

WONTON 2009 Program

Sunday, June 7

- 15:00 *Opening*
- 15:15 **Recent Applications of Single-Walled Carbon Nanotube Fluorescence**
R. Bruce Weisman
Department of Chemistry and R. E. Smalley Institute for Nanoscale Science and Technology, Rice University Houston, Texas 77005 USA
- 15:50 **Squeezing Metallic SWCNTs from Thawed out Black Agarose**
Hiromichi Kataura, Takeshi Tanaka, Shunjiro Fujii, Daisuke Nishide, Kazuhiro Yanagi, Yasumitsu Miyata, Ye Feng, Kiyoto Matsuishi, Yutaka Maniwa
Nanotechnology Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, JST, CREST, Kawaguchi, Saitama, Japan, University of Tsukuba, Tsukuba Japan, Tokyo Metropolitan University, Tokyo, Japan
- 16:25 **Modulation of Surfactant/Nanotube Interfacial Behavior: Enhanced Separations and Spectroscopy**
Stephen K. Doorn, Sandip Niyogi, Crystal G. Densmore, Erik H. Haroz, Donny Magana, Junichiro Kono
Chemistry Division, Los Alamos National Laboratory and Department of Electrical and Computer Engineering, Rice University

17:00 *Coffee Break*

18:00 *Evening Reception*

19:30 *Evening Poster Session*
19:30-20:30 Odd numbered posters should be presented.
20:30-21:30 Even numbered posters should be presented.

Monday, June 8

- 8:30 **When size does matter: Exciton diffusion and Brownian motion of carbon nanotubes**
Tobias Hertel, Thomas Ackermann, Jared Crochet, Sabine Himmelein, Dominik Stich, Larry Luer, Guglielmo Lanzani
Institute for Physical Chemistry, Am Hubland, Julius-Maximilians University Wurzburg, 97076 Wurzburg, Germany
- 9:05 **Photoluminescence studies and separation of single-walled carbon nanotubes**
Sergei Lebedkin, Oliver Kiowski, Frank Hennrich, Stefan Jester, Ninette Sturzl, Lea Burger, Zhong Jin, Yan Li and Manfred M. Kappes
Institute of Physical Chemistry, Universitaet Karlsruhe and Institute of Nanotechnology, Forschungszentrum Karlsruhe, Germany
- 9:40 **Absorption, Photoluminescence and Photoconductivity of Highly Purified Semiconducting Single-wall Carbon Nanotubes**
Nobutsugu Minami, Y. Futami, Said Kazaoui and Nicolas Izard
Nanotechnology Research Institute and Nanotube Research Center, AIST

10:15 *Coffee Break*

- 10:35 **The Mott-Hubbard Interaction and Exciton Binding Energies in Semiconducting and Metallic Single-Walled Carbon Nanotubes**
S. Mazumdar, D. Psiachos and Z. Wang
Department of Physics, University of Arizona, Tucson, AZ 85721, USA
- 11:10 **Optical Spectroscopy of Carbon Nanotube P-N Diodes**
Ji Ung Lee
College of Nanoscale Science and Engineering, The University at Albany-SUNY, 255 Fuller Road, Albany, NY, USA
- 11:45 **Direct comparison of photoluminescence intensity with (n,m) abundance of single-walled carbon nanotubes**
Yutaka Ohno, Atsushi Kobayashi, and Takashi Mizutani
Department of Quantum Engineering, Nagoya University, Japan
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- 12:20 *Lunch*
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- 13:35 **Exciton effect and phonon softening effect in the Raman spectroscopy of single wall carbon nanotubes**
Riichiro Saito
Tohoku University
- 14:10 **Luminescence spectroscopy of individual SWNTs and elemental bundles**
Jacques Lefebvre and Paul Finnie
IMS/National Research Council
- 14:45 **Biological applications of near-infrared fluorescent sensors based on single-walled carbon nanotubes**
Michael S. Strano
M.I.T. Dept. of Chemical Engineering
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- 15:20 *Coffee Break*
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- 15:40 **Nonlinear Optical Properties and Phase Relaxation Processes in Semiconducting Single-Walled Carbon Nanotubes**
Masao Ichida, Tadashi Nakano, Singo Saito, Yasumitsu Miyata, Hiromichi Kataura, and Hiroaki Ando
Department of Physics, Konan University
- 16:15 **Probing Disorder in Graphene with Raman Spectroscopy**
Ado Jorio, Marcia M. Lucchese, Fernando Stavale, Erlon H. M. Ferreira, Cecilia Vilani, Rodrigo B. Capaz, Carlos. A. Achete
Departamento de Fisica, UFMG, Belo Horizonte, MG and Divisao de Metrologia de Materiais, metro, Duque de Caxias, RJ, Brazil
- 16:50 *Poster Session (All posters)*
- 18:00 *Dinner*
- 19:30 *Evening Poster Session*
19:30-20:30 Odd numbered posters should be presented.
20:30-21:30 Even numbered posters should be presented.

