Taiwan International Conference on Nano Science and Technology

(TICON 2004)

June 30 to July 3, 2004

Center for Nano-Science and Technology,
University System of Taiwan

June 30, 2004 (Wednesday)

Opening (Registration & Refreshments and Coffee) TIME : 08:00-09:00 SITE : Lobby, Physics Building, NTHU	
Plenary Session I SITE : Basement 002, Physics Building, NTHU	
Chairman : Prof. Cheng-Chung Chi (Director, Center for Nano Science and Technology, University System of Taiwan / Department of Physics, NTHU)	
09:00-09:40	Honorable Guest Speakers Prof. Chao-Han Liu (President, University System of Taiwan) Prof. Chuan Sheng Liu (President, National Central University) Prof. Chun-Yen Chang (President, National Chiao Tung University) Prof. Hsia-San Shu (President, National Tsing Hua University) Prof. Yan-Hwa Wu Lee (President, National Yang Ming University)
09:40-10:20	**Overview of Taiwan National Program on Nanoscience and Nanotechnology** Prof. Maw-Kuen Wu (Director, Institute of Physics, Academia Scinica)
10:20-10:50	Coffee Break
10:50-11:30	**Quantum Dot Array for Simulating Strongly Correlated Electron Systems** Dr. Chang-Chyi Tsuei (IBM Thomas J. Watson Research Center, USA)
11:30-12:10	**Interface Composition and Band Alignment in Nano-electronics** Prof. Eric Garfunkel (Department of Chemistry, Rutgers University, USA)
12:10-13:30	Lunch

Session I – Nanomagnetics / Nanophotonics SITE : Basement 002, Physics Building, NTHU		Session II – Nanobiotechnology SITE : Basement 019, Physics Building, NTHU	
Chairman : Prof. Tai-Bor Wu (Director, Material Science Center & Department of Materials Science and Engineering, NTHU)		Chairman : Prof. Tian Yow Tsong (Institute of Physics, Academia Scinica)	
13:30-14:00	**Ferromagnetism in Doped ZnO Bulk and Nano-wires** Prof. Tsung-Shune Chin (President, National United University / Department of Materials Science and Engineering, NTHU)	13:30-14:00	**Surface Enhanced Raman Scattering Spectroscopy and Imaging in Cell and Molecule Monitoring** Prof. Huihua Chiang (Institute of Biomedical Engineering, NYMU)
14:00-14:30	**Quantum Dot, Photonic Crystal Microcavity, and Single Photon Source** Prof. Tzu-Min Hsu (Director, Center for Nano Science and Technology & Department of Physics, NCU)	14:00-14:30	**From Submicron CMOS Photodiode to Carbon Nanotube Field Effect Transistor** Prof. Yuh-Shyong Yang (Department of Biological Science and Technology, NCTU)
14:30-15:00	**Structure and Electro-optic Properties of MEH-PPV/ TiO_2 Nanoparticles/Nanotubes Composites** Prof. Peter P. J. Chu (Department of Chemistry, NCU)	14:30-15:00	**A Novel Biomimic Micro/Nano Opto-Electro-Mechanical Trapping/Culture Array for Manipulation, Observation, and Measurement of Bio-objects at Nanoscale** Prof. Long Shu (Institute and Department of Electrophysics, NCTU)
15:00-15:30	Coffee Break		

