

September 7th, Mon.

Plenary Lecture: 40min (Presentation) + 5min (Discussion)

Special Lecture: 25min (Presentation) + 5min (Discussion)

General Lecture: 10min (Presentation) + 5min (Discussion)

Poster Preview: 1min (Presentation)

Plenary Lecture (9:30–10:15)

- 1S-1 Introduction to the CCM, Carbon Materials for the Future, and Some New Results on Graphene 1
* *Rodney S. Ruoff*

General Lecture (10:15–11:00)

Graphene synthesis

- 1-1 Electrical properties of graphene synthesized by low temperature plasma techniques 10
* *Takatoshi Yamada, Yuki Okigawa, Masatou Ishihara, Hiromitsu Kato, Masataka*
- 1-2 Formation mechanism of anisotropic cracks in graphene grown on copper foil 11
* *Miho Fujihara, Ryosuke Inoue, Rei Kurita, Toshiyuki Taniuchi, Yoshihito Motoyui, Shik Shin, Fumio Komori, Yutaka Maniwa, Hisanori Shinohara, Yasumitsu Miyata*
- 1-3 Large scale synthesis of densely-aligned suspended graphene nanoribbons array by plasma CVD 12
* *Hiroo Suzuki, Toshiaki Kato, Toshiro Kaneko*

>>>>>>> Coffee Break (11:00–11:15) <<<<<<<<

Special Lecture (11:15–11:45)

- 1S-2 Floating catalyst CVD synthesis of non-bundled SWNTs with narrow chiral angle distribution 2
* *Esko I. Kauppinen*

General Lecture (11:45–12:30)

Formation and purification of nanotubes ▪ Applications of nanotubes

- 1-4 Relationship between growth rate and catalyst lifetime on carbon nanotube forest synthesis 13
* *Naoyuki Matsumoto, Guohai Chen, Robert C. Davis, Hiroe Kimura, Shunsuke Sakurai, Motoo Yumura, Don N. Futaba, Kenji Hata*
- 1-5 Control of bioreactions in living organisms by carbon nanotube supramolecular nanohybrids 14
* *Ejiro Miyako, Svetlana Chechetka, Motomichi Doi, Eiji Yuba, Kenji Kono*
- 1-6 Dispersion of carbon nanotubes in organic solvents using inorganic salts 15
* *Kazuya Matsumoto, Takuro Takahashi, Mitsutoshi Jikei*

>>>>>>> Lunch Time (12:30–13:45) <<<<<<<<

Special Lecture (13:45–14:15)

- 1S-3 Unique properties of nanocarbon materials revealed by *in situ* TEM and FEM 3
* *Yuji Shinomiya, Noboru Yokoyama, Koji Asaka, Hitoshi Nakahara, * Yahachi Saito*

September 7th, Mon.

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Properties of nanotubes ▪ Endohedral nanotubes

- 1-7 Lattice vibration in isotopic superlattice of carbon nanotubes 16
* *Susumu Saito, Yuki Bando*
- 1-8 Analytical transmission electron microscopy of water encapsulated in single-wall carbon nanotube 17
* *Keita Kobayashi, Ryosuke Kuroiwa, Hidehiro Yasuda*
- 1-9 Magnetic properties of nano metals 18
* *Hidetsugu Shiozawa*

General Lecture (15:00–15:30)

Applications of nanotubes ▪ Applications of graphene

- 1-10 High-efficiency biological imaging using single-chiral (9,4) SWCNTs 19
* *Yohei Yomogida, Minfang Zhang, Masako Yudasaka, Xiaojun Wei, Takeshi Tanaka, Hiromichi Kataura*
- 1-11 Graphene Oxide as a Multifunctional Platform for Cell Imaging 20
* *Zhenyu Zhang, Qinghai Liu, Juan Yang, * Yan Li*

>>>>>>> **Coffee Break (15:30–15:45)** <<<<<<<<

General Lecture (15:45–16:30)

Fullerenes

- 1-12 Alkali-metal-doped fullerene for application to superconducting wires 21
* *Hiroyuki Takeya, Toshio Konno, Chika Hirata, Takatsugu Wakahara, Kunich Miyazawa, Masashi Tanaka, Takahide Yamaguchi, Yoshihiko Takano*
- 1-13 Singlet oxygen generation from Li@C60 nano-aggregates dispersed by laser irradiation in aqueous solution 22
* *Kei Ohkubo, Kohno Naoki, Shunichi Fukuzumi*
- 1-14 Chemical and physical control of superconductivity and magnetism 23
* *Yasuhiro Takabayashi, Ruth H. Zadik, Kosmas Prassides*

Poster Preview (16:30–17:10)

Poster Session (17:10–18:40 (☆)Candidates for the Young Scientist Poster Award

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- 1P-1 Regioselectively Arylated Fullerenes by Acid-catalyzed Reaction of Azafulleroids as an Ambident Base 44
* *Naohiko Ikuma, Koichi Fujioka, Yuta Doi, Ken Kokubo, Hidehiro Sakurai, Takumi Oshima*

