

## **Prof. Josse De Baerdemaeker is giving open seminar at our laboratory**

Prof. Josse De Baerdemaeker (Katholieke Universiteit Leuven, Belgium), is giving us an open seminar entitled “A multi-scale approach to research and innovation in biosystems engineering” on Dec.6 (Mon), because he is attending the international conference, AGRICONTROL 2010 sponsored by IFAC with his post-doc researcher. He was a past-President (1996-1998) of The European Association of Agricultural Engineers and is now a chairman, Department of Agro-Engineering and Economics, K. U. Leuven. We are expecting many people are coming to discuss with them at S-177 as below.

Time and Date: 13:00-14:30, Dec.6 (Mon)

Room: S-177

**Abstract:** It appears that the design and management of biological production and processing systems in order to meet the future needs of society is a formidable challenge for the engineering community. Indeed, there is an increased emphasis on the engineering for living systems that can be considered as a concurrent engineering between biology and mechanical, electrical, civil or information engineering.

Agricultural and biological production systems are very complex where dynamic processes take place at different scales from sub-cellular level, the level of a plant or animals a field or a farm. These complex phenomena at each of these scales run at a different pace, they are often time variable non-linear in nature. Equipment should take these scales into account. Moreover there is also spatial variability, implying that each tree, each location in a field or each animal may respond differently to treatments. This in turn requires that equipment can adapt to the spatio-temporal variable processes.

A number of examples and challenges for the future are given with considerations of the expected benefits. They are based on research in Europe or at K.U.Leuven.