Record Nr. UNISA996466470603316 Graph-Theoretic Concepts in Computer Science [[electronic resource]]: Titolo 43rd International Workshop, WG 2017, Eindhoven, The Netherlands, June 21-23, 2017, Revised Selected Papers / / edited by Hans L. Bodlaender, Gerhard J. Woeginger Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2017 **ISBN** 3-319-68705-0 Edizione [1st ed. 2017.] Descrizione fisica 1 online resource (XIII, 440 p. 87 illus.) Theoretical Computer Science and General Issues, , 2512-2029;; Collana 10520 Disciplina 511.5 Computer science—Mathematics Soggetti Discrete mathematics **Algorithms** Artificial intelligence—Data processing Computer graphics Geometry Discrete Mathematics in Computer Science Data Science Computer Graphics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Intro -- Preface -- Organization -- Contents -- Counting Graphs and Nota di contenuto Null Models of Complex Networks: Configuration Model and Extensions -- 1 Complex Networks and Random Graphs: A Motivation -- 2 Random Graphs and Real-World Networks -- 3 Random Graph Models as Null Models -- 3.1 Null Model 1: Uniform Random Graph -- 3.2 Null

Null Models of Complex Networks: Configuration Model and Extensions -- 1 Complex Networks and Random Graphs: A Motivation -- 2 Random Graphs and Real-World Networks -- 3 Random Graph Models as Null Models -- 3.1 Null Model 1: Uniform Random Graph -- 3.2 Null Model 2: Erdos-Renyi Random Graph with Fixed Number of Edges -- 3.3 Null Model 3: Fixing All Degrees and the Configuration Model -- 3.4 Small-World Properties of the Configuration Model -- 4 Extensions: Other Models -- References -- On Bubble Generators in Directed Graphs -- 1 Introduction -- 2 Preliminaries -- 3 The Bubble Generator -- 4 A Polynomial-Time Algorithm for Decomposing a Bubble -- 5

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Sommario/riassunto

This book constitutes the revised selected papers of the 43rd International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2017, held in Eindhoven, The Netherlands, in June 2017. The 31 full papers presented in this volume were carefully reviewed and selected from 71 submissions. They cover a wide range of areas, aiming at connecting theory and applications by demonstrating how graph-theoretic concepts can be applied in various areas of computer science. Another focus is on presenting recent results and on identifying and exploring promising directions of future research.