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Molecular Inorganic Chemistry  
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The research of Prof. Wesley Browne is built on expertise in spectroscopy and electrochemistry to unlock the mechanisms by which molecular catalysts and functional materials work. The research line in oxidation catalysis focuses on developing new environmentally sustainable methods for the oxidation of organic compounds. Elucidating reaction mechanisms with spectroscopy and especially Raman spectroscopy is a core task. In this field we have developed several fundamentally new methods for highly effective alkene epoxidation and dihydroxylation as well as identified and characterised first in class examples of reactive intermediates of relevance to bioinorganic chemistry also. The research line on molecular based functional materials explores novel electrochemical and photochemically driven switching mechanisms enabling new materials applications. We work closely with industry on many projects and although fundamental in nature, the research in the group has shown direct application in commercial processes and products. By expanding our knowledge in reaction mechanisms and the functioning of catalysts and responsive materials, we also drive development of spectroscopic and spectroelectrochemical methods of wider relevance.

Wesley Browne is from Sligo, and obtained BSc (1999) and PhD (2002) degrees at DCU, with Prof Han Vos. Afterwards postdocs at Queen's University Belfast with Prof John McGarvey and the University of Groningen with Prof Ben Feringa. In 2007 he was awarded a VIDI innovational research grant and in 2008, he was appointed assistant professor at the University of Groningen. Since 2019 he is full professor. He supervised 24 PhD students, 9 Postdoctoral Fellows, and 52 bachelor and master students and currently supervises 7 PhDs and 3 MSC students. His research interests are in the application of spectroscopy, especially Raman spectroscopy and electrochemistry to (bio)inorganic catalysis and materials science.

## Employment

### Hoogleraar

Professor  
Molecular Inorganic Chemistry  
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1-Nov-2018 → present