"Palladium-Catalyzed Carbon-Heteroatom Bond-Forming Reactions for the Functionalization of Molecules Big and Small"

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Cross-coupling methodology is an indispensable part of the everyday repertoire of synthetic organic chemists. bonds^{1,2}); a mechanistic scheme for this transformation is shown below. This methodology has been widely utilized throughout academia and industry.



This lecture will include: 1) An introduction to palladium-catalyzed carbon-heteroatom bond-forming reactions including an historical overview. 2) A description of ligand and precatalyst development employing biarylphosphines. 3) Applications of these catalysts to the preparation of compounds of interest to medicinal chemists.³ 4) Examples of the use of Pd complexes for the selective functionalization of large molecules.⁴ 5) If time permits, some of our recent development of Cu catalysts for C-heteroatom bond formation.⁵

References:

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