Record Nr. UNINA9910438059603321 EVOLVE - a bridge between probability, set oriented numerics, and **Titolo** evolutionary computation IV: international conference held at Leiden University, July 10-13, 2013 / / Michael Emmerich ... [et al.] Cham, Germany, : Springer, c2013 Pubbl/distr/stampa **ISBN** 3-319-01128-6 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (xiii, 324 pages): illustrations (some color) Advances in Intelligent Systems and Computing;; Volume 227 Collana Altri autori (Persone) **EmmerichMichael** Disciplina 005.432 Soggetti **Evolutionary computation** Combinatorial optimization Engineering Artificial intelligence Computational intelligence Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali "ISSN: 2194-5357." Includes bibliographical references at the end of each chapters and Nota di bibliografia index. Nota di contenuto Machine Learning and Probabilistic Models -- Complex Networks and Evolutionary Computation -- Diversity Oriented Optimization -- Setoriented Numerics and Evolutionary Multiobjective Optimization --Genetic Programming -- Robust Optimization. Numerical and computational methods are nowadays used in a wide Sommario/riassunto range of contexts in complex systems research, biology, physics, and engineering. Over the last decades different methodological schools have emerged with emphasis on different aspects of computation, such as nature-inspired algorithms, set oriented numerics, probabilistic systems and Monte Carlo methods. Due to the use of different terminologies and emphasis on different aspects of algorithmic performance there is a strong need for a more integrated view and opportunities for cross-fertilization across particular disciplines. These proceedings feature 20 original publications from distinguished authors in the cross-section of computational sciences, such as machine learning algorithms and probabilistic models, complex

networks and fitness landscape analysis, set oriented numerics and cell

mapping, evolutionary multiobjective optimization, diversity-oriented search, and the foundations of genetic programming algorithms. By presenting cutting edge results with a strong focus on foundations and integration aspects this work presents a stepping stone towards efficient, reliable, and well-analyzed methods for complex systems management and analysis.