Editorial

Preface: The Second Malta Conference in Graph Theory and Combinatorics

The Second Malta Conference in Graph Theory and Combinatorics was held in June 2017. This conference commemorated the 75th birthday of **Professor Stanley Fiorini**, who had introduced graph theory and combinatorics at the University of Malta. Many may wonder when the previous Malta Conference was held. The First Malta Conference on Graphs and Combinatorics was convened during the period 28 May to 2 June, 1990, at the Suncrest Hotel, in Qawra, St Paul's Bay. It differed from a number of similar conferences held in the central Mediterranean region at that time in that it consisted of three types of talks. László Lovász and Carsten Thomassen delivered two instructional courses of five one-hour lectures each; the former was *A Survey of Independent Sets in Graphs* and the latter was *Embeddings of Graphs*. There were also four invited speakers, L.W. Beineke, N.L. Biggs, R. Graham and D.J.A. Welsh, each of whom gave a one-hour lecture. The third type were the twenty-minute contributed talks running in two parallel sessions and given by 39 speakers. Volume 124 (1994) of the journal *Discrete Mathematics* was a special edition dedicated to this conference; it was edited by Stanley Fiorini and Josef Lauri, and it consisted of 22 selected papers.
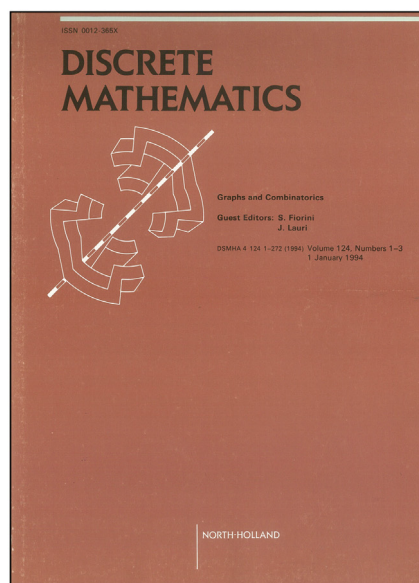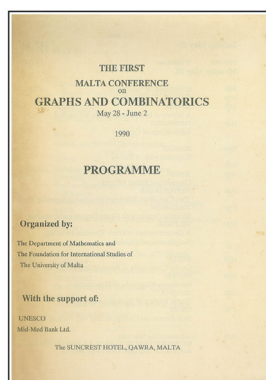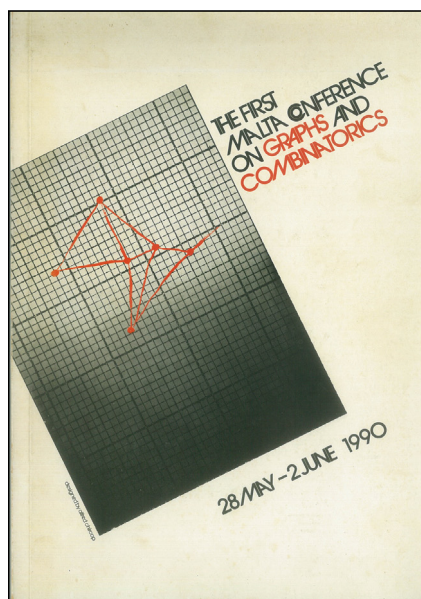
Twenty-seven years later the second such conference was organized on the island of Malta, also in Qawra, St Paul's Bay. Although the time lapse is considerable, the purpose of this conference remained the same as that of the first one: to share and discuss a whole spectrum of topics within the interrelated fields of graph theory and combinatorics. This conference has brought together almost 200 researchers and mathematicians from 46 different countries spread across all the continents, including 14 invited speakers and a special guest of honor, Robin Wilson, Stanley's Ph.D. supervisor. We have received 150 abstracts for twenty-minute contributed talks which ran in four parallel sessions and covered a large variety of areas of graph theory and combinatorics. Additionally, mathematical collaborations were also forged as we toured the islands of Malta and Gozo in our free time.

