Title: Catalyzed sp² and sp³C-H bond activation/functionallization even in water:

from ruthenium to copper catalysts

Pierre H. Dixneuf obtained his doctorate of Science in Rennes (France) with Prof René Dabard, on ferrocene chemistry, and carried out postdoctoral work as a CNRS researcher on the first steps of N-Heterocyclic Carbene metal complexes with Michael F. Lappert at the University of Brighton, UK. He became a professor at the University of Rennes in 1978. His research interests include both organometallic chemistry toward carbon rich complexes and innovative catalytic processes promoted by ruthenium catalysts.

In catalysis he developed first selective transformations of alkynes and incorporation of CO₂, such as vinylcarbamates and carbonates, ruthenium(II) catalyzed activation of alkynes via ruthenium-vinylidenes, -allenylidenes, and -carbenes, oxidative couplings, catalytic synthesis of heterocycles, alkene metathesis catalysts from allenylidenes and transformation of plant oils into polyamides.

He is now contributing to C–H bond activation/functionallization using ruthenium(II) catalysts especially operating in water. He has co-authored more than 450 publications, co-edited 6 books and his work has been acknowledged with several prizes including: A. v Humboldt prize for Research 1990, Le Bel SFC award and Grignard-Wittig Prize (GDCh) 2000, Institut universitaire de France membership since 2000, académie des sciences IFP prize, Sacconi medal (Italy) in 2006 and Spanish-and Chinese Society of Chemistry awards in 2014. He is currently Research Professor at the University of Rennes, France, where he founded the research Institut de chimie de Rennes in 2000 and was university vice-president for research (01-04)