Session III – Nanophotonics SITE : Basement 002, Physics Building, NTHU		Session IV – Nanobiotechnology SITE : Basement 019, Physics Building, NTHU	
Chairman : Prof. Tsung-Shune Chin (President, National United University / Department of Materials Science and Engineering, NTHU)		Chairman : Prof. Huihua Chiang (Institute of Biomedical Engineering, NYMU)	
15:30-16:00	**Nanostructure Enhanced Organic Light Emitting Diodes** Prof. Chain-Shu Hsu (Vice-Chancellor, UST / Department of Applied Chemistry, NCTU)	15:30-16:00	**Nano-manipulation of Living Cells- a Window for Monitoring Single Molecule Dynamics** Prof. Chi-Hung Lin (Institute of Microbiology and Immunology, NYMU)
16:00-16:30	**Enhancement of Luminescence Efficiency of Dendritic Polyfluorene Copolymers by CdS Nanoparticles** Prof. Kung Hwa Wei (Department of Materials Science and Engineering, NCTU)	16:00-16:30	**Case Study of a SARS-CoV Virus Denaturing Agent and a Multi-functional Biochip Detection System** Prof. Chih-Kung Lee (Institute of Applied Mechanics, NTU)
16:30-17:00	**Growth Issues of (In,Ga)As Quantum Dots for Photonic Devices** Prof. Jen-Inn Chyi (Department of Electrical Engineering, NCU)	16:30-17:00	**Optical Tweezers-based Quantification of Single Molecule Pair Binding Force between Integrin $\alpha_{IIb}\beta_3$ and the Disintegrin Rhodostomin in Live Cells** Dr. Chia-Fen Hsieh (Institute of Microbiology and Immunology, NYMU)
17:00-17:30	**High Speed Quantum Dot Lasers for Novel Photonic Systems** Dr. Matthias Kuntz (Institutes of Physics, Technische Universität Berlin, Germany)	17:00-17:30	**Use of Fluorescence Resonance Energy Transfer Technology to Investigate Enterovirus Protease Activity *In Vivo*** Prof. Szu-Hao Kung (Institute of Biotechnology in Medicine, NYMU)

Poster Session I – Nanoelectronics

SITE : Lobby, Physics Building, NTHU

TIME : 13:30-17:00

Paper List :

1. DYMEK ASIA COMPANY

2. Growth Mechanism of the Carbon Nanotubes with Ni Catalysts
   Jian-Yang Lin, Shuu-Ru Liu* and Hsiao-Chieh Sung
   Institute of Electronics Engineering, National Yunlin University of Science and Technology

3. Selective Growth of Vertically Aligned Carbon Nanotubes on Nickel Oxide Nanostructures Created by Atomic Force Microscope Nano-Oxidation
   Yu-Hsien Chang[1], Jung-Hsien Yen[2], Ming-Hung Huang[1*], Ju-Hung Hsu[1], Ing-Chi Leu[2], Heh-Nan Lin[1] and Ming-Hsiung Hon[2]
   [1]Department of Materials Science and Engineering, National Tsing Hua University
   [2]Department of Materials Science and Engineering, National Cheng Kung University

4. Fabrication of Metallic Nanostructures by Atomic Force Microscopy Nanomachining and Lift-off Process
   Ju-Hung Hsu*, Chun-Yu Lin, Heh-Nan Lin
   Department of Materials Science and Engineering, National Tsing Hua University

5. Electrical Contact Properties of Carbon Nanotubes
   Ching-Hsu Chan
   Department of MIS, St. John's & St. Mary's Institute of Technology

6. Hydrogen Plasma Treatment Effects on Optical and Electrical Properties of ZnO Nanorods
   Chin-Ching Lin, Hung-Pei Chen and San-Yuan Chen
   Department of Materials Science and Engineering, National Chiao-Tung University

7. Mobility Enhancement of Electroluminescent Polymer Aggregates and Films Investigated by Conducting Atomic Force Microscopy
   Bor-Ru Yang*, Heh-Nan Lin
   Department of Material Science and Engineering, National Tsing Hua University

8. Magnetic Nanoarray via Ordered Nanopore Templates
   Chun-Guay Wu*, Hu Leng Lin
   Department of Chemistry, National Central University

9. High-k HfO_2 Gate Dielectric for Tensile Strained-SiC Alloy Layers
   Y. S. Liu, S. Maikap[a], P. S. Chen[a] and K. C. Liu[1]
   Department of Electronics Engineerin , Chang Gung University; [a]ERSO/ITRI

10. Giant Magnetocurrent in Spin Tunneling Transistor
    Y.W. Huang[a)], C.K. Lo[b)], Y.D. Yao[c)], L.C. Hsieh[b)], J.J. Ju[b)], D. R. Huang[b)], J. H. Huang[a)]
    [a)]Department of Material science & Engineering, National Tsing Hua Univ
    [b)]Lab. For spintronics, OES, Industrial Technology Research Institute
    [c)]Institute of Physics, Academia Sinica

11. Novel Planarization Process on Polysilicon Surface
Sheng-Hung Cheng[a], Tsung-Kuei Kang[a], Bing-Yue Tsui[b], Wen-Lu Yang[a]
[a]Department of Electronic Engineering, Feng-Chia University
[b]Department of Electronic Engineering, National Chiao Tung University

