

Foreword

The International Workshop on Optimal Network Topologies (IWONT) provides researchers interested in theoretical problems arising from the design and analysis of interconnections networks with the opportunity to meet and discuss on different topics related to this general subject. The themes covered by the workshop came mainly from Graph Theory and include the degree-diameter problem and the associated design of large graphs and digraphs; spectral techniques; connectivity and vulnerability; symmetry and regularity in graphs; Cayley graphs; factors and graph decompositions; random graphs and probabilistic methods; permutation networks, and routing and protocols in communication networks.

The previous two IWONT meetings took place in 2005 at the University of Ballarat, Australia, organized by Prof. Mirka Miller, and in 2007 at the West-Bohemian University in Pilsen, Czech Republic, chaired by Prof. Zdeněk Ryjáček. This third edition is held at the Universitat Politècnica de Catalunya, Barcelona, Spain, and we particularly wish to thank the previous organizers for this opportunity.

We are very proud to dedicate IWONT 2010 to Prof. Miquel Àngel Fiol on the occasion of his 60th birthday. Together with Prof. José Luís A. Yebra, he founded in the early 80's the research group CombGraph, which is hosting this IWONT edition. He is acknowledged as one of the founders of the Graph Theory community in Spain and his intense activity in building a strong research group in Barcelona is very much appreciated by his numerous students, colleagues and friends. Miquel Àngel Fiol has, since then, not only been a leading Spanish graph theorist but also received world-wide recognition. His most influential contributions include constructions of snarks, the use of the line digraph technique to deal with the degree-diameter problem in digraphs, the study of maximally connected and superconnected graphs and digraphs, the Spectral Excess Theorem, as well as many other results concerning distance-regularity in graphs. He has published more than one hundred papers in international journals and several book chapters, many of which have been profusely cited. We invite you to visit the webpage http://www-ma4.upc.edu/iwont2010/Professor_Fiol.html for further details.

This book collects the extended abstracts of the contributions that will be presented at IWONT 2010. We are indebted to all authors for their scientific work and for their efforts in preparing the manuscripts. The Proceedings of the Workshop, containing the full-length papers and some additional contributions dedicated to Prof. Miquel Àngel Fiol, will be edited after the meeting.

On behalf of all members of the Programme and Organizing Committees we would like to express gratitude to the Spanish Ministerio de Ciencia e Innovación; the Universitat Politècnica de Catalunya, and the Facultat de Matemàtiques i Estadística for sponsoring IWONT 2010, and to the members of the CombGraph group for running this workshop.

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Editors, IWON 2010 Organization