

# **SYMPOSIUM H**

---

**Carbon Nanotubes: Synthesis, Characterisation and Applications**

---

## Symposium H: Carbon Nanotubes: Synthesis, Characterisation and Applications

Level 3, Room 308

Mon, 29-Jun-09	Tue, 30-Jun-09	Wed, 1-Jul-09	Thu, 2-Jul-09	Fri, 3-Jul-09
	(08:30 - 09:15) Plenary Lecture 2 Peter Doherty	(08:30 - 09:15) Plenary Lecture 4 John Pendry	(08:30 - 09:15) Plenary Lecture 6 Hartmut Michel	
(09:00 - 09:45) Opening Ceremony	(09:15 - 10:00) Plenary Lecture 3 Andrew Wee	(09:15 - 10:00) Plenary Lecture 5 Chad Mirkin	(09:15 - 10:00) Plenary Lecture 7 Akihisa Inoue	(09:00 - 09:45) Plenary Lecture 8 Jean-Marie Basset
(09:45 - 10:30) Plenary Lecture 1 Peter Gruenberg	(10:00 - 10:30) Coffee Break			(09:45 - 10:30) Plenary Lecture 9 Frederick Lange
(10:30 - 11:00) Coffee Break				(10:30 - 11:00) Coffee Break
(11:00 - 12:30) <b>Session H-S1</b>	(10:30 - 12:30) <b>Session H-S4</b>	(10:30 - 12:30) <b>Session H-S6</b>	(10:30 - 12:30) <b>Session H-S9</b>	/
(12:30 - 14:00) Lunch (13:00 - 13:45) Theme Lecture James L. Hedrick	(12:30 - 14:00) Lunch (13:00 - 13:45) Theme Lecture Martyn Poliakoff	(12:30 - 14:00) Lunch (13:00 - 13:45) Theme Lecture Karl U. Kainer	(12:30 - 14:00) Lunch  (13:00 - 14:30) Panel Discussion	(13:00 - 14:30) Closing & Poster Award Ceremony Lunch
(14:00 - 16:30) <b>Session H-S2</b>	(14:00 - 16:30) <b>Session H-S5 POSTER SESSION</b>	(14:00 - 15:30) <b>Session H-S7</b>	(14:30 - 16:00) <b>Session H-S10</b>	/
(16:30 - 18:00) <b>Session H-S3</b>	/	(15:30 - 17:30) <b>Session H-S8</b>	/	/
/	(18:00 - 20:00) Public Lectures @ UCC Peter Doherty Peter Gruenberg	(19:00 - 20:00) Public Lecture @ UCC Hartmut Michel	(19:00 - 22:00) Conference Banquet @ Suntec	/

### H-S1

Monday, 29 June 2009

11:00-12:30

Level 3, Room 308

Chair: TBA

**11:00 H-S1.1-2(IN) A01885-03813 pg H29**

**Nanoelectronically Functional Carbon Nanotubes**

**Created by Plasma Processing**

R. HATAKEYAMA, T. KANEKO, T. KATO, Y. F. LI

**11:30 H-S1.3-4(IN) A02699-04643 pg H38**

**Nanostructured Carbon Electrodes for Energy Storage**

Gehan AMARATUNGA

**12:00 H-S1.5(O) A01424-02466 pg H22**

**Assessment of (n,m) Selectively Enriched Small Diameter Single-Walled Carbon Nanotubes by Density Differentiation from Cobalt-Incorporated MCM-41 for Microelectronics**

Yuan CHEN, Li WEI, Chun Wei LEE, Lain-Jong LI

**12:15 H-S1.6(O) A02379-04070 pg H35**

**Carbon Nanotubes as Reactors and Containers for Diverse Functional Nanomaterials**

Ujjal K. GAUTAM, Yoshio BANDO, Xiaosheng FANG, Pedro M. F. J. COSTA, Dmitri GOLBERG