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- 1P-2 Solid-state NMR Studies on the Aggregated Structures of Organic Bulk Heterojunction Solar Cells with Solvent additives(III) 45
* *Saki Kawano, Hironori Ogata*

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- 1P-5 Stability of chemisorbed oxygen on carbon nanotube surface 48
 * Gergely Juhasz, Naotoshi Nakashima
- 1P-6 Anomalous potential properties between CNTs under a weak external electric field 49
 * U Ishiyama, Susumu Okada
- 1P-7 Dependence of Thermoelectric Properties on Chiralities of Single Wall Carbon Nanotubes 50
 * Yuki Oshima, Yoshimasa Kitamura, Hideki Kawai, Yutaka Maniwa, Kazuhiro Yanagi

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- 1P-10 Computational analysis of inelastic electronic transport properties in single-walled carbon nanotubes 53
 * Keisuke Ishizeki, Kenji Sasaoka, Takahiro Yamamoto
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- 1P-13 Ultra-high sensitivity carbon nanotube biosensors based on redox cycle process 56
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September 8th, Tue.

Plenary Lecture: 40min (Presentation) + 5min (Discussion)
Special Lecture: 25min (Presentation) + 5min (Discussion)
General Lecture: 10min (Presentation) + 5min (Discussion)
Award Nominee Lectures: 10min (Presentation) + 10min (Discussion)
Poster Preview: 1min (Presentation)

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- 2S-4 Graphene and beyond: Attraction, Reality and Future 4
* *Zhongfan Liu*

General Lecture (9:45–10:45)

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- 2-2 Energetics and electronic structure of h-BN nanoribbons 25
* *Ayaka Yamanaka, Susumu Okada*
- 2-3 Carrier-density- and Electric-field-dependent Electroluminescence of Monolayer WSe₂ 26
* *Jiang Pu, Lei qiang Chu, Lain-Jong Li, Tomo Sakanoue, Goki Eda, Taishi Takenobu*
- 2-4 Memristive phase switching in two-dimensional crystals 27
* *Masaro Yoshida, Ryuji Suzuki, Yijin Zhang, Masaki Nakano, Yoshihiro Iwasa*

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- 2-5 Direct Analysis of Exciton Band Structure of SWCNTs using Their Circular Dichroism Spectra 28
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- 2-6 On chip monolithic integration of microsupercapacitors with tunable performance 29
* *Karolina Laszczyk, Kobashi Kazufumi, Shunsuke Sakurai, Atsuko Sekiguchi, Don Futaba, Takeo Yamada, Kenji Hata*
- 2-7 In-plane TEM investigation on mono- and bi- metallic catalyst for growth of single walled carbon nanotubes 30
* *Rong Xiang, Akihito Kumamoto, Kehang Cui, Hua An, Yang Qian, Taiki Inoue, Shohei Chiashi, Yuichi Ikuhara, Shigeo Maruyama*

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Awards Ceremony (13:15–13:30)

General Meeting (13:30–14:00)

Special Lecture (14:00–14:30)

- 2S-5 Spectroscopic analysis on electrochemical oxidation reaction of single-walled carbon nanotubes 5
** Masato Tominaga*

Poster Preview (14:30–15:10)

Poster Session (15:10–16:40) (☆) Candidates for the Young Scientist Poster Award

Applications of fullerenes

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** Jeong Won Ko, Jiulong Li, Weon Bae Ko*
- 2P-2 Development of O–acetylated sugar substituted fullerenes for solution–processed organic field–effect transistors and photovoltaics 80
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- 2P-3 Curvature Effect on Wettability of Carbon Nanotubes 81
 ☆ ** Konan Imadate, Kaori Hirahara*

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- 2P-4 Activity and Durability Evaluation of Non–Precious Metal Electrocatalyst for Oxygen Reduction Reaction in Fuel Cell 82
** Yosuke Uchibori, Atom Furuya, Satoshi Yasuda, Kei Murakoshi*
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** Aiko Sasaki, Makoto Togami, Masato Tominaga*
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 ☆ ** Yang Qian, Kehang Cui, Rong Xiang, Shohei Chiashi, Shigeo Maruyama*
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** X. Viet Nguyen, Shigeru Kishimoto, Yutaka Ohno*
- 2P-8 Temperature dependence on the synthesis of Pt nanoclusters on polybenzimidazole–wrapped carbon nanotubes for use in oxygen reduction reaction catalyst 86
 ☆ ** Yuki Hamasaki, Tsuyohiko Fujigaya, Naotoshi Nakashima*

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- 2P-10 Bulk separation of (6,5) enantiomer single–wall carbon nanotubes 88
** Takeshi Tanaka, Takuya Hirakawa, Xiaojun Wei, Yohei Yomogida, Atsushi Hirano, Shunjiro Fujii, Hiromichi Kataura*
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** Yasumasa Takashima, Atom Hamasaki, Jin Uchimura, Ayumi Sakaguchi, Sumio Ozeki*

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- 2P-30 CVD growth and characterization of Nb-doped WS₂ monolayers 108
 ☆ ** Shogo Sasaki, Yu Kobayashi, Yutaka Maniwa, Yasumitsu Miyata*
- 2P-31 In-plane Heterostructures Thin Films of Graphene and MoS₂ 109
** Yoshihiro Shiratsuchi, Hiroko Endo, Masaharu Tsuji, Hiroki Hibino, Hiroki Ago*
- 2P-32 Functionalization of few-layer tungsten diselenide with mild O₂ plasma treatment 110
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** Gayoung Kim, Tomohiro Shiraki, Naotoshi Nakashima*

September 9th, Wed.

