



Univerzita Karlova v Praze, Přírodovědecká fakulta

Department of Chemistry, Faculty of Science, Charles University in Prague  
invites for a lecture organized as part of the lecture series

## Quo Vadis Chemistry

# Catalytic Carbophilic Activation by Gold and Gallium $\pi$ -Acids



which will be delivered by

**Vincent Gandon**

from Université Paris-Sud  
Orsay, France

on February 15, 2016 at 15:00

in the lecture hall CH2 at the chemistry departments of Faculty of  
Science, Charles University in Prague, Hlavova 8, Praha 2

Cationic gold(I) complexes are soft Lewis acids able to trigger numerous types of nucleophilic attacks onto alkenes, allenes, and alkynes. In many cases, the cationic active species are generated directly in the reaction vessel and not isolated. A convenient way to do so from stable precursors is to use a gold(I) halide and a silver salt. We have recently pointed out that the high efficiency of the halide abstraction can actually be detrimental to the overall efficiency of the catalytic process. In the first part of this presentation, surrogates to silver salts that retard the decomposition of the cationic Au(I) species will be presented. We have also shown that cationic gallium complexes can catalyse reactions that are usually the territory of gold, platinum, or other noble metals. Here again the choice of the activator is crucial. The second part of the lecture will give a few tips for taming the Lewis acidity of cationic gallium species so as to make them useful in catalysis.

LAuCl  
*inactive*



Cu (I), Cu (II),  
Zn (II), In (III),  
Si (IV), Bi (III)

Active species