---

### H-S2

Monday, 29 June 2009

14:00-16:30

Level 3, Room 308

Chair: Yuan CHEN

**14:00 H-S2.1-2(IN) A02998-05120 pg H42**

**Carbon Electronics Based on Wafer-Scale Aligned Carbon Nanotubes and Graphene**

Chongwu ZHOU

**14:30 H-S2.3-4(IN) A01822-03173 pg H29**

**Quick and Easy Metal-Semiconductor Separation of SWCNTs**

Hiroichi KATAURA, Takeshi TANAKA, Yasumitsu MIYATA, Shunjiro FUJII, Daisuke NISHIDE, Kazuhiro YANAGI, Ye FENG, Kiyoto MATSUISHI, Yutaka MANIWA

**15:00 H-S2.5-6(IN) A01865-03223 pg H29**

**Strategy of Carrier Control of Carbon Nanotube Transistor**

Young Hee LEE

**15:30 H-S2.7(O) A01601-02785 pg H25**

**High Performance Hybrid CMOS Device Utilizing Zinc Oxide Nanowire and Single Walled Carbon Nanotube Networks**

Yan ZHANG, Husnu Emrah UNALAN, Pritesh HIRALAL, Sharvari DALAL, Gehan AMARATUNGA, William I MILNE

**15:45 H-S2.8(O) A01710-02984 pg H27**

**Possibility of SWNT Chirality Control by Free Electron Laser Irradiation during Alcohol Catalytic Chemical Vapor Deposition**

Hiroshi YAMAMOTO, Daisuke ISHIZUKA, Nobuyuki IWATA, Keiji SAKAI, Katsumi UCHIDA, Hirofumi YAJIMA

**16:00 H-S2.9(O) A00083-00366 pg H8**

**Characteristics of Hot Extruded Composite Metals Dispersed with Un-bundled CNTs**

Hisashi IMAI, Hiroyuki FUKUDA, Bunshi FUGETSU, Katsuyoshi KONDOH

**16:15 H-S2.10(O) A00647-01162 pg H13**

**Synthesizing Carbon Nanotube on Nanostructure Porous Silicon Using Monometallic Catalyst from Palm Oil Precursor**

Suriani ABU BAKAR, Mohamad Hanif MOHAMAD TAIB, Salina MOHAMAD, Isrihetty Siti Salmah SENAIN, Fakardellawarni MOHAMAD, Nik Farhana SHAMSUDIN, Nurul Fatahah Asyqin ZAINAL, Azira AZIZ, Saifollah ABDULLAH, Mohamad Rusop MAHMOOD

---

### H-S3

Monday, 29 June 2009

16:30-18:00

Level 3, Room 308

Chair: TBA

**16:30 H-S3.1(O) A02538-04347 pg H37**

**Production of High Quality Aligned Carbon Nanotubes by One Step Method**

Ravi BHATIA, Prasad VISHNU BHOTLA, Reghu MENON

**16:45 H-S3.2(O) A01556-02911 pg H25**

**One-Dimensional Carbon Nanomaterials from Flames: A Review**

Chunxu PAN, Jun ZHANG, Xiang QI, Qiaoliang BAO

**17:00 H-S3.3(O) A02220-03795 pg H34**

**Effect of Hydrogen Flowrate and Carbon Source on Production of Carbon Nanotubes by Chemical Vapor Deposition**

Issam AMR, Muataz ATIEH, Khaled MEZGHANI, Adnan AL-AMER, Mamdouh AL-HARTHI

**17:15 H-S3.4(O) A02846-04873 pg H39**

**Thermal Kinetics of Multiwall Carbon Nanotube Prepared by Floating Catalyst Chemical Vapor Deposition (FC-CVD)**

Faraj ABUILAIWI, Muataz ATIEH

17:30 H-S3.5(O) A01692-02936 pg H27  
Fabrication and Superplasticity of MWCNTs/Al  
Composites  
Jinzhi LIAO, Ming Jen TAN, Sridhar IDAPALAPATI

17:45 H-S3.6(O) A01534-02928 pg H24  
Effect of Silicon Nitride Interfacial Layer in  
Alignment of Multi Walled Carbon Nanotubes and  
their Field Emission Properties  
Sangeeta HANDUJA, Sarab Preet SINGH,  
P. SRIVASTAVA, V. D. VANKAR

