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| Soggetti                | Computer science—Mathematics<br>Discrete mathematics<br>Algorithms<br>Geometry<br>Computer networks<br>Artificial intelligence—Data processing<br>Discrete Mathematics in Computer Science<br>Computer Communication Networks<br>Data Science  |
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| Livello bibliografico   | Monografia   |
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| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Invited Talks -- Algorithmic Barriers from Phase Transitions in Graphs -- Algorithmic Graph Minors and Bidimensionality -- Regular Talks -- Complexity Results for the Spanning Tree Congestion Problem -- max-cut and Containment Relations in Graphs -- The Longest Path Problem is Polynomial on Cocomparability Graphs -- Colorings with Few Colors: Counting, Enumeration and Combinatorial Bounds -- On Stable Matchings and Flows -- Narrowing Down the Gap on the Complexity of Coloring $P_k$ -Free Graphs -- Computing the Cutwidth of Bipartite Permutation Graphs in Linear Time -- Solving Capacitated Dominating Set by Using Covering by Subsets and Maximum Matching -- Efficient Algorithms for Eulerian Extension -- On the Small Cycle Transversal of |

Planar Graphs -- Milling a Graph with Turn Costs: A Parameterized Complexity Perspective -- Graphs that Admit Right Angle Crossing Drawings -- Kernelization Hardness of Connectivity Problems in  $d$ -Degenerate Graphs -- On the Boolean-Width of a Graph: Structure and Applications -- Generalized Graph Clustering: Recognizing  $(p,q)$ -Cluster Graphs -- Colouring Vertices of Triangle-Free Graphs -- A Quartic Kernel for Pathwidth-One Vertex Deletion -- Network Exploration by Silent and Oblivious Robots -- Uniform Sampling of Digraphs with a Fixed Degree Sequence -- Measuring Indifference: Unit Interval Vertex Deletion -- Parameterized Complexity of the Arc-Preserving Subsequence Problem -- From Path Graphs to Directed Path Graphs -- Connections between Theta-Graphs, Delaunay Triangulations, and Orthogonal Surfaces -- Efficient Broadcasting in Random Power Law Networks -- Graphs with Large Obstacle Numbers -- The Complexity of Vertex Coloring Problems in Uniform Hypergraphs with High Degree -- The Number of Bits Needed to Represent a Unit Disk Graph -- Lattices and Maximum Flow Algorithms in Planar Graphs.

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### Sommario/riassunto

The 36th International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2010) took place in Zar´os, Crete, Greece, June 28–30, 2010. About 60 mathematicians and computer scientists from all over the world (Australia, Canada, Czech Republic, France, Germany, Greece, Hungary, Israel, Japan, The Netherlands, Norway, Poland, Switzerland, the UK, and the USA) attended the conference. WG has a long tradition. Since 1975, WG has taken place 21 times in Germany, four times in The Netherlands, twice in Austria, twice in France and once in the Czech Republic, Greece, Italy, Norway, Slovakia, Switzerland, and the UK. WG aims at merging theory and practice by demonstrating how concepts from graph theory can be applied to various areas in computer science, or by extracting new graph theoretic problems from applications. The goal is to present emerging research results and to identify and explore directions of future research. The conference is well-balanced with respect to established researchers and young scientists. There were 94 submissions, two of which were withdrawn before entering the review process. Each submission was carefully reviewed by at least 3, and on average 4.5, members of the Program Committee. The Committee accepted 28 papers, which makes an acceptance ratio of around 30%. I should stress that, due to the high competition and the limited schedule, there were papers that were not accepted while they deserved to be.

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