

# LIEBIG LECTURESHIP

der Liebig-Vereinigung für Organische Chemie

in der Gesellschaft Deutscher Chemiker

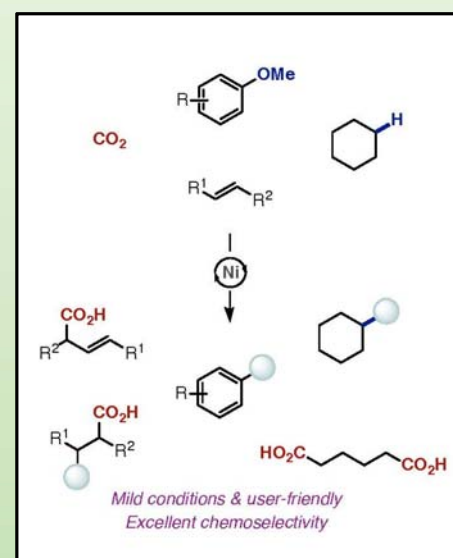
November 2017



## Turning simplicity into complexity via Ni-catalyzed cross-coupling reactions

Our interests are primarily focused on the discovery of synthetically useful organometallic methodologies, with a particular emphasis on the implementation of earth-abundant catalyst for the functionalization of particularly strong sigma bonds. These conceptions have been applied in the context of catalytic CO<sub>2</sub> fixation techniques en route to carboxylic acids,<sup>[1]</sup> activation of C-O bonds<sup>[2]</sup> as well as the design of C-C bond-forming reactions via photoredox catalysis.<sup>[3]</sup> In this Liebig Lecture, I will discuss how nickel catalysts are capable of turning simplicity into complexity by building up molecular complexity from simple chemical feedstocks, describing mechanistic aspects, when appropriate.

[1] *Nature* 2017, 545, 84; *J. Am. Chem. Soc.* 2017, 139, 12161; *Angew. Chem. Int. Ed.* 2017, 56, 6558; *J. Am. Chem. Soc.* 2016, 138, 7504; *Angew. Chem. Int. Ed.* 2016, 55, 5053; *J. Am. Chem. Soc.* 2015, 137, 8924; *J. Am. Chem. Soc.* 2015, 137, 6476; *J. Am. Chem. Soc.* 2014, 136, 17702; [2] *J. Am. Chem. Soc.* 2017, 139, 1191; *Angew. Chem. Int. Ed.* 2017, 56, 3187; *Angew. Chem. Int. Ed.* 2015, 54, 4075; *J. Am. Chem. Soc.* 2015, 137, 6754; *J. Am. Chem. Soc.* 2014, 136, 1062; *J. Am. Chem. Soc.* 2014, 136, 2236; *J. Am. Chem. Soc.* 2014, 136, 7253; *J. Am. Chem. Soc.* 2013, 135, 1997; [3] *Angew. Chem. Int. Ed.* 2017, 56, 10915; *ACS Catal.* 2017, 7, 409.



<b>Bochum</b>	Tuesday	November 21 <sup>st</sup>
<b>Heidelberg</b>	Wednesday	November 22 <sup>nd</sup>
<b>TU München</b>	Thursday	November 23 <sup>rd</sup>
<b>Köln</b>	Friday	November 24 <sup>th</sup>
<b>TU Berlin</b>	Monday	November 27 <sup>th</sup>
<b>MPI Mülheim</b>	Tuesday	November 28 <sup>th</sup>

Ruben Martin obtained his PhD in 2001 from the University of Barcelona (Spain) under the guidance of Prof. Antoni Riera. After a Humboldt postdoctoral stay with Prof. Alois Fürstner (2004-2005) at the MPI für Kohlenforschung and a Fulbright postdoctoral stay with Prof. Stephen L. Buchwald (2005-2008) at MIT, he started his independent career at ICIQ as an Assistant Professor (October 2008). He was promoted to Associate Professor in July 2013, and to ICREA Research Professor in October 2013. During his time at ICIQ, he has received the OMCOS Award (2017), the Marcial Moreno Lectureship Award (2017), RSEQ Excellent Research Award (2015), Eli Lilly Young Research Investigator Award (2011), Thieme Chemistry Journal Award (2011), and the Sigma Aldrich RSEQ Young Investigator Award (2010).