---

### H-S4

Tuesday, 30 June 2009  
10:30-12:30  
Level 3, Room 308  
Chair: TBA

10:30 H-S4.1-2(IN) A02899-04957 pg H40  
Selective Growth of Well Aligned Semiconducting  
Single-walled Carbon Nanotubes  
Lei DING, Alexander TSELEV, Dongning YUAN,  
Thomas P. MCNICHOLAS, Jie LIU

11:00 H-S4.3-4(IN) A02964-05072 pg H41  
Carbon Nanotubes as Physical and Biological  
Platforms for Technology Applications  
S. R. P. SILVA

11:30 H-S4.5(O) A00237-00481 pg H10  
Plasma-synthesized Arrays of Carbon Nanotubes and  
Related Nanostructures: A Deterministic Approach  
Kostya (Ken) OSTRIKOV

11:45 H-S4.6(O) A02143-03690 pg H32  
Controllable Growth of Ultralong Single-Walled  
Carbon Nanotubes on Substrates  
Yan LI, Weiwei ZHOU, Zhong JIN, Yan ZHANG,  
Yu LIU, Rongli CUI, Jinyong WANG

12:00 H-S4.7(O) A01314-02298 pg H20  
The Effects of Catalyst Treatments on the Growth of  
Millimeter High Vertically-aligned Carbon Nanotube  
Arrays  
Zhaoyao ZHAN, Gengzhi SUN, Menghui CHEW,  
Belvin Tong Deng KOH, Tao WU, Lianxi ZHENG

12:15 H-S4.8(O) A01319-02306 pg H20  
Re-growth Aligned Carbon Nanotubes with Improved  
Field Emission  
Xiaodai LIM, Chornng Haur SOW

---

### H-S5: Poster Session

Tuesday, 30 June 2009  
14:00 - 16:30  
Level 3, Gallery

H-S5.01(P) A00047-01657 pg H8  
Energetic Properties and Work Function of K  
Intercalated Carbon Nanotube Tip: Applications to  
Field-Emission  
Anucha PRATUMMA

H-S5.02(P) A00203-00388 pg H9  
Preparation of Thermoplastic Polyurethane /  
Functionalized Graphene Sheet Nanocomposites by In  
Situ Method and Their Properties  
Duc Anh NGUYEN, Anjanapura V. RAGHU,  
Youn Bok CHO, Han Mo JEONG

H-S5.03(P) A00203-00432 pg H10  
Preparation of Waterborne Polyurethane/  
Functionalized Graphene Sheet Nanocomposites by In  
Situ Method and Their Properties  
Yu Rok LEE, Anjanapura V. RAGHU, Han Mo JEONG

H-S5.04(P) A00403-01141 pg H11  
Synthesis and Characterization of Amorphous Hollow  
Carbon Spheres  
Guang Min YANG, Sean LI, Chun Cheng YANG,  
Wei Tao ZHENG

H-S5.05(P) A00423-00814 pg H11  
Reinforcing Effects of MWNTs and Alcohol Steam on  
the Electrospun Silk Ffibroin/Polyamide 6-66 Nano-  
scale Fiber Nonowoven  
Anchang XU, Zhijuan PAN

H-S5.06(P) A00526-00956 pg H12  
Removal of Lead(II) and Cadmium(II) Ions from  
Aqueous Solutions by Adsorption on Activated  
Carbon Prepared from Cashew Nut Shells  
Singhadet TANGJUANK, Natkritta INSUK,  
Jeerapong TONTRAKOON

H-S5.07(P) A00579-01284 pg H12  
Preparation and Characterizations of Align Carbon  
Nanotubes on Porous Silicon Substrate  
Saifollah ABDULLAH, Mohamad RUSOP,  
Mohamad HERIADI, Hartinie AHMAD RAFAIE,  
Suhaidah AMIZAM, Nurul Fatahah ZAINAL

