Technical Parallel Session
Advanced Materials for Micro- and Nano-Systems (AMM&NS)

Tuesday, 23 January 2007
Location: Auditorium (Level 2), Nanyang Executive Centre, Nanyang Technological University

13:15 – 13:30  Registration
Session 1: Challenges for Advanced Silicon-Based Devices

13:30 – 13:35  Asst Prof Gan Chee Lip (NTU)
Opening Address to AMM&NS Technical Session

13:35 – 13:45  Prof Carl V Thompson (MIT) & Prof Choi Wee Kiong (NUS)
Overview of AMM&NS Research Programme

13:45 – 14:15  Dr Lap Chan (Chartered Semiconductor Manufacturing)
Manufacturing Challenges for Advanced Si-Based MOS Devices

14:15 – 14:45  Prof Eugene A Fitzgerald (MIT)
Engineered Semiconductor Nanomaterials: Can We Create a New Semiconductor Wave?

14:45 – 15:15  Prof Yoon Soon Fatt (NTU)
Molecular Beam Epitaxy Growth and Fabrication of AlGaAs/GaAs and InGaP/GaAs Heterojunction Bipolar Transistors on SiGe Substrates

15:15 – 15:45  Tea Break

15:45 – 16:15  A/P Pey Kin Leong (NTU)
Laser Annealing Technology – From Nanojunctions to Nanoscale Device Architecture

16:15 – 16:45  Prof Henry I Smith (MIT)
The Optimization of a Lithographic Tool for Research and Manufacturing

16:45 – 17:15  Asst Prof Gan Chee Lip (NTU)
Bonded Interconnects for 3D ICs

17:15  End of Day 1 Session
Technical Parallel Session
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Day 2: Wednesday, 24 January 2007
Location: Auditorium (Level 2), Nanyang Executive Centre, Nanyang Technological University

08:15 – 08:30 Registration

Session 2: Nanotechnology on a Silicon Platform

08:30 – 09:00 Prof Choi Wee Kiong (NUS)
Synthesis of Germanium Nanocrystal in Silicon Oxide Matrix – From Self Assembly to Templated Growth

09:00 – 09:30 Prof Carl V Thompson (MIT)
Templated Instabilities for Ordered Arrays of Nanomaterials

09:30 – 10:00 A/P Chim Wai Kin (NUS)
Germanium Nanostructures for Electronic Applications

10:00 – 10:30 Tea Break

10:30 – 11:00 Prof Dimitri A Antoniadis (MIT)
Semiconductor Nanowires as Transistor Channel Materials

11:00 – 11:30 Prof Chua Soo Jin (NUS)
Functional Nanowires/Nanorods for Optoelectronic Applications

11:30 – 12:00 A/P John Thong (NUS)
Assembly and Nanowiring of Nanostructures

12:00 – 12:30 Asst Prof Francesco Stellacci (MIT)
Conductive Functionalized Carbon Nanotubes

12:30 – 14:00 Lunch & Poster Session

Session 3: Advanced Materials for Micro- and Nano-Systems

14:00 – 15:00 A/P Nicola Marzari (MIT) & A/P Zhang Qing (NTU)
Carbon Nanotube Devices - An Integrated Experimental and Theoretical Approach

15:00 – 16:00 Prof Caroline Ross (MIT) & A/P Adekunle Adeyeye (NUS)
Materials Technology for Integrated MRAM

16:00 – 16:30 Tea Break

16:30 – 17:30 Prof Yet-Ming Chiang (MIT) & A/P Wong Chee Cheong (NTU)
Colloid Chemistry for Self-Organizing Devices

17:30 – 18:00 A/P Li Yi (NUS)
Study of Stress Evolution and Crystallization Kinetics in Phase Change Materials

18:00 – 18:15 Prof Carl V Thompson (MIT) & Prof Choi Wee Kiong (NUS)
Closing Comments & Best Posters Award

18:15 End of Day 2 Session