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	Titolo	An Operator Semigroup in Mathematical Genetics / / by Adam Bobrowski, Marek Kimmel
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2015
	ISBN	3-642-35958-2
	Edizione	[1st ed. 2015.]
	Descrizione fisica	1 online resource (92 p.)
	Collana	SpringerBriefs in Mathematical Methods, , 2365-0826
	Disciplina	572.801515724
	Soggetti	Biomathematics
		Operator theory
		Biomedical engineering
		Probabilities
		Animal genetics
		Genetics and Population Dynamics
		Operator Theory
		Biomedical Engineering and Bioengineering
		Probability Theory and Stochastic Processes
		Animal Genetics and Genomics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
	Nota di contenuto	1 Introduction -- 2 Genetic background -- 3 Motivating example -- 4 Mathematical tools -- 5 Master Equation -- 6 Epilogue.
	Sommario/riassunto	This authored monograph presents a mathematical description of the time evolution of neutral genomic regions in terms of the differential Lyapunov equation. The qualitative behavior of its solutions, with respect to different mutation models and demographic patterns, can be characterized using operator semi group theory. Mutation and drift are two of the main genetic forces, which act on genes of individuals in populations. Their effects are influenced by population dynamics. This book covers the application to two mutation models: single step mutation for microsatellite loci and single-base substitutions. The effects of demographic change to the asymptotic of the distribution are

also covered. The target audience primarily covers researchers and experts in the field but the book may also be beneficial for graduate students.