H-S5.08(P) A00647-01164 pg H13  
Temperature Effect on Carbon Nanotube Synthesized  
from Palm Oil Precursor  
Suriani ABU BAKAR,  
Mohamad Hanif MOHAMAD TAIB,  
Salina MOHAMAD,  
Shamsul Faez MOHAMAD YUSOP,  
Fakardellawarni MOHAMAD,  
Nik Farhana SHAMSUDIN,  
Nurul Fatahah Asyqin ZAINAL, Azira ABD. AZIZ,  
Saifollah ABDULLAH, Mohamad Rusop MAHMOOD

- H-S5.09(P) A00833-01453** pg H14  
**Experimental Study on Thermal Conductivity Enhancement of Alkali Treated Carbon Nanotube Composite as Phase Change Material**  
Jifen WANG, Huaqing XIE, Zhong XIN
- H-S5.10(P) A00937-01639** pg H15  
**Temperature Effects on the Synthesis of Multi-Walled Carbon Nanotubes by Ethanol Catalytic Chemical Vapor Deposition**  
Jin CHENG, Xiaoping ZOU
- H-S5.11(P) A00937-01654** pg H15  
**Single-Walled Carbon Nanotubes Synthesized by Floating Catalytic Chemical Vapor Deposition and Deposited at Low Temperature Region**  
Jin CHENG, Xiaoping ZOU
- H-S5.12(P) A00998-02186** pg H16  
**The Thermal Dissipation Study of Carbon Nanotubes used in High Power LED**  
Chih-Hsiang CHANG, Kwang-Jow GAN, Chun-Liang LIN, Jeng-Jong LU
- H-S5.13(P) A01090-01891** pg H16  
**Hydrophilicity and Hydrophobicity Study of Carbon Nanotube Film**  
Ka Po YUNG, Jun WEI
- H-S5.14(P) A01175-02011** pg H17  
**Niobium Carbide (Nb<sub>2</sub>C) Contact for Carbon Nanotube Based Devices**  
Leihua HUANG, Eng Fong CHOR, Yihong WU, Zaibing GUO
- H-S5.15(P) A01175-04207** pg H18  
**Comparison between Double- and Single-Wall Carbon Nanotube Effect Transistors**  
Leihua HUANG, Eng Fong CHOR, Yihong WU, Zaibing GUO
- H-S5.16(P) A01187-02033** pg H18  
**Synthesis of Single-walled Carbon Nanotubes with Uniform Diameters and Chiralities by CO Disproportionation on Ni-MCM-41 Catalysts**  
Chi-Chau HWANG, Yi-Hua LIN, Chung-Yuan MOU
- H-S5.17(P) A01274-02215** pg H19  
**Van Der Waals Interaction Between Carbon Nanotubes, Fullerenes and Small Atomic Clusters**  
Kamal CHINNATHAMBI, Tapan Kumar GHANTY, Arup BANERJEE, Aparna CHAKRABARTI
- H-S5.18(P) A01334-02333** pg H20  
**Simulation of Electron Irradiation Effects in Carbon Nanotubes - Introduction of Relativistic Effect -**  
Masaaki YASUDA, Shinya WAKUDA, Ryosuke MIMURA, Hiroaki KAWATA, Yoshihiko HIRAI
- H-S5.19(P) A01349-02351** pg H21  
**Enhanced Field Emission from Titanium-coated Carbon Nanotubes**  
Hyung Soo UH, Sangsik PARK, Byungwhan KIM
- H-S5.20(P) A01390-02421** pg H21  
**Direct Tensile Test of Carbon Nanotube Bundles**  
Gengzhi SUN, Belvin Tong Deng KOH, Zhaoyao ZHAN, Menghui CHEW, John Hock Lye PANG, Kin LIAO, Lianxi ZHENG
- H-S5.21(P) A01457-02532** pg H22  
**The Effect of Different Buffer Layer Preparation on the Growth of the Aligned Carbon Nanotubes**  
Mun Kou LAI, Norani Muti MOHAMED, Mumtaj Begam KASIM RAWTHAR
- H-S5.22(P) A01468-02547** pg H22  
**Hydrogen Evolution Kinetics of Zirconium Doped NaAlH<sub>4</sub>**  
Jameel KHAN, Ankur JAIN, Indra Prabh JAIN
- H-S5.23(P) A01506-02617** pg H23  
**Effect of Adsorption Metal Atom on the Transport Properties of Single Wall Carbon Nanotubes**  
Ayumu SUGIYAMA, Than Cuong NGUYEN, Hieu Chi DAM
- H-S5.24(P) A01530-02674** pg H23  
**Characterisation of Electric Conductivity in Rapid Vacuum Arc Annealed Multi-walled Carbon Nanotubes**  
Jeff TSAI, Yan-Ton CHIAO
- H-S5.25(P) A01678-02903** pg H27  
**Characterization of TiO<sub>2</sub>/Multi-walled Carbon Nanotube Composites**  
Yu-Ling WEI, Jing-Yi YANG, H. Paul WANG
- H-S5.26(P) A01753-03074** pg H28  
**The Effect of Different Size of CNT in the Polymer Matrix**  
Wan-Jung CHOU, Chuh-Yung CHEN
- H-S5.27(P) A01789-03135** pg H28  
**Preparation and Characterization of PANI / SWNT, PANI / MWNT Composite Film for Hydrogen Sensing**  
Subodh SRIVASTAVA, S. S. SHARMA, Shweta AGRAWAL, Sumit KUMAR, M. SINGH, Y. K. VIJAY
- H-S5.28(P) A02148-03701** pg H33  
**Composites of Carbon Nanotubes and Calcium Carbonate from Eggshell Waste and its Properties**  
Ankur DUARAH, Zhuo Huishan WENDY, Suresh VALIYAVEETIL