The conference was made possible by the support of the University of Malta and through the financial support we received from our sponsors, whom we thank wholeheartedly. They are the Malta Ministry for Finance, Conventions Malta, the Malta Ministry for Education and Employment and Heritage Malta. We like to thank all those who have helped in some way or another to make this conference possible. Further words of thanks go to all the participants who contributed to the vibrant discussions on the attractive areas of graph theory, combinatorics and their applications during the talks. Finally, our gratitude goes to Professor Fiorini, without whose invaluable contribution we would not have such a strong unit on graph theory and combinatorics in the Department of Mathematics at the University of Malta.

This special issue of *Discrete Applied Mathematics*, is associated with the Second Malta Conference in Graph Theory and Combinatorics held in June 2017. It contains full-length papers and has strong contributions in algebraic and topological graph theory, extremal combinatorics and computational complexity. It attracted submissions on coloring, planarity, connectivity and distance in graphs and digraphs, matchings, domination, independence, Hamiltonian cycles, polynomials, combinatorial and graphic sequences, permutation groups, enumerative combinatorics, finite geometries, designs, matrix algebra, pebbling and rubbling.

Short Biography of Stanley Fiorini

Stanley Fiorini was born in November 1941, so he was mid-way between his 75th and 76th birthdays at the time of the conference. In 1963, he started reading philosophy at Heythrop College when it was still near Oxford and he graduated in 1966. Then he read mathematics at Oxford, starting in 1968 and graduating in 1971. It was here that he first met Robin Wilson who encouraged him to do a Ph.D. in graph theory under his supervision after graduating from Oxford. So, in 1972 he registered as the first Ph.D. student of the Open University, and he submitted his thesis *The Chromatic Index of Simple Graphs* in 1975. That year, he joined the mathematics department at the University of Malta, and that was the first time that graph theory was introduced in our courses. In 1976, Josef Lauri obtained the M.Sc. degree, the first student to do an M.Sc. with a graph theory paper at the University of Malta. The paper was set by Stanley Fiorini. In 1977, Stanley and Robin published with Pitman their book *Edge-Colorings of Graphs*. Stanley was again at the Open University, from 1979 to 1981, this time as a Staff Tutor at the Bristol Regional Office. Josef Lauri joined him there as a Ph.D. student with the Open University under his supervision. While in Bristol, Stanley also contributed to the writing of the course *TM361: Graphs, Designs and Networks*, mainly in the writing of Units 4 and 6.

In 1981, Stanley came back to the University of Malta, where he remained until his retirement in 2006. This was the time when graph theory started to flourish at the University of Malta. In 1990, the First Malta Conference on Graph Theory and Combinatorics was organized. Stanley started both Irene Sciriha and John Baptist Gauci on their first steps in research in graph theory, and they went on to do their Ph.D. with Anthony Hilton (who therefore deserves some credit for paternity of graph theory in Malta). Stanley also encouraged Peter Borg to do his Ph.D. with Fred Holroyd, also at the Open University. We seem to have an affinity with the Open University. Another colleague in our department, Anton Buhagiar, also obtained his Ph.D. there but in statistical mechanics under Oliver Penrose. Stanley taught Anton mathematics when he was at secondary school; so there is a link somewhere there too. Stanley was also head of the Department of Mathematics from 1994 to 2002. Graph theory is now one of the main streams our B.Sc. Honours students can choose as a special area in the final two years of study. We have had numerous M.Sc. and five Ph.D. students specializing in graph theory.

We cannot fail to mention that Stanley Fiorini is one of Malta's foremost Medieval historians, in which area he has published 80 papers and 24 books. In November 2006, the University of Malta honored this polymath by appointing him Senior Fellow "in view of his contribution to the University and his ongoing research and scholarship on Maltese History". He is one of only three academics who have been bestowed this honor by the University of Malta.

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