Special Lecture: 25min (Presentation) + 5min (Discussion)
General Lecture: 10min (Presentation) + 5min (Discussion)
Poster Preview: 1min (Presentation)

Special Lecture (9:00–9:30)

- 3S-6 Thirty Years after C60 Discovery and Fifteen Years after Detonation Nanodiamond Rediscovery 6
* *Eiji Ōsawa*

General Lecture (9:30–10:15)

Chemistry of fullerenes

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* *Yutaka Matsuo*
- 3-2 Regioselectively controlled synthesis of multifunctionalized C60 and C70 fullerenes 32
* *Hiroshi Moriyama, Kouya Uchiyama, Miki Igarashi, Keita Watanabe, Haruka Takahashi, Kenji Yoza*
- 3-3 Electronic structure of Y2@C82 and Lu2@C82 33
* *Takafumi Miyazaki, Gaku Takasumi, Hajime Yagi, Hisanori Shinohara, Shojun Hino*

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- 3-4 Effect of layered-structure carbon-nanotube sheets on electric properties of brain wave electrodes 34
* *Shunzo Suematsu, Akira Kawamoto, Kousuke Awara, Ryuhei Kitai*
- 3-5 Robust and Soft Elastomeric Field Effect Transistors Tolerant to Diverse Variety of Applied Loads 35
* *Atsuko Sekiguchi, Fumiaki Tanaka, Shunsuke Sakurai, Don N. Futaba, Takeo Yamada, Kenji Hata*

>>>>>>> Coffee Break (10:45–11:00) <<<<<<<<

Special Lecture (11:00–11:30)

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* *Yuji Awano*

General Lecture (11:30–12:30)

Applications of nanotubes ▪ Applications of graphene

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* *Masafumi Inaba, Wataru Norimatsu, Michiko Kusunoki, Hiroshi Kwarada*

- 3-8 Photovoltaic performance of perovskite solar cells using carbon nanotubes/graphene oxide hole transport layer 38
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- 3-9 Preparation of metal oxide nanofilms using graphene templates 39
** Sakae Takenaka, Shuhei Miyake, Hideki Matsune, Masahiro Kishida*

>>>>>> Lunch Time (12:30-13:45) <<<<<<<

Special Lecture (13:45-14:15)

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** Kazuhiro Yanagi*

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Properties of nanotubes

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- 3-11 Optical transitions in oxygen-doped (5,4) and (6,4) carbon nanotubes 41
** Mari Ohfuchi, Yoshiyuki Miyamoto*
- 3-12 Effect of sp^3 defect on the electronic states of single-walled carbon nanotubes determined by in situ PL spectroelectrochemistry 42
** Tomonari Shiraishi, Tomohiro Shiraki, Naotoshi Nakashima*

>>>>>> Coffee Break (15:00-15:15) <<<<<<<

Poster Preview (15:15-15:55)

Poster Session (15:55-17:25) (☆)Candidates for the Young Scientist Poster Award

Chemistry of fullerenes

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** Yu Yamazaki, Ken Kokubo, Naohiko Ikuma, Hidehiro Sakurai*

Chemistry of fullerenes

- 3P-2 Energetics of fullerenes under an external electric field 115
** Jun-ya Sorimachi, Susumu Okada*

Fullerenes

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** Shinji Kawasaki, Yosuke Ishii, Yukihiro Yoshida, Yoshimitsu Taniguchi, Masayuki Yamada*
- 3P-4 Rayleigh Scattering Spectroscopy of Single-Walled Carbon Nanotubes in Various Condition 117
** Toru Osawsa, Takeshi Okochi, Yoritaka Furukawa, Taiki Inoue, Shohei Chiashi, Shigeo Maruyama*

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3P-6	Structure and solid state properties of hydroxylated single-walled carbon nanotubes and related materials ☆ * Yoshiaki Sano, Hironori Ogata	119
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Applications of nanotubes

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3P-8	Selective Electrochemical Reduction of CO ₂ to CO with a Cobalt Chlorin Complex Adsorbed on Multi-Walled Carbon Nanotubes in Water ☆ * Shoko Aoi, Kentaro Mase, Kei Ohkubo, Shunichi Fukuzumi	121
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3P-10	High performance micro-supercapacitors with carbon nanotubes and flexible components * Fumiaki Tanaka, Atsuko Sekiguchi, Karolina Laszczyk, Kazufumi Kobashi, Shunsuke Sakurai, Don Futaba, Takeo Yamada, Kenji Hata	123
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