



## GEMS 2009

This issue of *Ars Mathematica Contemporanea* offers a collection of papers presented at the Fifth Workshop “Graph Embeddings and Maps on Surfaces” (GEMS) which took place in Tále, Slovakia, from 28th June to 3rd July, 2009.

The history of the GEMS workshops started in 1994 when the editors of the present volume came up with the idea of organising a small conference that would bring together researchers interested in various aspects of graphs embedded in surfaces. The first GEMS workshop was held in Donovaly from 21st to 26th August, 1994, and was attended by 33 participants from 14 countries. The topics covered by the workshop included combinatorial and topological properties of embedded graphs, construction of graph embeddings in surfaces, symmetries of embedded graphs, regular maps and hypermaps, group actions on graphs and surfaces, convex polytopes, and others. The Donovaly workshop was followed by similar workshops in Banská Bystrica (1997), Bratislava (2001), Stará Lesná (2005), and Tále (2009). Starting from the second GEMS workshop, the conferences are held regularly every four years, and are organised by the leaders of Slovak topological graph theory school: Stanislav Jendrol’, Roman Nedela, Jozef Širáň, and Martin Škoviera.

Since the very outset, the workshops bring together leading experts and young researchers from all corners of the world, including Europe, the USA, Canada, Asia, Australia and New Zealand. The workshops have become very well known for their informal atmosphere – which offers space for discussion of research problems, supports exchange of information between both individual researchers and international research teams, and often leads to new ideas and discoveries.

This issue of *Ars Mathematica Contemporanea* presents a representative sample of the research reported at the most recent GEMS workshop, held in Tále in 2009. We believe that readers will find the selected papers interesting and inspirational for further research. We also hope that this issue will have its continuation in subsequent collections of papers, based on lectures delivered at GEMS workshops in 2013 and beyond.

Roman Nedela and Martin Škoviera  
Guest Editors