12. The Effect of Hafnium Contamination on Nano Device
Kuan-Liang Lin[a], Tsung-Kuei Kang[a], Bing-Yue Tsui[b], Wen-Lu Yang[a]
[a]Department of Electronic Engineering, Feng-Chia University
[b]Department of Electronic Engineering, National Chiao Tung University

13. Towards GaAs MOSFET: MBE Growth, Processing, Characterization, and Analysis
K. Jaw[1], P. J. Tsai[1], Y. W. Chen[1], H. P. Yang[2], P. Chang[1], M. Hong[1], R. Kwo[3], J. Chi[2], and J. P. Mannearts[1]
[1]Department of Material Science and Engineering, National Tsing Hua University
[2]Nanophotonics Center, Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute
[3]Department of Physics, National Tsing Hua University

14. Diamagnetic Properties of PbSe Spherical Quantum Dots
Wen-Bin Jian[1]*, S. J. Chiang[1], Weigang Lu[2], Jiye Fang[2], C. Y. Wu[3], and M. D. Lan [1]
[1]Department of Physics, National Chung Hsing University
[2]Department of Chemistry and Advanced Materials Research Institute, University of New Orleans, New Orleans, LA 70148
[3]Opto-Electronics and Systems Laboratories, IndustrialTechnology Research Institute

July 1, 2004 (Thursday)

Plenary Session II SITE : Basement 002, Physics Building, NTHU	
Chairman : Dr. Chang-Chyi Tsuei (IBM Thomas J. Watson Research Center, USA)	
08:20-09:00	**The Opportunities and Challenges of Nanotechnology — From Commercialization Viewpoints** Dr. Tsung-Tsan Su (Director of Nano Technology Research Center, Industrial Techology Research Institute)
09:00-09:40	**Fabrication and Characterization of Carbon Nanotube FETs** Prof. Takashi Mizutani (Department of Quantum Engineering, Nagoya University Furo-cho, Japan)
09:40-10:20	**Temperature Related Problems in Nanoscale Systems** Prof. Koung An Chao (Department of Physics, Lund University, Sweden)
10:20-10:50	Coffee Break

Chairman : Prof. Ray-Nien Kwo (Department of Physics, NTHU)			
10:50-11:30	**Inelastic Electron Tunneling Spectroscopy (IETS) Study of Ultra-thin Gate Dielectrics** Prof. Tso-Ping Ma (Raymond John Wean Professor, Chairman, Department of Electrical Engineering, Yale University, USA)		
11:30-12:10	**Manipulation of Magnetism in Semiconductors** Prof. Hideo Ohno (Research Institute of Electrical Communication, Tohoku University, Japan)		
12:10-13:30	Lunch		
Session V - Nanophotonics SITE : Basement 002, Physics Building, NTHU		Session VI - Nanoelectronics SITE : Basement 019, Physics Building, NTHU	
Chairman : Prof. Tzu-Min Hsu (Director, Center for Nano Science and Technology & Department of Physics, NCU)		Chairman : Prof. Minghwei Hong (Department of Materials Science and Engineering, NTHU)	
13:30-14:00	**Biological Cell Tracking by Nanoporous Particles** Prof. Chung-Yuan Mou (Department of Chemistry, NTU)	13:30-14:00	**Spin Dynamics in Nanostructured System -Unit Cell of Magnetic Random Access Memory-** Prof. Ching-Ray Chang (Chairperson, Department of Physics, NTU)
14:00-14:30	**Distributed-feedback Optical Parametric Amplifier and Oscillator** Prof. Yen-Chieh Huang (Department of Electrical Engineering, NTHU)	14:00-14:30	**Interlayer Coupling through $NiFeO_x$ Nano -oxide Layer in IrMn/ CoFe/$NiFeO_x$/CoFe -based Spin Valves** Prof. Chih-Huang Lai, Dr. Yu-Jen Wang (Department of Materials Science and Engineering, NTHU)
14:30-15:00	**Graphical and Numerical Analysis on the Quarter and Non-quarter Wavelength Thickness 1-D Omni-reflector** Prof. Shiuh Chao (Institute of Photonics Technologies, NTHU)	14:30-15:00	**Magnetoimpedance in Magnetic Tunnel Junction** Prof. Minn-Tsong Lin (Department of Physics, NTU)

