

- 14:00 – 14:30 Kenji Hata
How can we accelerate the development of CNT processes and applications by the guidance of rational and new characterization tools?
- 14:30 – 15:00 Shoushan Fan
The journey to applicable carbon nanotubes
- 15:00 – 15:30 Esko I. Kauppinen
Floating catalyst CVD-based dry printing of SWNT thin films for flexible electronics applications
- 15:30 – 16:00 *Coffee break*
- Chair: Motoo Yumura and Ken Kokubo*
- 16:00 – 16:30 Toshio Morita
Development of VGCF: Vapor grown carbon fiber
- 16:30 – 17:00 Young Hee Lee
CNTs/graphene hybrids and challenges
- 17:00 – 17:30 Hidekazu Nishino
Development for industrial applications of the single-walled and double-walled carbon nanotubes
- 17:30 – 18:00 Otto Zhou
Applications of CNT x-ray in medical imaging

– **Reception** –

Iino Conference Center Room A (18:00 – 20:00)

Wednesday, November 16, 2016

– **Morning Session** –

Kuramae Hall (9:30 – 12:30)

Chair: Atsushi Oshiyama

- 9:30 – 10:00 Alex Zettl
Synthesis, characterization, and application of carbon and boron nitride nanotubes: from collapsed tube hybrids to reinflation actuators
- 10:00 – 10:30 Tsuneya Ando
Effective-mass description of electronic states in carbon nanotubes: From absence of backscattering to collapsed structure
- 10:30 – 11:00 Tobias Hertel
Spectroscopy of doped carbon nanotubes
- 11:00 – 11:30 *Coffee break*

Chair: Yahachi Saito

- 11:30 – 12:00 Walt A. de Heer
Graphene nanoribbons for nanoelectronics
- 12:00 – 12:30 Yutaka Ohno
Flexible electronics applications of carbon nanotubes

– **Lunch & TASC Session (I)** –
Kuramae Hall & Gallery (12:30 – 14:30)

– **Afternoon Session** –
Kuramae Hall (14:30 – 18:00)

Chair: R. Bruce Weisman

- 14:30 – 15:00 Hisanori Shinohara
Diamondoids in carbon nanotubes
- 15:00 – 15:30 Paola Ayala
New directions for clean functionalized single-walled carbon nanotubes
- 15:30 – 15:50 Yoshiyuki Miyamoto
Comparison of electronic and photo-chemical properties of carbon nanotube and graphene studied by TDDFT simulations
- 15:50 – 16:10 Igor V. Bondarev
Excitons, plasmons, and excitonic complexes in quasi-1D semi-conductors from theoretical perspective
- 16:10 – 16:40 *Coffee break*

Chair: Esko I. Kauppinen

- 16:40 – 17:10 David Tománek
The enlightened path of nanotechnology: From 0D to 1D and 2D nanostructures
- 17:10 – 17:40 Mauricio Terrones
Carbon nanotube assemblies across dimensions: From fundamentals to medical applications
- 17:40 – 18:00 Alexandr E. Bezrodnyy
SWCNTs as an universal conductive and reinforcing additive in polymers

– **TASC Session (II)** –
Royal Blue Hall & Gallery (18:00 – 20:00)

Thursday, November 17, 2016

– **Morning Session** –
Kuramae Hall (9:20 – 12:30)

Chair: Yohji Achiba

- 9:20 – 10:00 **Keynote Lecture**
(Canceled) Mildred S. Dresselhaus
My 25-year carbon nanotube adventure
- 10:00 – 10:30 Avetik R. Harutyunyan
The origin of chirality in carbon nanotubes
- 10:30 – 11:00 Yan Li
Structure-controlled synthesis of single-walled carbon nanotubes
- 11:00 – 11:30 *Coffee break*

Chair: Thomas Pichler

- 11:30 – 12:00 Annick Loiseau
SWNT growth modes studied by TEM
- 12:00 – 12:30 Hiromichi Kataura
Large-scale single chirality separation of SWCNTs

– **Lunch & Poster Session (I)** –
Kurame Hall and Gallery (12:30 – 14:30)

– **Afternoon Session** –
Kuramae Hall (14:30 – 18:30)

Chair: Shigeo Maruyama

- 14:30 – 15:00 Riichiro Saito
Thermoelectric power and circular dichroism of single wall carbon nanotubes
- 15:00 – 15:30 Kazuyoshi Tanaka
Dawn of electronic-structure study of CNT and its relatives
- 15:30 – 15:50 Yoshikazu Homma
Suspended CNT: Excellent probe of molecular adsorption
- 15:50 – 16:10 Ester Vázquez
Preparation and applications of hybrid graphene hydrogels
- 16:10 – 16:40 *Coffee break*