**H-S5.29(P) A02206-03772** pg H34  
**Effect of Reaction Temperature on the Production of Carbon Nanotubes on a Silicon Dioxide Wafer**  
Muataz HUSSIEN

**H-S5.30(P) A02219-03794** pg H34  
**Properties of Copper Coated with Carbon Nanotubes**  
Tahar LAOUI

**H-S5.31(P) A02356-04061** pg H35  
**Preparation of the Multifunctional Films Based on Carbon Nanotubes: Conductive, Transparent, Superhydrophobic, Photocatalytic Films**  
Long-Yue MENG, Soo-Jin PARK

**H-S5.32(P) A02451-04184** pg H36  
**Laser-Induced Pyrolysis: In-Situ Modulation of Carbon Black Morphology**  
Ernest POPOVICI, Ion MORJAN, Lavinia GAVRILA FLORESCU, Iuliana SOARE, Mihaela PLOSCARU, Catalin LUCULESCU, Ion SANDU, Ion VOICU

**H-S5.33(P) A02529-04330** pg H37  
**Development of Carbon Nanotube-Filled Lead Free Sac Alloy Solder Paste**  
Blessie BASILIA, Jessica CRUZ, Richard CLEMENTE, Glen AVENDANO, Eduardo MAGDALUYO, JR.

**H-S5.34(P) A02731-04704** pg H38  
**Purification of Carbon Nanotubes by NaOH Leaching and Froth Flotation**  
Pisan CHUNGCHAMROENKIT, Boonyarach KITTYANAN, Sumaeth CHAVADEJ, Ummarawadee YANATATSANEEJIT

**H-S5.35(P) A02777-04744** pg H38  
**Carbon Nanofibers**  
Yi SU

**H-S5.36(P) A02809-04907** pg H39  
**Adsorption of MgCl<sub>2</sub> on Surface-Modified Multi-Walled Carbon Nanotubes**  
Wannida APISUK, Boonyarach KITTYANAN

---

### H-S6

Wednesday, 1 July 2009  
10:30-12:30  
Level 3, Room 308  
Chair: Lain Jong Li

**10:30 H-S6.1-2(IN) A02895-04948** pg H40  
**Optical Properties of Purified Carbon Nanotube-polymer Composites**  
Robin J. NICHOLAS, A. BAKER, K.-C. CHUANG, A. NISH, T. SCHUETTFORT