15:00-15:30 Coffee Break			
Chairman : Prof. Chung-Yuan Mou (Department of Chemistry, NTU)		Chairman : Prof. Minn-Tsong Lin (Department of Physics, NTU)	
15:30-16:00	**Formation and Characteristic of GaN Quantum Dots by Self-assembled Nanoholes** Prof. Hao-chung Kuo (Institute of Electro-optical Engineering, NCTU)	15:30-16:00	**Effects of the Bulk Nitrogen in HfO_xN_y High-κ Gate Dielectric on Charge Trapping Properties of MOS Devices** Dr. Chin-Lung Cheng (Department of Engineering and System Science, NTHU)
16:00-16:30	**Fabrication and Emission Characteristic of InGaN/GaN Multiple Quantum Wells Nanorods** Dr. Taohung Hsueh (Institute of Electro-Optical Engineering, NCTU)	16:00-16:30	**A Simple Method to Fabricate Si-based Single Electron Devices** Prof. Ya-Chang Chou (Department of Physics, NTHU)
16:30-17:00	**Design of an Optical Bidirectional Module with Photonic Crystal Waveguides** Dr. Forest S.-S. Chien (Center for Measurement Standards, Industrial Technology Research Institute)	16:30-17:00	**Recent Advances in High κ Gate Dielectrics for Si Nano CMOS** Prof. Ray-Nien Kwo (Department of Physics, NTHU)
17:00-17:30	**Fabrication and Characterization of Photonic Crystals by Colloidal Processes** Prof. Min-Hsiung Hon (Department of Materials Science and Engineering, NCKU)	17:00-17:30	**Surface Functionalization of Carbon Nanotubes and Some Applications** Prof. Kuo-chu Hwang (Department of Chemistry, NTHU)

Poster Session II – Nanobiotechnology

SITE : Lobby, Physics Building, NTHU

TIME : 13:30-17:00

Paper List :

1. Probing Microtubule's Kinetics and Vesicles' Endocytosis Using Total Internal Reflection Fluorescence Microscopy
   Chien-Hua Chen[1], Shu-Jung Yu[3,] Chi-Hung Lin[1, 2] and Din-Ping Tsai[3]
   [1]Institute of Biophotonics, [2]Institute of Microbiology and Immunology of Nation Yang Ming University; [3]Department of Physics, Nation Taiwan University

2. Single DNA Molecule Manipulation Using a Micro-Magnetic Platform
   Chi-Han Chiou, Gwo-Bin Lee
   Department of Engineering Science, National Cheng Kung University

3. Measurement of Adhesion Force between *Klebsiella Pneumoniae* and Collagen by Photonic Force Microscope
   Bo-Jui Chang[1], Ying-Jung Huang[3], Jia-han Chan[2], Hwei-Ling Peng[3], Sien Chi[1] and Long Hsu[2]
   [1]Institute of Electro-Optical Engineering, National Chiao Tung University
   [2] Department of Electrophysics, National Chiao Tung University
   [3]Department of Biological Science and Technology, National Chiao Tung University

4. Biofunctional Semiconductor Quantum Dots for Cell Biology Study
   Yu-Ming Wang[1*], Hsiang-Chih Yang[2], Hsiang-Yuan Huang[2], Yuh-Jiuan Lin[2], and Wen-Tyng Li[1]
   [1]Biomaterial & Tissue Engineering Division, Biomedical Engineering Center, Industrial Technology Research Institute; [2]Medical Engineering Technology Division, Biomedical Engineering Center, Industrial Technology Research Institute

5. Monitor the Drug Entry in Live cells by Raman Spectroscope
   Yin-Jhen Chen , Chi-Hung Lin
   Institute of Biophotonic Engineering, National Yang-Ming University
   Institute of Microbiology and Immunology, National Yang-Ming University

6. Numerical Simulation for B-S Structural Transition of Nicked dsDNA Using Enriched Finite Element Method
   Chang-An Yuan[1]* and Kou-Ning Chiang[2]
   Department of Power Mechanical Engineering, National Tsing Hua University

7. Trend of Development of Biomolecular Conformational Reaction Dynamics
   Victor Wei-Keh Wu[1], and Chau-Chong Han[2]
   [1]Department of Electronic Engineering, Lan-Yang Institute of Technology,
   [2]Institute of Atomic and Molecular Science, Academia Sinica