Chair: Hisanori Shinohara and Motoo Yumura

- 16:40 – 17:10 Naotoshi Nakashima
Soluble carbon nanotubes – past, present and future
- 17:10 – 17:40 Maurizio Prato
Novel functional carbon interfaces
- 17:40 – 18:10 Atsuo Kishimoto
Addressing potential risks of CNTs – research strategy and regulatory response –
- 18:10 – 18:30 Milo S. P. Shaffer
A one-step route to nanotubide processing, assembly, and application

– **Poster Session (II)** –

Kurame Hall and Gallery (18:30 – 20:00)

Friday, November 18, 2016

– **Morning Session** –

Kuramae Hall (9:20 – 12:20)

Chair: Yan Li

- 9:20 – 9:50 R. Bruce Weisman
Advances in SWCNT characterization by optical spectroscopy
- 9:50 – 10:20 Kazunari Matsuda
Novel excitonic properties and its application of single-walled carbon nanotube
- 10:20 – 10:50 *Coffee break*

Chair: Tobias Hertel

- 10:50 – 11:20 John Robertson
Chemical vapor deposition of carbon nanotube forests for electronic applications
- 11:20 – 11:50 Lian-Mao Peng
Carbon nanotube CMOS technology: Towards high performance large scale integrated circuits
- 11:50 – 12:10 Felix Pyatkov
Fully integrated quantum photonic circuit with an electrically driven CNT light source
- 12:10 – 12:30 Shigeo Maruyama
Carbon nanotube film for next generation solar cells

– **Lunch** –

– **Afternoon Session** –

Kuramae Hall (14:00 – 16:00)

Chair: Susumu Saito

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| 14:00 – 14:30 | Pulickel M. Ajayan
<i>Nanoengineered materials: From carbon nanotubes to graphene and beyond</i> |
| 14:30 – 15:00 | Thomas Pichler
<i>Novel 1D hybrid materials using nanochemistry inside carbon nanotubes</i> |
| 15:00– 15:30 | Kazu Suenaga
<i>Atomic resolution analysis and local property measurements of low-dimensional structures in TEM</i> |
| 15:30 – 16:00 | Closing |

– **Banquet** –

Kuramae Hall (17:00 – 20:00)

Poster Session

November 17, 2016

- P-01 H. Nakahara, S. Fujita, T. Minato and Y. Saito
In-situ RHEED study on CVD growth of graphene
- P-02 T. Yoshida, H. Nunome, B. Tsuchiya, and S. Bandow
Selective growth of nitrogen doped multilayered graphene dominated by quaternary or pyridinic N
- P-03 K. Shiota and T. Kawai
Adsorption energy shifts for Li adatom on graphene with various defect structures: Ab initio calculations
- P-04 K. Kishimoto and S. Okada
Electronic structure tuning of graphene thin films with atomic and topological defects
- P-05 T. Kaneko, M. Koshino, and R. Saito
Theoretical study of electron scattering in graphene by impurities in an underlying h-BN layer
- P-06 Y. Fujimoto and S. Saito
Strain, energetics and electronic properties of h-BN atomic layers
- P-07 J. Sorimachi and S. Okada
Geometric and electronic structures of 2D hydrocarbon networks of sp^2 and sp^3 C atoms
- P-08 J.Z. Wang, B.J. Dong, H.H. Guo, Z. Zhu, R. Saito, and T. Yang
Stability and electronic properties of indium iodide
- P-09 Z. Ni, E. Minamitani, Y. Ando, and S. Watanabe
Germanene and stanene on 2D substrates: Dirac-cone and Z_2 invariant
- P-10 T. Kawai, S. Okada, and M. Otani
Ab initio study on Li intercalation with edge oxidized graphite for atomistic understanding of Li ion battery
- P-11 Y. Ochiai, N. Aoki, K. Miyamoto, T. Omatsu, T. Yamaguchi, K. Ishibashi, J.P. Bird, and D.K. Ferry
1/f noise observed in graphene thin films
- P-12 (Canceled)
- P-13 T. Höltzl, B. Orbán, A. Olasz, T. Kárpáti, E. Neyts, T. Veszprémi
Role of the sulfur in the onset of CNT growth: a reactive molecular dynamics study
- P-14 A. Pander, H. Miyaji, A. Hatta, and H. Furuta
Water-assisted low-temperature growth of carbon nanotubes on aluminum foil
- P-15 F. Yang and Yan Li
Growth of horizontally aligned chirality-specific single-walled carbon nanotubes

