

Preface

We are delighted and honoured to write this introduction to the special volume of *Communications in Combinatorics and Optimization (CCO)* dedicated to Odile Favaron.



Ernie's first contact with Odile occurred in about 1980. Ernie and Andrew Thomason had submitted a manuscript to *Discrete Mathematics*. An editor suggested that they combine their paper with a similar one by Odile and Charles Payan, which they duly did. This resulted in their first joint publication. Some years later, Odile introduced herself to Ernie at a conference with the words: "I am Odile Favaron. We have a paper together." This was the start of a long friendship and fruitful collaboration.

Kieka met Odile in 1992 when she and Ernie visited Odile at the (as it was then) University of Paris-Sud (or Paris-XI), Orsay, while staying at the wonderful Château Gif in Gif-sur-Yvette. We visited her on several further occasions, including the time during the 8th French Combinatorial Conference in 2010, when we stayed in her apartment and a burglar stole Kieka's passport, wallet and clothes while we were all asleep (but that is a story for a different occasion). Odile also visited us in South Africa

and Canada. Our collaboration resulted in 19 joint publications in total.

Odile obtained her doctorate at Paris-Sud University in 1986 with a dissertation "Stabilité, domination, irrédondance et autres paramètres de graphes" ["Independence, domination, irredundance, and other parameters of graphs"], supervised by Jean-Claude Bermond. Shortly after completing her doctorate, she joined the Laboratoire de Recherche en Informatique (LRI), a joint research unit of the Centre National de la Recherche Scientifique (CNRS) and the University of Paris-Sud. She contributed to its graph theory research group over several decades.

Odile collaborated extensively with other graph theorists. According to MathSciNet, she has 144 publications with 86 coauthors. Her work was cited 1,610 times in 1,199 publications by 1,308 distinct authors. These numbers are significantly higher on ResearchGate. Her collaborations demonstrate extensive partnerships with researchers across Europe, North America, South Africa, and elsewhere, often involving multiple coauthors per paper, thus spreading her influence in graph theory communities.

She supervised two doctoral students, namely Jean-François Saclé and Joël Puech, who completed their studies in 1995 and 1997, respectively. Joël accompanied her on one of her visits to South Africa.

Odile made significant contributions in areas such as well-covered graphs, relationships between independence, domination, and irredundance parameters, hypomatchable and factor-critical graphs, and spectral graph theory. Her publications frequently appeared in leading journals such as *Discrete Mathematics*, *Journal of Graph Theory*, and *Graphs and Combinatorics*, where she contributed both original research and survey papers. Inarguably, Odile's work has made an enduring impact on contemporary graph theory research.

Following her retirement from LRI in 2003, she held an honorary affiliation with the Laboratoire Interdisciplinaire des Sciences du Numérique (LISN), the successor to LRI, at University Paris-Saclay and CNRS, and served on the editorial board of the *AKCE International Journal of Graphs and Combinatorics*.

Odile, we congratulate you on your brilliant career and hope you enjoy this special volume of *CCO* dedicated to you.

Ernie Cockayne and Kieka Mynhardt.