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# Graph-Theoretic Concepts in Computer Science

19th International Workshop, WG '93
Utrecht, The Netherlands, June 16-18, 1993
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# Preface

The 19th International Workshop on Graph-Theoretic Concepts in Computer Science (WG'93) was held near Utrecht (the Netherlands), in the conference facilities of the 'National Sports Centre Papendal' of the Dutch National Sports Federation. The workshop featured sessions on structural graph theory, dynamic graph algorithms, 'hard' problems on special classes of graphs, structure-oriented graph algorithms, circuit and net theory, interconnection networks, distributed algorithms on graphs, and graph embedding and layout.

The WG workshops are an annual event for all researchers interested in the study and application of graph-theoretic concepts. The successful tradition of the workshops is well documented in the series Lecture Notes in Computer Science, as evidenced by the following overview of the past five WG's:

| *WG* | *Year* | *Organizer* | *Organizing Site* | *Proceedings* |
|---|---|---|---|---|
| 15 | 1989 | M. Nagl | Aachen | LNCS Vol 411 |
| 16 | 1990 | R.H. Möhring | Berlin | LNCS Vol 484 |
| 17 | 1991 | G. Schmidt and R. Berghammer | München | LNCS Vol 570 |
| 18 | 1992 | E.W. Mayr | Frankfurt | LNCS Vol 657 |
| 19 | 1993 | J. van Leeuwen | Utrecht | this volume |

A complete listing of all prior WG workshops and their proceedings was included in the proceedings of WG'89 (page 374). The program committee for WG'93 consisted of:

| | | | |
|---|---|---|---|
| Ernst W. Mayr | (München) | Paul Spirakis | (Patras) |
| Rolf H. Möhring | (Berlin) | Roberto Tamassia | (Providence) |
| Manfred Nagl | (Aachen) | Gottfried Tinhofer | (München) |
| Hartmut Noltemeier | (Würzburg) | Jan van Leeuwen | (Utrecht, chairman) |
| Gunther Schmidt | (München) | Jiri Wiedermann | (Prague) |

In response to the Call for Papers for WG'93 the program committee received 92 submissions, indicating a strong and ever growing interest for the WG workshops. In view of the very good overall quality of the submissions and after a careful refereeing process, the committee decided to accept as many as 35 papers into the scientific program of the workshop. The selection reflects many of the current directions of research in the

area of graph-based algorithms, both within graph-theory and in more applied contexts like circuits and networks. The larger number of selected papers could be accommodated by setting varying lengths for the presentations, and allowed for an optimal exchange of information on current research.

The present volume contains all papers presented in the workshop. All papers have been carefully revised based on the comments and suggestions which were received by the authors during the workshop. The material thus represents an up-to-date account of the work in the various directions. We hope that the papers in this volume stimulate further research in the area of applied graph theory and its many ramifications from algorithm design to software engineering.

WG'93 enjoyed a very international and stimulating participation. We are grateful to the 'National Sports Centre Papendal' of the Dutch National Sports Federation for allowing the use of its excellent conference facilities for the workshop, to the Department of Computer Science of Utrecht University for supporting the organization of the WG'93 workshop, and to Margje Punt and Goos Kant for invaluable assistance in all matters related to the workshop.

Utrecht, February 1994 Jan van Leeuwen

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