- P-16 R. Xiang, A. Kumamoto, H. An, T. Inoue, S. Chiashi, Y. Ikuhara, and S. Maruyama
Bimetallic catalyst for chirality and diameter controlled growth of single-walled carbon nanotubes
- P-17 T. Maruyama, H. Kiribayashi, T. Fujii, A. Kozawa, H. Kondo, T. Saida, S. Naritsuka, and S. Iijima
Single-walled carbon nanotube growth from platinum-group metal catalysts by ACCVD
- P-18 F. Yang, X. Liu, and Y. Li
Controlled growth of single-walled carbon nanotubes using W-Co catalyst at different CVD conditions
- P-19 P.X. Hou, F. Zhang, C. Liu, and H.M. Cheng
Synthesis of high-quality semiconducting single-wall carbon nanotubes with a controlled narrow band-gap distribution
- P-20 H. Kohno, K. Mizutani, A. Yamauchi, T. Hayashi, Y. Masuda, and T. Hasegawa
Controlling morphology of multi-walled carbon nanotubes: nanotetrahedron, splitting-and-joining, rectangular cross-section, and diameter modulation
- P-21 S. Malik, Y. Nemoto, H. Guo, K. Ariga, and J.P. Hill
Fabrication and characterization of branched multi-walled carbon nanotubes (b-MWCNTs)
- P-22 G. Wang, X. Wei, A. Hirano, S. Fujii, T. Tanaka, and H. Kataura
Synthesis of effective polymeric gels for the separation of single-wall carbon nanotubes
- P-23 F. Sasaki, F. Nihey, Y. Kuwahara, and T. Saito
Metallic/semiconducting separation of SWCNT by electric-field-induced layer formation method
- P-24 X. Wei, Y. Yomogida, A. Hirano, S. Fujii, T. Tanaka, N. Sato, R. Saito and H. Kataura
Enantiomeric purity of single-wall carbon nanotubes
- P-25 Z. Wang, H. Ogata, G.J.H. Melvin, S. Morimoto, J. Ortiz-Medina, A. Laura-Elias, M. Fujishige, K. Takeuchi, H. Muramatsu, T. Hayashi, M. Terrones, Y. Hashimoto, and M. Endo
High temperature induced carbon-related nanomaterials from rice husk: synthesis and characterization
- P-26 R. Yuge, S. Bandow, M. Yudasaka, K. Toyama, S. Iijima, and T. Manako
Preparation and characterization of boron- and nitrogen-codoped carbon nanohorn aggregates
- P-27 R. Yuge, F. Nihey, K. Toyama, and M. Yudasaka
Preparation and characterization of carbon nanobrushes
- P-28 H.M. Tóhátí, Á. Pekker, A. Szám, K. Walker, A.N. Khlobystov, and K. Kamarás
Spectroscopic investigation of fullerene encapsulated boron nitride nanotubes
- P-29 Y. Nagasawa and S. Okada
Energetics and electronic structures of large fullerenes encapsulated in the shortest CNTs

