



LA SECCIÓN DE CIENCIAS FÍSICAS Y QUÍMICAS DE LA REAL ACADEMIA DE CIENCIAS EXACTAS, FÍSICAS Y NATURALES DE ESPAÑA

se complace en invitarle a la sesión científica pública

The Development of Asymmetric Organocatalysis and Metallaphotoredox

impartida por el Académico Extranjero

Prof. David MacMillan

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A la finalización del acto se hará entrega al Prof. MacMillan del diploma acreditativo de miembro de la Corporación.

Miércoles, 15 noviembre 2023
18.00 horas

Retransmisión en directo en
 YouTube RAC

Calle Valverde, 22
28004 Madrid

Resumen de la conferencia

This lecture will first discuss the advent of organocatalysis in my laboratory. As part of this overview, we will highlight why organic catalysts have become widely explored in modern synthetic chemistry. This lecture will also discuss the application of visible light photocatalysis to the discovery or invention of transformations that will be conceptually or synthetically valuable (and sometimes, hopefully, both). We will describe why a healthy balance of reaction discovery and mechanistic understanding has been important to the development of a field of research that is now being widely adopted in both industrial and academic settings. In particular, we will discuss the application of photocatalysis to the development of new metallaphotoredox reactions involving copper, a development that we hope will have an impact on the discovery of new biologically relevant molecules. Finally, we will examine an exciting recent application of photoredox catalysis in my group; namely, the high-resolution μ Map technology, which provides a powerful means to probe biological pathways at the subcellular level.

David W.C. MacMillan received his undergraduate degree in chemistry at the University of Glasgow, where he worked with Dr. Ernie Colvin. In 1990, he began his doctoral studies under the direction of Professor Larry Overman at the University of California, Irvine, before undertaking a postdoctoral position with Professor Dave Evans at Harvard University in 1996. He began his independent career at University of California, Berkeley, in July of 1998 before moving to Caltech in 2000 as the Earle C. Anthony Chair of Organic Chemistry. In 2006, Dave moved to Princeton University as the A. Barton Hepburn Professor of Chemistry. He served as Department Chair from 2010–2015 and is currently the James S. McDonnell Distinguished University of Chemistry. Dave shares the 2021 Nobel Prize in Chemistry with Benjamin List “for the development of asymmetric organocatalysis.” His research interests encompass a wide range of organic chemistry, including the development of new areas in organocatalysis and photoredox catalysis.