8. Development of a Plate-based Biochemical Assay by Using Quantum Dots as a Fluorescence Labeling Agent
   Chin-Ping Huang[1], Hong-Wei Liu[1], Chao-Yun Tsao[2] , Li-Te Yin[2], Su-Feng Chiu[2], Teng-Ming Chen[1*]
   [1]Department of Applied Chemistry, National Chiao Tung University,and UST-CNST
   [2]Center of Biomedical Engineeringr, Industrial Technology Research Institute

9. Chitosan Nanoparticles as Novel Transdermal Carrier for DNA
   Chien-Chih Yu, Cheng-Che Yang, Frank L. Chen
   Biofiber & Biotechnology Application Department, Fiber Technology Division, Union Chemical Laboratories, Industrial technology research Institute

10. Seeding Growth Approach to the Synthesis of Highly Faceted Au Nanoparticles and Branched Au Nanocrystals
    Chun-Hong Kuo and Michael H. Huang*
    Department of Chemistry, National Tsing Hua University

11. Study of Metallic Nano-particles to Clusters of Water by Using Electrospray Mass Spectrometry
    Nadeem Ahmad Khan[1], Li-Chi Lu[1], Chi-Hsien Lin[1], Bo-Min Liu[1], Hui-Fen Wu[1,2]*
    [1]*Department of Chemistry, Tamkang University, Tamsui, Taipei Hsien, 251, Taiwan*
    [2]*Graduate Institute of Life Sciences, Tamkang University, Tamsui, Taipei Hsien, 251, Taiwan*

12. 60nm Resolution 3D X-ray Tomography with Phase-Contrast for Nanobiotechnology Research
    Cheng-Hao Ko[1, 2*], Mau-Tsu Tang[1], Te-Hui Lee[1], Gung-Chian Yin[1],Yen-Fang Song[1], Hsueh-Min Lin[2], Keng S. Liang[1] and Wenbing Yun[3]
    [1] *National Synchrotron Radiation Research Center, Taiwan, R.O.C.*
    [2] *Graduate School of Electro-Optical Engineering, Yuan Ze University, Taiwan, R.O.C.*
    [3]*Xradia, Inc., U.S.A.*

13. Multi-walled Carbon Nanotube Electrodes and its Application to Amperometric Biosensors
    Yu-Chen Tsai*, Jie-Ming Chen, Shih-Ci Li
    Department of Chemical Engineering, National Chung Hsing University, Taiwan

14. Specific Delivery of Peptide-Directed Quantum Dot to Tumor Cells
    Chia-Mao Wu[1]*, Yaw-Kuen Li [2], Bor-Kai Hsiung[1], Hsiu-Yiu Wang[1] and Margaret Dah-Tsyr Chang[1]
    [1] Institute of Molecular and Cellular Biology & Department of Life Science, NTHU
    [2] Department of Applied Chemistry, NCTU

15. Application of Nanoparticles for Study the Efficacy of Combining β-Lapachone with Radiotherapy in Treating Rodent Tumor.
    Y. H. Ou[1], W.Y. Mao[1], F. D. Chen[2], David H. C. Pan[3], F. I. Chou[4]
    [1] Inst. Of Biotechnology in Medicine, NYMU; [2] Inst. Of Radiological Sciences, NYMU; [3] Gamma-Knife Surgery, VGH-Taipei and NYMU; [4] FI Chou, Director and Professor, Nuclear Science and Technology Development Center, NTHU

19:00-21:00	Banquet SITE : **Howard Plaza Hotel Hsinchu** NO. 178, Chung-Cheng Road, Hsinchu City TEL : 886-3-5282323 FAX : 886-3-5252300

July 2, 2004 (Friday)

Plenary Session III SITE : Basement 002, Physics Building, NTHU	
Chairman : Prof. Er-Terg Chiou (Dean, School of Medical Technology and Engineering, NYMU)	
08:20-09:00	**A Study of the Growth Behavior and Properties of Nanoclusters, 2D Quantum Islands and Atom-Perfect Nanotips on Solid Surfaces** Prof. Tien Tzou Tsong (Institute of Physics, Academia Scinica)
09:00-09:40	**The Nanometer Energy Transducer of the Biological Cell: Catalytic Wheel, Ion Pump, and the Brownian Motor** Prof. Tian Yow Tsong (Institute of Physics, Academia Scinica)
09:40-10:20	**Nanostructuring of Transparent Materials by Ultrashort Light Pulses** Prof. Peter G. Kazansky (Optolectronics Research Center, University of Southampton, UK)
10:20-10:50	Coffee Break
Chairman : Prof. Fon-Shan Yeh (Institute of Electronics Engineering, NTHU)	
10:50-11:30	**Nano-fabrication with Focused Ion Beams: An Enabling Technique for Nanoscience** Dr. Jacques Gierak (Laboratoire de Photonique et de Nanostuctures, UPR CNRS 20, 91460, Marcoussis, France)
11:30-12:10	**Coherent Manipulations of Excitonic Qubits in InGaAs Self-assembled Quantum Dots** Prof. Chih-Kang Shih (Department of Physics, The University of Texas at Austin, USA)
12:10-13:30	Lunch