- P-30 F. Nihey, K. Endo, J. Pu, N. Tonouchi, F. Sasaki, Y. Kuwahara, T. Saito, and H. Endoh
Negative-type doping of carbon nanotube thin-film transistors with salt and crown ether
- P-31 L.X. Li, B.G. An, and H.W. Zhao
Synthesis and ORR activity of cobalt and nitrogen co-doped CNTs catalyst
- P-32 A. Hasegawa, U. Ishiyama, N.-T. Cuong, and S. Okada
Effect of structural deformation and defects on carrier accumulation in CNTs under an external electric field
- P-33 S. Sakamoto, S. Yoshida, T. Wakai, and M. Tomiya
DFT-NEGF approach to electron transfer properties of CNT/BNNT heterojunctions
- P-34 T. Kochi and S. Okada
Electronic structure of CNT thin films with nanoscale interfaces under an electronic field
- P-35 S. Oshima, M. Toyoda, and S. Saito
Geometries and electronic properties of transition metal dichalcogenide nanotubes
- P-36 D. Hayashi, T. Ueda, Y. Nakai, H. Kyakuno, Y. Miyata, T. Yamamoto, T. Saito, K. Hata, and Y. Maniwa
Diameter dependence of the thermoelectric properties of single-wall carbon nanotube film
- P-37 F. Liu and K. Wakabayashi
Valley-polarized states of carbon nanotubes under circularly polarized light
- P-38 Y. Maeda, Y. Takehana, S. Minami, A. Nishino, J.-S. Dang, W.-W. Wang, S. Aota, K. Matsuda, Y. Miyauchi, M. Yamada, M. Suzuki, X. Zhao, and S. Nagase
Control of photoluminescence properties of single-walled carbon nanotubes by chemical functionalization
- P-39 M. Lyu, Q. Zhao, J. Yang, and Yan Li
Chirality-selective metal enhanced fluorescence of DNA-dispersed single-walled carbon nanotubes
- P-40 Y. Miyauchi, S. Okudaira, Y. Iizumi, M. Yudasaka, T. Okazaki, and K. Matsuda
Observation of upconversion photoluminescence from carbon nanotubes in mice tissues
- P-41 M. Ohfuchi and Y. Miyamoto
Optical properties of oxidized carbon nanotubes
- P-42 H. Furuta, A. Pander, H. Miyaji, A. Hatta, K. Takano, and M. Nakajima
Size/shape effects of CNT forest metamaterials in optical and THz properties
- P-43 K. Asaka, N. Nishikawa, and Y. Saito
Structure change and light emission of a multiwall carbon nanotube during Joule heating
- P-44 S. Yoshida, S. Sakamoto, and M. Tomiya
Elastic characteristic of CNT
- P-45 N. Tonouchi, H. Endoh, T. Manako and F. Nihey

Transfer length at the Ohmic contacts of carbon nanotube

- P-46 I. Jeon, J. Yoon, N. Ahn, E.I. Kauppinen, M. Choi, Y. Matsuo, and S. Maruyama
Single-walled carbon nanotube transparent electrode-based flexible perovskite solar cells
- P-47 M. Irita, S. Yamazaki, H. Nakahara, K. Asaka, Y. Saito, H. Murata, and T. Ohno
Development of high-resolution desktop FE-SEM with multi-walled carbon nanotube electron source
- P-48 S. Sakurai, M. Yamada, D.N. Futaba, and K. Hata
Invariance of the crystallinity of vertically-aligned single-walled carbon nanotubes synthesized at temperature higher than 1000 °C
- P-49 K. Kobashi, S. Ata, D.N. Futaba, T. Yamada, T. Okazaki, and K. Hata
The impact of the carbon nanotube as-grown state to design its dispersion state for industrial application
- P-50 N. Matsumoto, A. Oshima, M. Yumura, K. Hata, and D.N. Futaba
A post-synthetic treatment combining applied current with heating to improve the properties of single-wall carbon nanotubes
- P-51 K. Mukai, K. Asaka, X. Wu, T. Morimoto, T. Okazaki, T. Saito, K. Hata, and M. Yumura
Electrical and mechanical properties of single-walled carbon nanotube fibers based on various carbon nanotube dispersed solutions by wet spinning
- P-52 T. Morimoto, S. Ata, T. Yamada, and T. Okazaki
Real space imaging of CNT network structures by the lock-in thermography technique
- P-53 R. Sundaram, A. Sekiguchi, T. Yamada, and K. Hata
Effect of internal Cu filling on the electrical conductivity and ampacity of multiwall carbon nanotube-Cu wires
- P-54 S. Asano, H. Numata, T. Tanaka, and H. Kataura
Multi-step elution chromatography improves the purity of semiconducting CNT ink and makes diameter sorting
- P-55 H. Numata, S. Asano, T. Saito, F. Nihey, and H. Kataura
Characteristics improvement of printed CNT transistors using nonionic surfactant
- P-56 K.U. Laszczyk, D. Futaba, A. Sekiguchi, T. Yamada, and K. Hata
The rule governing the design of micro-supercapacitor electrodes to enhance the operational speed
- P-57 F. Tanaka, A. Sekiguchi, K.U. Laszczyk, K. Kobashi, T. Yamada, and K. Hata
Thick single-walled carbon nanotube electrodes for high areal energy density micro-supercapacitors
- P-58 A. Sekiguchi, K. Kobashi, F. Tanaka, K. Laszczyk, T. Yamada, and K. Hata
Blade coating of single walled carbon nanotube films with high specific surface area using surfactant free polyhydric alcohol CNT dispersion
- P-59 S. Ata, T. Mizuno, E. Usuda, S. Tomonoh, T. Yamada, and K. Hata
Development and application of high thermally-durable carbon nanotubes and PEEK composites