The Roy L. Whistler International Award in Carbohydrate Chemistry 2018

The International Carbohydrate Organization is delighted to announce the award of the 2018 Roy L. Whistler International Award in Carbohydrate Chemistry to Professor David Crich, Schaap Professor of Organic Chemistry at the Department of Chemistry, Wayne State University, Michigan, USA.

In 1984, the International Carbohydrate Organization established the Award in honour of Professor Roy L. Whistler, to recognize scientists 'who have made contributions of excellence in carbohydrate chemistry and biochemistry and with promise of continuing significant contributions'. The Award is recognized with a plaque, an award of US $25,000, and an invitation to present the opening lecture at the International Carbohydrate Symposium (ICS). The next ICS will be held in Lisbon, Portugal from July 15-19, 2018.

David Crich (b. 1959) studied at the University of Surrey (UK), and was awarded the degree of Docteur ès Sciences by Université de Paris XI (Orsay) in 1984 under the guidance of Prof Sir Derek Barton. After a Postdoctoral Fellowship with Barton and Pierre Potier at the ICSN he was appointed to a lectureship at University College London in 1985. He subsequently held positions as the University of Illinois (Chicago), Wayne State University, and in the CNRS (Gif-sur-Yvette), before returning to Wayne State University in 2011.

Crich's research in carbohydrate chemistry focuses on the development and application of new synthetic methods enabling the stereocontrolled construction of glycans and glycan building blocks. Early in his career, he pioneered the stereoselective reactions of alkoxy anomeric radicals with applications to the 2-deoxy-β-glycosides, the β-mannosides and the β-rhamnosides. Subsequently, he and his group were responsible for the development of the benzylidene-directed synthesis of the elusive β-mannosides, and for the recognition of the role of glycosyl triflates in this and other glycosylation reactions. Later, his laboratory developed the *N*-acetyloxazolidinone route for the stereocontrolled synthesis of the α-sialosides, a type of linkage in which he retains a strong interest, albeit now in the bacterial variants, legionaminic and pseudaminic acid. To facilitate application of their methods to oligosaccharide synthesis, Crich and his team also have forged new reagents and protecting groups that are widely deployed across the field. Indeed, the chemistries developed in the Crich laboratory have been applied to the synthesis of numerous complex mammalian and bacteria glycan structures of broad-ranging biomedical importance.

A distinctive feature of Crich's work is a penetrating insight into the chemical fundamentals that he has employed in developing new synthetic methods. An enduring hallmark of his work has been the application of powerful techniques drawn from physical organic chemistry so as to place carbohydrate chemistry on a firmer mechanistic footing including, recently, the elaboration of cation clock methods. In addition to the continuing emphasis of his program on practical glycosylation chemistry aimed at the non-specialist, Crich currently applies his expertise in carbohydrate chemistry to antibiotic discovery, especially the aminoglycosides, and to the synthesis of biomedically-relevant glycans and their mimetics.

Prof Crich has published over 380 papers and has received many honours, including the Corday Morgan Medal, the Emil Fischer Award, the RSC Haworth Medal, and the CS Hudson Award.

Melbourne, Australia, November 13, 2017
Professor Spencer Williams
Secretary of the International Carbohydrate Organization (ICO)