

Department of Electrical and Computer Engineering

Title: «*Research Activities at the Institute for Photovoltaics, University of Stuttgart*»

Prof. J. H. Werner

Director, Institute for Photovoltaics,
University of Stuttgart

Wednesday, 20th February 2013, 17:00 – 18:30
Room KENTP. – A008, Old Campus
University of Cyprus

Abstract:

The Institute for Photovoltaics has a long history in the research of solar cells. Already in 1973, research started on cells from CdS. Over the years the focus of research changed to other thin film materials such as Cu(In,Ga)Se₂, amorphous silicon, and thin film crystalline silicon. In 2006, the head of the institute, Jürgen Werner, drastically changed the institute politics, stopped all thin film work and focused the research totally on industrial, wafer based cells from crystalline silicon. Since then, the institute developed several "add-on" concepts that boost the efficiency of such cells as well as of modules. In the presentation several of these cells will be discussed.

Biography:

Jürgen Werner studied physics at the University of Tübingen. In 1980 he joined the Max-Planck-Institute for Solid State Research in Stuttgart, to work on his PhD thesis on "grain boundaries in silicon". From 1985 on, he spent two years in the USA at the IBM Thomas J. Watson Research Center, Yorktown Heights, New York and at Bell Laboratories, Murray Hill, New Jersey. In 1987 he returned to Stuttgart and accepted a position as a permanent scientist at the Max-Planck-Institute. From then on, he started experimental research at solar cells on thin film silicon as well as on the theory of upper theoretical limits of solar cells. In July 1996 he accepted the offer as the director of the Institute for photovoltaics at the University of Stuttgart. Since then, the institute has worked on concepts of 1st, 2nd and 3rd generation solar cells, modules and systems from crystalline silicon, amorphous silicon, Cu(In,Ga)Se₂ as well as on dye sensitized cells. Werner is an author and co-author of more than 300 publications and editor of 11 books. In addition to the Institute of Photovoltaics, he also runs a technology transfer company, the Steinbeis Center Photovoltaics in Stuttgart.