

Preface

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It is our honour and privilege to participate as guest editors for this special issue of Topics in Catalysis in celebration of Prof. Donna Blackmond, who was awarded the Gabor and Judith Somorjai Award for Creative Research in Catalysis in 2016. Her selection as this year's recipient reflects her outstanding scientific trajectory, with many landmark contributions which have had a significant and lasting impact on the field of catalysis. We are certain that the many researchers, which benefit daily from her innovative techniques and pioneering mechanistic studies, share in our heartfelt congratulations on this auspicious occasion.

Prof. Donna Blackmond is truly one of a kind. She received her BSc MSc and PhD training in Chemical Engineering and is one of very few academic scientists that has also had a successful career as an industrial researcher. This background allows her to bring together the rigour of fundamental science and the practicality of industrial research to solve important, practical problems. Early in her career, she became attracted by the beauty and complexity of organic chemistry, in part due to her colleagues Ed Grabowski and Paul Reider, from Merck Process Research and Development. While a departure from her formal training, her powerful combination of skills has empowered her to tackle problems in organic chemistry from unique angles with extraordinary success.

Prof. Blackmond has a reputation for solving challenging scientific puzzles with unusual simplicity, which according to Leonardo da Vinci is the ultimate sophistication.

More importantly, she is a gifted author and communicator, allowing her to translate detailed mechanistic complexity into tangible and understandable core concepts. Her ability to deconvolute complex systems to fundamental principles has been instructive for an entire generation of scientist around the world, both students and seasoned researchers alike. These qualities have allow Prof. Blackmond to be a teacher to field abroad, encouraging scientists to embrace a rational, knowledge-based approach to understand reactions at molecular level.

Among her extensive publication record, she is most well known for her studies of non-linear effects in asymmetric reactions [1–3], the development of Reaction Progress Kinetic Analysis (RPKA)[4–6], mechanistic studies on organocatalytic reactions[7–9], the elaboration of attrition enhanced deracimization [10, 11] and the detailed experimental validation of models for the origin of biological homochirality [12, 13].

Today, we echo the gratitude of her many colleagues for the privilege and opportunity to work and learn with Prof. Blackmond. The papers collected in this special issue are a small tribute to celebrate her award and to reflect the appreciation of the authors and many other researchers.

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