**11:00 H-S6.3-4(IN) A00180-00805** pg H9  
**Interfacial Properties of Single-Walled Carbon Nanotubes**  
Kirk ZIEGLER

**11:30 H-S6.5(O) A01224-02106** pg H19  
**P3HT as the Surfactant on the Dispersion Single-walled Carbon Nanotubes**  
Cheng-Kai CHANG, Jeong-Yuan HWANG, Li-Chyong CHEN, Kuei-Hsien CHEN

**11:45 H-S6.6(O) A02967-05075** pg H42  
**Stability and Dispersibility of Single-Walled Carbon Nanotube Dispersion using Polysaccharides and Surfactants**  
Liangyu YAN, Tina Yu Qian TAN, Mary B. CHAN-PARK

**12:00 H-S6.7(O) A02135-03684** pg H32  
**Novel Natural Polymer-Carbon Nanotube Hybrid Materials: Preparation and Properties Thereof**  
Gang KE, Wenchao GUAN, Jinyan FAN, Zili LIU, Xiaoguo LIU

**12:15 H-S6.8(O) A00758-01353** pg H14  
**Study of Electrical Properties of Single Walled Carbon Nanotubes and Conducting Polymer Composites as a Function of Nanotube Length**  
Pramod Kumar BHATNAGAR, Parmatma Chandra MATHUR, Inderpreet SINGH, Abhishek VERMA

---

### H-S7

Wednesday, 1 July 2009  
14:00-15:15  
Level 3, Room 308  
Chair: TBA

**14:00 H-S7.1-2(IN) A02397-04238** pg H36  
**Wafer-scale Synthesis and Electrochemical Properties of Few-layer Graphene for Energy Applications**  
Li-Chyong CHEN, Ming-Shien HU, Abhijit GANGULY, Ying-Ying HORNG, Kuei-Hsien CHEN

**14:30 H-S1.3-4(IN) A01930-03330** pg H31  
**Carbon Nano Test Tubes: Interactions of Nanotubes with Molecules and Colloidal Particles**  
Andrei KHLOBYSTOV

**15:00 H-S7.5-6(IN) A02415-04127** pg H36  
**Ink-jet Printing of Nano-carbon Materials**  
Taishi TAKENOBU

---

## H-S8

Wednesday, 1 July 2009  
15:30-17:30  
Level 3, Room 308  
Chair: TBA

- 15:30 H-S8.1(O) A02184-03745 pg H33**  
**Chemically-Doped Carbon Nanotubes as Interpenetrating Electrodes for Performance Enhancement of Organic Solar Cells**  
Ching-Yuan SU, Ang-Yu LU, Yi-Ling CHEN, Ching-Yen WEI, Pen-Cheng WANG, Chuen-Horng TSAI
- 15:45 H-S8.2(O) A02234-03955 pg H35**  
**Preparation and Properties of Carbon Nanotubes-TiO<sub>2</sub> Nanocomposites**  
Yucheng WU, Xinmin HUANG, Rong REN, Xiaolu LIU
- 16:00 H-S8.3(O) A01548-03019 pg H24**  
**Solution Processed CNT-PEDOT:PSS Composite and its Application in Organic Electronics**  
Malti BANSAL, Ritu SRIVASTAVA, C. LAL, M. N. KAMALASANAN, L. S. TANWAR
- 16:15 H-S8.4(O) A00445-01530 pg H12**  
**p-n Junctions Formed with Carbon Nanotubes Deposited onto Ga-Doped ZnO Thin Films**  
Yong-Won SONG, Jae Sang LEE, Seung Hwan YOO, Amos MARTINEZ, Shinji YAMASHITA, Sang Yeol LEE
- 16:30 H-S8.5(O) A02965-05073 pg H41**  
**Reactive Spinning of Thermoset Composite Fibers Reinforced with Aligned and Functionalized Single-walled Carbon Nanotubes**  
Wei YUAN, Jianfei CHE, Mary B. CHAN-PARK
- 16:45 H-S8.6(O) A02963-05071 pg H41**  
**Reinforcement of Alginate Hydrogels using Carbon Nanotubes**  
Yin Fun POON, Koon Thye LIM, Liang Yu YAN, Suganya C. A., Mary B. CHAN-PARK
- 17:00 H-S8.7(O) A02799-04790 pg H39**  
**Effect of Carbon Nanotube Fillers on the Electrical Conductivity of High Density Polyethylene - Carbon Black Composites**  
Dinesh PUTTARAJEGOWDA, N.M. RENUKAPPA, Siddaramaiah, T. JEEVANAND, Joong-Hee Lee
- 17:15 H-S8.8(O) A01031-02007 pg H16**  
**Fabrication and Characterization of Carbon Nanotube Electrode in Anodized Alumina Templates for Electrochemical Sensing**  
Ditsayut PHOKHARATKUL, Anurat WISITSORAAT, Chanpen KARUWAN, Tanom LOMAS, Adisorn TUANTRANONT

