



演 題 : **Metal Nanoparticles as Efficient Catalysts for Organic Reactions**

講 師 : **Professor Brindaban C. Ranu**

Department of Organic Chemistry, Indian Association
for the Cultivation of Science

日 時 : 2009 年 8 月 24 日 (月) 1 4 : 3 0 ~ 1 6 : 0 0

場 所 : 理学部 7 号館 3 1 0 教室

要旨 : Palladium(0) nanoparticles, prepared *in situ* from $\text{PdCl}_2/\text{Bu}_4\text{NBr}/\text{Na}_2\text{CO}_3$ in water, has been demonstrated to be a very efficient catalyst for coupling of *vic*-diiodoalkenes and acrylic esters and nitriles leading to the stereoselective synthesis of 2-alkene-4-yn-esters and nitriles, allylation of active methylene compounds with allyl acetates (Tsuji-Trost reaction), Hiyama cross-coupling of aryl halides with arylsiloxanes, cross-coupling of allyl acetates and aryl/vinyl siloxanes, Suzuki cross-coupling of aryl halides and aryl/alkyl boronic acids.

Copper(0) nanoparticle has been found to catalyze aryl-sulfur bond formation without any ligand, synthesis of aryl and vinyl dithiocarbamates via a three-component condensation, and chemoselective reduction of nitrocompounds and other reactions.

The details of these results together with probable mechanisms will be presented.

本講演は『化学研究総合講義』の一部として認定されております

連絡先 : 理学研究院化学部門 澤村正也 (内線 : 3 4 3 4)