1.	Record Nr.	UNINA9910299957403321
	Titolo	Interactions Between Computational Intelligence and Mathematics / / edited by László T. Kóczy, Jesús Medina
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
	ISBN	3-319-74681-2
	Edizione	[1st ed. 2018.]
	Descrizione fisica	1 online resource (IX, 119 p. 38 illus., 19 illus. in color.)
	Collana	Studies in Computational Intelligence, , 1860-949X ; ; 758
	Disciplina	006.3
	Soggetti	Computational intelligence Artificial intelligence Computational Intelligence Artificial Intelligence
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Page Rank vs. Katz: Is the centrality algorithm choice relevant to measure user influence in Twitter? -- Weighted means based filters for SAR Imagery -- On Combination of Wavelet Transformation and Stabilized KH Interpolation for Fuzzy Inferences Based on High Dimensional Sampled Functions -- Abductive Reasoning on Molecular Interaction Maps -- Efficient unfolding of fuzzy connectives for multi-adjoint logic programs -- On Generalizations of Concept Lattices -- Generating fuzzy attribute rules via Fuzzy Formal Concept Analysis.
	Sommario/riassunto	This book presents recent research in the field of interaction between computational intelligence and mathematics, ranging from theory to applications. Computational intelligence, or soft computing consists of various bio-inspired methods, especially fuzzy systems, artificial neural networks, evolutionary and memetic algorithms. These research areas were initiated by professionals in various applied fields, such as engineers, economists, and financial and medical experts. Although computational intelligence offered solutions (at least quasi-optimal solutions) for problems with high complexity, vague and undeterministic features, initially little attention was paid to the mathematical models and analysis of the methods successfully applied. A typical example is the extremely successful Mamdani-algorithm, and

its modifications and extensions, applied since the mid-1970s, where the first analysis of the simplest cases, showing why this algorithm was so efficient and stable, was not given until the early 1990s. Since the mid-2000s, the authors have organized international conferences annually to focus on the mathematical methodological issues in connection with computational intelligence approaches. These conferences have attracted a large number of submissions with a wide scope of topics and quality. The editors selected several high-quality papers and approached the authors to submit an essentially extended and improved book chapter based on the lectures. This volume is the first contributed book on the subject.