Tuesday, June 9

- 8:30 **Optical Spectroscopy of Single and Multilayer Graphene**
Tony F. Heinz
Departments of Physics and Electrical Engineering, Columbia University, New York, NY 10027, USA
- 9:05 **Optical and Magnetic Anisotropy in Graphene Oxide**
Jay Kikkawa
The University of Pennsylvania
- 9:40 **Vibrational modes in graphene and semiconductor nanorods**
Christian Thomsen
Institut für Festkörperphysik, TU Berlin, Hardenbergstr. 36, 10623 Berlin, Germany
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- 10:15 *Coffee Break*
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- 10:35 **Theory of Near-field Raman Enhancement in Carbon Nanotubes**
Luiz Gustavo Cancado, Ado Jorio, Achim Hartschuh, E. Joselevich, and Lukas Novotny
The Institute of Optics, University of Rochester
- 11:10 **Optical properties of ultra-thin single-walled carbon nanotubes aligned in the nano channels of zeolite AEL single crystals**
Z. K. Tang, J. P. Zhai, and R. Saito
Department of Physics and the Institute of Nano Science & Technology, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong
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- 11:45 *Lunch*
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- 13:00 *CNTNE2009 Opening (T. Mizutani)*
- 13:10 **Electrical power dissipation, phonon populations, and substrate effects in carbon nanotubes and graphene**
M. Freitag
IBM Watson Research Center, Yorktown Heights, NY 10598, USA
- 13:45 **Terahertz Dynamics in Carbon Nanotubes**
Junichiro Kono
Rice University
- 14:20 **Exciton Fine Structures and Dynamics Studied by Single Carbon Nanotube Spectroscopy**
Kazunari Matsuda
Institute for Chemical Research, Kyoto University, Uji, Kyoto 611-0011, Japan
- 15:10 *Tour*
- 19:00 *Banquet*

Wednesday, June 10

- 8:30 **Our Recent Advances in Nanotube and Graphene Research**
Mildred Dresselhaus and Jing Kong
Massachusetts Institute of Technology
- 9:05 **Optical properties of monolayer and bilayer graphene**
Tsuneya Ando¹, Mikito Koshino¹, and Kenichi Asano²
¹ *Department of Physics, Tokyo Institute of Technology, 2-12-1 Ookayama, Meguro-ku, Tokyo 152-8551, Japan*
² *Department of Physics, Osaka University, 1-1 Machikaneyama, Toyonaka 560-0043, Japan*
- 9:40 **Raman, Photoluminescence and Saturable Absorption in Graphene**
Andrea C. Ferrari
Engineering Department, Cambridge University, Cambridge, UK
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- 10:15 *Coffee Break*
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- 10:35 **Electronic and Optical Properties of Nanotubes, Graphene, and Graphene Nanostructures**
Steven G. Louie
Department of Physics, University of California, Berkeley, California 94720, USA
- 11:10 **Effects of Environment and Defects on Photoluminescence of Single Wall Carbon Nanotube**
Yoshikazu Homma, Shohei Chiashi, Ryota Mitobe, and Kotaro Nagatsu
Department of Physics, Tokyo University of Science, 1-3 Kagurazaka, Shinjuku-ku, Tokyo 162-8601, Japan
- 11:45 **Quantum optics with carbon nanotubes**
C. Galland, A. Hoegeler, and A. Imamoglu
ETH Zurich
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- 12:20 *Lunch*
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- 13:35 **Third-Order Nonlinear Optical Response in Fullerene-Peapods**
A. Nakamura¹, D. Hosooka¹, T. Koyama¹, H. Kishida¹, K. Asaka¹, Y. Saito¹, and T. Saito²
¹ *Department of Applied Physics, Nagoya University Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan,*
² *Research Center for Advanced Carbon Materials, AIST, 1-1-1 Higashi, Tsukuba, 305-8565, Japan*
- 14:10 **Direct Determination of Precise Electronic States of SWNTs Based on Soluble Carbon Nanotubes**
Naotoshi Nakashima
Department of Applied Chemistry, Graduate School of Engineering, Kyushu University, Fukuoka 819-0395 Japan
- 14:45 **Electronic and Geometrical Properties of Carbon Nanotubes: A First-Principles Study**
Susumu Saito
Department of Physics, Tokyo Institute of Technology, 2-12-1 Oh-okayama, Meguro-ku, Tokyo 152-8551, Japan
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- 15:20 *Coffee Break*
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15:40 **Production of (5,4) and (6,4) Enriched Single-Walled Carbon Nanotubes Grown Using a Platinum Catalyst**

Naoko Takamizu¹, Keisuke Urata¹, Toshiya Okazaki², and Yohji Achiba¹

¹ *Department of Chemistry, Tokyo Metropolitan University, Tokyo 192-0397, Japan*

² *Nanotube Research Center, AIST, Tsukuba 305-8568, Japan*

16:15 **Spectral features due to dark exciton in photoluminescence map of single-walled carbon nanotubes**

Shigeo Maruyama¹, Yuhei Miyauchi² and Yoichi Murakami³

¹ *Department of Mechanical Engineering, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan,* ² *Institute for Chemical Research, Kyoto University, Uji, Kyoto 611-0011,*

Japan, ³ *Global Edge Institute, Tokyo Institute of Technology, 2-12-1 Ookayama, Meguro-ku, Tokyo 152-8550, Japan*