Session VII - Nanoelectronics SITE : Basement 002, Physics Building, NTHU		Session VIII - Nanobiotechnology SITE : Basement 019, Physics Building, NTHU	
Chairman : Prof. Chuen-horng Tsai (Department of Engineering and System Science, NTHU)		Chairman : Prof. Chi-Hung Lin (Institute of Microbiology and Immunology, NYMU)	
13:30-14:00	**Synthesis of Aligned Carbon Nanotubes at Enhanced Growth Rate and Reduced Growth Temperature** Prof. Jyh-Ming Ting (Department of Materials Science and Engineering, NCKU)	13:30-14:00	**Single Molecule Detection and Manipulation by Optical Techniques** Prof. Ian. C. Hsu (Department of Atomic Science, NTHU)
14:00-14:30	**Design Strategy on Electrostatic Discharge (ESD) Protection for Nano-Scale CMOS Integrated Circuits** Prof. Ming-Dou Ker (Department of Electronics Engineering, NCTU)	14:00-14:30	**Au Nanoparticle -enhanced Electrical Detection of DNA Hybridization on Silicon Chips** Prof. Jang-Zern Tsai (Department of Electrical Engineering, NCU)
14:30-15:00	**Playing with Arrays of Nanochannels on Anodic Aluminum Oxide Films** Dr. Yuh-Lin Wang (Institute of Atomic and Molecular Sciences, Academia Sinica)	14:30-15:00	**The Superstructure of Self-assembled Melanin** Chung-Yang Lee (Institute of Nanotechnology, NCTU)
15:00-15:30	Coffee Break		

Session IX - Nanoelectronics SITE : Basement 002, Physics Building, NTHU		Session X – New Nano Tools and Nano Materials SITE : Basement 019, Physics Building, NTHU	
Chairman : Prof. Kow-Ming Chang (Department of Electronics Engineering, NCTU)		Chairman : Prof. Nyan-Hwa Tai (Chairman, Department of Materials Science and Engineering, NTHU)	
15:30-16:00	**Growth of Vertically Aligned Carbon Nanotubes by ICP-CVD and *in-situ* Post-treatment for Field Emission Enhancement** Prof. Chuen-horng Tsai (Department of Engineering and System Science, NTHU)	15:30-16:00	**Self-Assembled Nanostructures Mediated by Au Nanoparticles on Various Substrates** Prof. Lih J. Chen (Dean, College of Engineering & Department of Materials Science and Engineering, NTHU)
16:00-16:30	**Tailoring Oxide-Semiconductor Interfaces – an Enabling Sub-nano Approach for New Science and Advanced Devices** Prof. Minghwei Hong (Department of Materials Science and Engineering, NTHU)	16:00-16:30	**The Applications of Nanomaterials in TFT-LCD Fabrications** Dr. Fang-Chen Luo (VP and Chief Technology Officer of AU Optronics Corporation)
16:30-17:00	**In-depth Studies on Transport Characteristics of Si Nanodots** Prof. Huey-liang Hwang (Director, Nano Technology and MEMS Center & Institute of Electronics Engineering, NTHU)	16:30-17:00	**Three-Dimensional Compositional Imaging at the Atomic Scale with Local Electrode Atom Probes (LEAP)*** Dr. Thomas F. Kelly (Founder, Chairman and CTO, Imago Scientific Instruments)
17:00-17:30		17:00-17:30	**Effect of ECR Plasma Exposure on Optical Constants of $Se_{80}Te_{20-x}Pb_x$ Thin Films** Prof. M. Husain (Department of Physics, Jamia Millia Islamia) (Central University)(INDIA)

