld 267 • 69120 Heidelberg

[www.mathcomp.uni-heidelberg.de/programs/mathematics-of-life/our-events](http://www.mathcomp.uni-heidelberg.de/programs/mathematics-of-life/our-events)