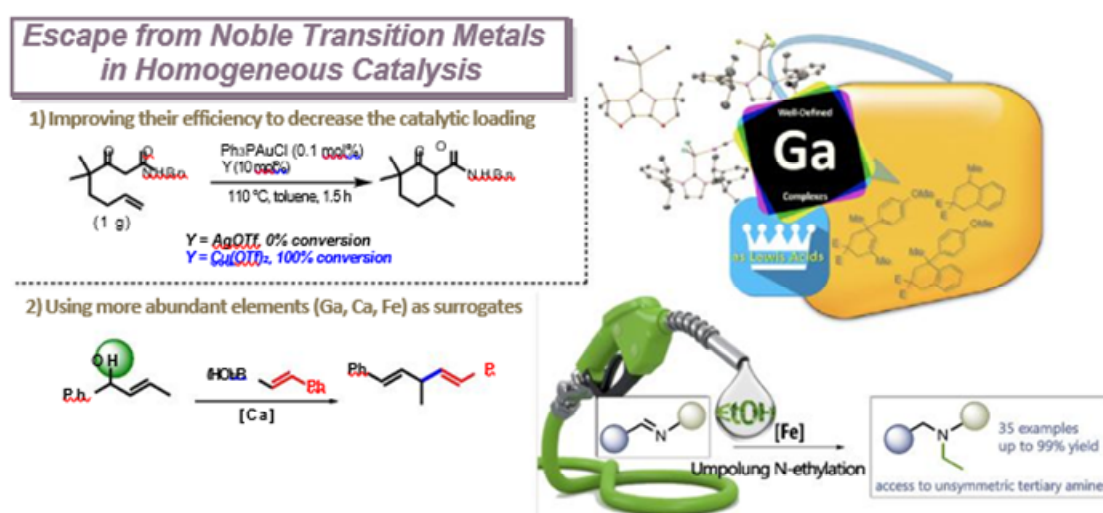


CBC SEMINAR ANNOUNCEMENT



Associate Professor Christophe Bour ICMMO, Université Paris-Sud, France Escape from Noble Transition Metals

The discovery of simple processes and reactions has always been one of the priorities of modern organic chemistry. It has a strong impact in diverse areas such as the elaboration of new drugs, production of materials with specific properties, sourcing and storage of energy... Over the last thirty years, the emergence of organotransition-metal chemistry has afforded a significant step forward. It still represents one of the most important chemical endeavors. The rush into this chemistry has slowed down the development of synthetic methods relying on main-group elements. Many of these processes rely on the use of complexes of late transition metals of the 2nd and 3rd rows (Pd, Ru, Rh, Ir, Pd, Pt, Ag, Au...). To circumvent the elevated cost of this rare elements and their toxicity, various strategies are conceivable. One is to use heterogeneous reusable complexes; however the lower investment in catalyst can be counterbalanced by a costly recovery step. Another way is to improve the efficiency of the process, so that only a trace amount of catalyst can be used. Lastly, a third option consists in replacing noble metals by abundant elements of biocompatible main-group compounds among which derivatives of s-block or p-block metals can be efficient surrogates. In that respect, we explored these two last strategies and we disclosed that well-defined first row transition metal as well as Group 13 metals or calcium derivatives could be used as catalysts for C-C and C-N bonds formations.



References:

1. M. Pareek, C. Bour, V. Gandon, *Org. Lett.*, **2018**, 20, 6957.
2. Vayer, M.; Morcillo, S.; Dupont, J.; Gandon, V.; Bour, C. *Angew. Chem. Int. Ed.* 2018, 57, 3228.
3. Li, Z.; Thiery, G.; Lichtenthaler, M.; Krossing, I.; Guillot, R.; Gandon, V.; Bour, C. *Adv. Synth. Cat.* **2018**, 3, 544.
4. Morcillo, S. P.; Lebœuf, D.; Bour, C.; Gandon, V. *Chem. Eur. J.* **2016**, 22, 16974.
5. Michelet, B.; Tang, S.; Thiery, G.; Monot, J.; Li, H.; Guillot, R.; Bour, C.; Gandon, V. *Org. Chem. Front.* **2016**, 3, 1603

Date: 14th October 2019 (Monday)
Time: 2.00pm to 3.30pm
Venue: SPMS Graduate and Research
Conference Room
Host: Assistant Professor Jason England