Poster Session III – Nanophotonics & Nanoelectronics

SITE : Lobby, Physics Building, NTHU

TIME : 13:30-17:00

Paper List :

2. Fabrication and Characterization of Photonic Crystals from Colloidal Processes
   Yi-Wen Chung[1],*, Ing-Chi Leu[2], Jian-Hong Lee[1] and Min-Hsiung Hon[1]
   [1]*Department of Materials Science and Engineering, National Cheng Kung University,*
   [2]*Department of Eelctronic Engineering, Kun Shan University of Technology*

3. InP-based Photonic Crystal Directional Couplers
   Wen-Kai Wang[a], Chin-Yu Chen[a], S.C. Yang[a], Chii-Chang Chen[b], Y.J. Chan [a]
   [a]*Department of Electrical Engineering, National Central University, Jung-Li, Taiwan*
   [b]*Institute of Optical Sciences, National Central University, Jung-Li, Taiwan*

4. Synthesis and Characterization of Phosphorescent Bis-cyclometalated Ir(III) Complexes
   Yueh-Ju, Wang and Chung K. Lai*
   Department of Chemistry, National Central University

5. Enhanced Photoluminescence Observed in Core-shell Composities of Au/CdSe and Au/CdSe/ZnS Nanocrystals
   Hong-Wei Liu, Chin-Ping Huang and Teng-Ming Chen
   Department of Applied Chemistry, National Chiao Tung University and UST-CNST

6. Formation of TiN Nanowires and Nanoparticles within Mesoporous Silica SBA-15
   Han-Sheng Hsueh, Cheng-Tzu Yang, Jeffrey I. Zink, Michael H. Huang
   Department of Chemistry, National Tsing Hua University, Hsinchu 30043, Taiwan, and Department of Chemistry and Biochemistry, University of California, Los Angeles, California 90095, USA

7. Performance Evaluation of Nano Porosity on WO_3 Films for Electrochromic Applications
   C.-Y. Chen[1], Jyh-Jier Ho[2]*, C. -M. Huang [2], W.-R. Liu[2], and W. J. Lee[3]
   [1] *Dept. of C.S. & Info. Eng., Fortune Inst. of Technology, Chi-shan Town, Kaohsiung 842, Taiwan, R.O.C.*
   [2] *Dept. of Electrical Eng., National Taiwan Ocean Univ. Keelung, Taiwan 202, R.O.C.*
   [3] *Indust. Tech. Rese. Institute, Opto-Electron. & Systems Lab., Q100, 195-8 Chung Hsing Rd. Sec 4, Chutung, Taiwan 310, R. O. C.*

8. The Geometry Optimalization of Narrowest Single-Walled Carbon Nanotubes Based on C20 Fullerene
   Leszek Stobinski[1,2*], Jerzy Peszke[3], Hong-Ming Lin[1] and Chung-Kwei Lin[4]
   [1]*Tatung University, Department of Material Engineering, Taipei, Taiwan*
   [2]*Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland*
   [3]*University of Education, Czestochowa, Poland*
   [4]*Depertment of Material Science, Feng-Chia University, Taichung 407, Taiwan*

9. Formation of Ge/Si/Ge Quantum Dots with a Thin Si Layer
   P. S. Chen*, S.W. Lee, Y. H. Peng, C. W. Liu and M.–J. Tsai
   Electronics Research & Service Organization, Industrial Technology Research Institute, Blag. 11, 195 sec 4, Chung Hsing Rd. Chu-tung, HsinChu, Taiwan 310, R.O.C

10. Temperature Dependent Photoluminescence of highly Strained InGaAsN/GaAs Quantum Well (λ=1.20-1.45 μm) with GaAsP Strain-compensated Layer
M. Y. Tsai[1], H. C. Kuo[1]*, Y. H. Chang[1], Y. A. Chang[1], S. C. Wang[1], N. Tansu[2], Jeng-Ya Yeh[3], Luke J. Mawst[3]
[1]Insititue of Electro-Optical Engineering, National Chiao Tung University
[2]Center for Optical Technologies, Department of Electrical and Computer Engineering, Lehigh University
[3]Reed Center for Photonics, Department of Electrical Computer Engineering, University of Wisconsin-Madison

11. Electrical Properties on Crystalline β-Ga_2O_3/GaN Metal Oxide Semiconductor Devices
H.-M. Wu, L.-H. Peng, and J.-Y. Li
Department of Electrical Engineering and Institute of Electro-optical Engineering National Taiwan University

