



Title of the Workshop: SINANO Workshop: “Nanoscale CMOS and beyond-CMOS Nanodevices”

Organized by: Francis Balestra, IMEP (CNRS-INPG-UJF), Grenoble

Date of the Workshop: September 14, 2007, Munich

Abstract:

This Workshop aims to establish a discussion forum in the field of nanoelectronics devices, following the Network of Excellence SINANO (Silicon-based Nanodevices) founded by the European Commission for the 6th Framework Programme.

Over the next quarter century considerable challenges exist to push the limits of silicon integration down to nanometric dimensions and to enhance device performance in order to meet the ever increasing demands of communication and computing. The aim of this Workshop is to present the status and trends of CMOS and beyond-CMOS nanodevices for terascale ICs.

Programme:

9:00 Carrier Mobility enhancement in strained Silicon Germanium channels
D.R. Leadley, A. Dobbie, G. Nicholas, M. Merius
Warwick University, IMEC

9:30 Metallic Source/Drain architecture: status and prospects"
E. Dubois, G. Larrieu, N. Breil, M. Ostling, P.E. Hellström, N. Reckinger, X. Tang, S. Mantl
IEMN, STMicroelectronics, KTH, UCL, FZ-IBN1-Julich

10:00 Coffee break

10:30 Novel High k/Metal gate materials
O. Engstrom, P.K.Hurley, O. Buiu, M.C.Lemme,
Chalmers Univ., Tyndall, Liverpool Univ., AMO

11:00 SON Nanodevices
Thomas Skotnicki,
STMicroelectronics

11:30 Multisubband Monte Carlo simulations for holes
David Esseni
Univ. Udine

12:00 Lunch

13:00 Multi-gate and Muti-wire Nanodevices
T. Poiroux, T. Ernst
LETI

13:30 Understanding quasi ballistic transport in Si and alternative channel materials
R. Clerc, P. Palestri,
IMEP, Univ. Udine

14:00 Growth of Carbon Nanotubes with CMOS compatible catalysts
Peter Ashburn
Southampton Univ.

14:30 Coffee break

15:00 Si and Ge Nanowires: challenges and prospects
J.P. Raskin, M. Lemme, E. Dubois, A. Ionescu
UCL, AMO, IEMN, EPFL

15:30 1D BTE for Nanowires
Susanna Reggiani
ARCES

16:00 Graphene devices
Max Lemme
AMO

16:30 Performance Challenges of Future DRAMs
Jürgen Faul
Qimonda

17:00 End of the Workshop