

## Conferencia: Group 11 metal-catalysts toward molecular complexity

**Pedro J. Pérez**

**CIQSO – Universidad de  
Huelva**

**30/11/17**

Aula de Seminarios  
do CIQUS  
**12:15 h**

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XUNTA DE GALICIA  
CONSELLERÍA DE CULTURA, EDUCACIÓN  
E ORDENACIÓN UNIVERSITARIA

## Group 11 metal-catalysts toward molecular complexity

This Lecture will show the capabilities of families of coordination or organometallic compounds of the coinage metals (Cu, Ag, Au) as catalysts for the conversion of simple and available substrates in more complex molecules. Examples will include selective nitrene reactions to olefin or alkynes leading to dihydropyridines, oxazoles, iso-thiazoles or sphingosine precursors. Also, some carbene-transfer reactions leading to the enantioselective synthesis of borylcyclopropanes or the selective alkylation of aromatic substrates will be presented.



## Pedro J. Pérez Professor of Inorganic Chemistry

### Educational Background

B Sc Chemistry Universidad de Sevilla, Spain, 1987

Ph.D. Universidad de Sevilla, 1991

Ph.D. advisor: Ernesto Carmona

MEC-Fulbright Postdoctoral Fellow University of North Carolina, Chapel Hill

Postdoctoral advisor: Maurice Brookhart

Visiting scientist Dupont Experimental Station, Wilmington, Delaware (1994)

### Awards & Recognitions

2016 Gold Medal Royal Society of Chemistry of Spain

2015 Homogeneous Catalysis Award of the Royal Society of Chemistry

2014 Member of the National Academy of Sciences of Spain (National, Corresponding)

2014 Fellow of the Royal Society of Chemistry

2007 Inorganic Chemistry Award, Royal Society of Chemistry of Spain

### Professional and university appointments

Vice-Rector for Research and Scientific Policies, Universidad de Huelva (2016-2017)  
Director of the Research Program, Universidad de Huelva (1997-2000)  
Director of Graduate School, Universidad de Huelva (1997-1999)  
Head of the Department of Chemistry, Universidad de Huelva (2001-2006)  
Programme Officer, Inorganic Chemistry Area, Spanish National Agency for Evaluation (2006-2008 and 2015)  
Programme Officer, Chemistry, Andalusian Agency for Evaluation (2006-2011)  
Chemical Industry Chair, Universidad de Huelva (2007-)  
Director of the Center for Research in Sustainable Chemistry (CIQSO), Universidad de Huelva (2010-)

#### **Professional societies**

Real Sociedad Española de Química  
American Chemical Society  
Royal Society of Chemistry  
American Association for the Advancement of Science

#### **Biographical sketch**

Pedro J. Pérez was born in Aroche (Huelva, Spain) in 1965. He received a B. Sc. (Licenciatura) in Chemistry from Universidad de Sevilla in 1987 and later a Ph. D. degree from the same University in 1991 under the direction of Prof. Ernesto Carmona. As a Fulbright Scholar, he then joined Prof. Brookhart's group at UNC-Chapel Hill (USA). He started an appointment as Assistant Professor at the Universidad de Huelva (Spain), where he has been promoted several times until the current Professorship in Inorganic Chemistry (since 2005).

Prof. Perez's work is devoted to the development of late transition-metal complexes as catalysts for transformations involving hydrocarbons. Several catalytic systems have been described for the selective cyclopropanation of olefins and the catalytic functionalization of unreactive alkanes, among others. The latter has been achieved by means of the metal catalyzed transfer of carbene, nitrene or oxo units to the alkane or arene C-H bond. Also, novel reactions toward the synthesis of oxazoles, triazoles or dihydropyridines have emerged from his lab.