## H-S9

Thursday, 2 July 2009  
10:30-12:30  
Level 3, Room 308  
Chair: Mary B. CHAN-PARK

- 10:30 H-S9.1-2(IN) A02924-04999 pg H40**  
**Solution-processed Transparent and Conducting Single Walled Carbon Nanotube and Graphene Thin Films**  
Manish CHHOWALLA
- 11:00 H-S9.3-4(IN) A01948-03376 pg H31**  
**Carbon Nanotube Solar Energy Conversion Devices**  
Dirk M. GULDI
- 11:30 H-S9.5-6(IN) A01652-02941 pg H26**  
**Optical Study of Graphene: From Fundamental Studies to Applications**  
Ze Xiang SHEN, Zhen Hua NI, Ying Ying WANG, Yu Meng YOU, Da ZHAN, Zhi Qiang LUO, Lei LIU, Yun MA, Ting YU
- 12:00 H-S9.7(O) A01102-01903 pg H17**  
**A Thermal Rectifier from Cone-shaped Carbon Nanotube**  
Nuo YANG, Gang ZHANG, Baowen LI
- 12:15 H-S9.8(O) A00317-00620 pg H10**  
**Calculation of Young's Moduli of Graphene Sheets and Carbon Nanotubes using Analytical Solution and Numerical Simulation**  
Mahmood M. SHOKRIEH, Roham RAFIEE

---

## H-S10

Thursday, 2 July 2009  
14:30-16:00  
Level 3, Room 308  
Chair: TBA

- 14:30 H-S10.1(O) A01552-02705 pg H25**  
**Effect of Biocompatible and Mesoporous Single Walled Carbon Nanotube Matrices on Osteoblastic Cell Cultures**  
Wojtek TUTAK, Jack SHAMIE, Gary MONTEIRO, Federico SESTI, Manish CHHOWALLA
- 14:45 H-S10.2(O) A01668-03084 pg H26**  
**A Novel All-plastic Liquid-gated Single-walled Carbon Nanotube Field Effect Transistor for Biosensing Applications**  
I Putu Mahendra WIJAYA, Ju Nie TEY, Isabel RODRIGUEZ, Subodh MHAISALKAR

**15:00 H-S10.3(O) A01276-03401 pg H19**

**Development of a Low Cost Carbon Nanotube Based Alcohol Sensor**

Jitender KUMAR, Inderpreet SINGH, Jasmeet SINGH, Sukhbinder Singh RAIT, Chhavi BHATNAGAR, Vinod Kumar JAIN

**15:15 H-S10.4(O) A01922-03308 pg H30**

**Influence of Nitrogen-doping on the Structure and Electrochemical Characteristics of Multi-wall Carbon Nanotubes**

Lyubov BULUSHEVA, Alexander OKOTRUB, Alexander KURENYA, Igor ASANOV, Ekaterina FEDOROVSKAYA, Huaihe SONG

**15:30 H-S10.5(O) A00086-00885 pg H8**

**Current-voltage Characteristics of Long Carbon Nanotubes Bundles**

Laishram Tomba SINGH, Karuna Kar NANDA

**15:45 H-S10.6(O) A00764-01346 pg H14**

**Charge Transport Properties of Multiwall Carbon Nanotubes**

Ved Prakash ARYA, V PRASAD, PS ANIL KUMAR

---