12. Intercalation and Exfoliation of Bismuth Selenide
Fong-Li Chang, How-Wa Chang, Shu-Chuan Huang*
Department of Chemistry, National Dong Hwa University, Hualien, Taiwan R.O.C

13. Effect of Y_2O_3 Addition on the Phase Transition and Grain Growth of YSZ Nanoparticles Preparation by the Sol-gel Process
Yueh-Hsun Lee[a], Chih-Wei Kuo [b], Kuan-Zong Fung [a, *], Moo-Chin Wang [b, c]
*[a, *] Department of Materials Science and Engineering, National Cheng Kung University, 1 Ta-Hsueh Road, Tainan 70101, Taiwan*
[b] Department of Mechanical Engineering, National Kaohsiung University of Applied Sciences, 415 Chien-Kung Road, Kaohsiung 80782, Taiwan
[c]Department of Materials and engineering, National United University, 1 Lein-Da, Kung-Ching Li, Miao-Li 36003, Taiwan

14. Metal Hole-array Membrane Fabricated by Two-step Replication for the Application in SOFCs
C. L. Liao*, C. W. Chu, Y. H. Lee, M. T. Wu, J. H. Yen, and K. Z. Fung
Department of Materials Science and Engineering, National Cheng Kung University, No.1, Ta-Hsueh Road, Tainan 70101, Taiwan

15. Demonstration of Atomically Abrupt Interface of HfO_2 High κ Gate Dielectrics with Si for Nano CMOS
Wei-Jin Lee[1*], Yi-Jun Lee[1], Ya-Ling Hsu[2], Kuen-Yu Lee[1], Chi-Hsin Chu[1], Chien-Chung Huang[2], Y. L. Huang[1], T. Gustafsson[3], E. Garfunkel[3], Sidhu Maikap[4], L. S. Lee[4], Shi-Yen Lin[5], Minghwei Hong[1], and Raynien Kwo[2]
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July 3, 2004 (Saturday)

Plenary Session IV SITE : Basement 002, Physics Building, NTHU	
Chairman : Prof. Huey-liang Hwang (Director, Nano Technology and MEMS Center & Institute of Electronics Engineering, NTHU)	
09:00-09:40	**Toward Heterogeneous Integration of Nanosystems** Prof. Kang L. Wang (Director, MARCO Focus Center on Functional Engineered Nano Architectonics, UCLA)
09:40-10:20	**Bio-informatics-Nano (BIN) Fusion** Prof. Chih-Ming Ho (Institute for Cell Mimetic Space Exploration, School of Engineering and Applied Science, UCLA, USA)
10:20-10:40	Coffee Break
Chairman : Prof. Lih J. Chen (Dean, College of Engineering & Department of Materials Science and Engineering, NTHU)	
10:40-11:20	**Nanoimprint and its Applications in Photonics and Biotechnology** Prof. Lingjie (Jay) Guo (Department of Electrical Engineering & Computer Science, University of Michigan, USA)
11:20-12:00	**Ferromagnet/Semiconductor Nanostructures for Spintronics and New Magnetologic Concepts** Prof. Klaus H. Ploog (Director of Paul-Drude-Institut für Festkörperelektronik, Germany)
12:00-12:10	Closing
12:10-13:30	Lunch

UST CNST Steering Committee Meeting 2004

TIME：14:00-16:00

SITE：Room 207, Physics Building, NTHU

Name List：

Prof. Chao-Han Liu (Chancellor of University System of Taiwan)

Prof. Wen-Tsuen Chen (Vice Chancellor, University System of Taiwan)

Prof. Cheng-Chung Chi (Director, Center for Nano Science and Technology, University System of Taiwan / Department of Physics, NTHU)

Prof. Kang L. Wang (Director, MARCO Focus Center on Functional Engineered Nano Architectonics, UCLA)

Prof. Chih-Ming Ho (Institute for Cell Mimetic Space Exploration, School of Engineering and Applied Science, UCLA, USA)

Dr. Chang-Chyi Tsuei (IBM Thomas J. Watson Research Center, USA)

Prof. Koung An Chao (Department of Physics, Lund University, Sweden)

Prof. Tian Yow Tsong (Institute of Physics, Academia Scinica)

Dr. Chenming Hu (TSMC, R.O.C.)