

March 2nd, Sat.

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

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

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

Poster Preview: 1min (Presentation)

Invited Lecture (9:30–9:45)

- 1I-1 Atomic Scale Stability of Nano-Sized Tungsten-Cobalt Intermetallic Compounds in Reactive Environment at High Temperature 9
* *Yan Li, Feng Yang*

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Endohedral nanotubes

- 1-1 Carbyne@CNT on a film scale formed after field emission: Characterization by Raman and TEM 15
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* *Yahachi Saito*
- 1-2 Isolation of Single-wired Transition Metal Monochalcogenides by Carbon Nanotubes 16
* *Yusuke Nakanishi, Masataka Nagata, Shivani Shukla, Zheng Liu,*
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Special Lecture (10:30–11:00)

- 1S-1 Transition metal dichalcogenide atomic layers and their heterostructures 1
* *Ryo Kitaura*

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- 1-3 Enhancement of Excitonic Valley Polarization by Carrier Doping in Monolayer WSe₂ 17
* *Keisuke Shinokita, Xiaofan Wang, Yuhei Miyauchi, Kenji Watanabe,*
Takashi Taniguchi, Kazunari Matsuda
- 1-4 STM images of graphene/C-doped h-BN heterostructures from first-principles electronic-structure calculations 18
* *Taishi Haga, Yoshitaka Fujimoto, Susumu Saito*

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Candidates for the Young Scientist Poster Award

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☆ * *Haruna Narita, Yutaka Maeda, Michio Yamada*

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☆	* <i>Tokinaru Matsuoka, Hiroshi Nagasawa, Shinzo Suzuki</i>	
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☆	* <i>Guowei Wang, Takeshi Tanaka, Atsushi Hirano, Hiromichi Kataura</i>	
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☆	* <i>Yoshinori Obata, Hiroki Ishihara, Gagus Sunnarionto, Tomoaki Nishimura, Koichi Kusakabe, Takashi Kyotani, Kazuyuki Takai</i>	
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	* <i>Hiroshi Okada, Takumi Takada, Shota Nagasawa, Yusuke Sasano, Eunsang Kwon, Yutaka Matsuo, Yoshiharu Iwabuchi</i>	

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** Xiaoqi Pang, Nguyen T. Hung, Ahmad R. T. Nugraha, Riichiro Saito*

1P-38 Angle-Dependent Resonant Raman Spectra of LaAlSi 86
** Tong Wang, Nguyen T. Hung, Ahmad R.T. Nugraha, Riichiro Saito*

>>>>>>> Lunch Time (12:15-13:30) <<<<<<<<

Poster Session (13:30-15:15)

During 13:30-14:00, please give priority to selection of candidates for Young Scientist Poster Award

Invited Lecture (15:15-15:30)

1I-2 New Developments in the Science and Applications of Wafer-Scale Crystalline 10
Carbon Nanotube Films
** Junichiro Kono, Weilu Gao, Natsumi Komatsu, Fumiya Katsutani,*
Kazuhiro Yanagi

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Properties of nanotubes ▪ Formation and purification of nanotubes

1-5 Sedimentation particle size analysis of carbon nanotube aggregates 19
** Yuichi Kato, Takahiro Morimoto, Kazufumi Kobashi, Takeo Yamada,*
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1-6 One-dimensional van der Waals heterostructure nanotubes: synthesis and 20
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** Rong Xiang, Yongjia Zheng, Taiki Inoue, Shohei Chiashi, Shigeo Maruyama*

1-7 Diameter-Dependent Superconductivity in Individual WS₂ Nanotubes 21
** Feng Qin, Toshiya Ideue, Wu Shi, Xiao-xiao Zhang, Masaro Yoshida, Alla Zak,*
Reshef Tenne, Tomoka Kikitsu, Daishi Inoue, Daisuke Hashizume, Yoshihiro Iwasa

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Special Lecture (16:30–17:00)

- 1S-2 Topological Properties of Graphene and Related 2D Materials 2
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General Lecture (17:00–17:45)

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- 1-8 Synthesis of Heteroatom-doped Graphene as Active Catalysts for Hydroquinones Oxidation Reaction 22
* *Masanori Hara, Prerna Joshi, Hsin-Hui Huang, Masamichi Yoshimura*
- 1-9 Electrostatic properties of bilayer graphene nanoribbons under an external electric field 23
* *Yanlin Gao, Susumu Okada*
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* *Yasumaru Fujii, Mina Maruyama, Susumu Okada*

>>>>>>> **Coffee Break (17:45–18:00)** <<<<<<<<

Tutorial (18:00–19:30)

Industry-Government-Academia Collaboration for Development of Application and its R&D of Nanocarbon Materials
* *Ken Kokubo*

March 3rd, Sun.

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

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

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

Poster Preview: 1min (Presentation)

Invited Lecture (9:00–9:15)

- 2I-3 FC-CVD of SWNTs with Pre-made Bimetallic catalysts and the Effect of Sulphur 11
* *Esko I. Kauppinen, Saeed Ahmed, Yongping Liao, Aqeel Hussain, Qiang Zhang, Er-Xiong Ding, Hua Jiang*

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* *Dai-Ming Tang, Chang Liu, Yoshio Bando, Hui-Ming Cheng, Dmitri Golberg*
- 2-2 Derivation of breaking temperature of multi-walled carbon nanotube by using 26
in-situ TEM observations and I-V measurements
* *Hitoshi Nakahara, Kentaro Yamauchi, Koji Asaka, Yahachi Saito, Satoshi Kashiwaya*
- 2-3 Semiconducting Carbon Nanotubes as Crystal Growth Templates and Grain 27
Bridges in Perovskite Solar Cells
* *IL Jeon, Seungju Seo, Rong Xiang, Yang Yang, Hiromichi Kataura, Yutaka Matsuo, Shigeo Maruyama*

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- 2S-3 Electroluminescence from transition metal dichalcogenide monolayers 3
* *Taishi Takenobu*

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- 2-4 Carrier accumulation in MoS₂/MoSe₂-FET by an external electric field 28
* *Mina Maruyama, Susumu Okada*
- 2-5 Formation process of long range ordered structure in 1T-TiSe₂ by electron beam 29
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* *Keita Kobayashi, Hidehiro Yasuda*
- 2-6 Energetics and electronic structures of in-plane heterostructures of MoS₂ and WS₂ 30
* *Hisaki Sawahata, Mina Maruyama, Susumu Okada*

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Candidates for the Young Scientist Poster Award**

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☆	* <i>Sirikanya Chokaouychai, Qi Zhang</i>	
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☆	* <i>Kaoru Hisama, Susumu Okada, Shohei Chiashi, Shigeo Maruyama</i>	
2P-3	Thermoelectric Simulation for Carbon Nanotube Film	89
☆	* <i>Kotaro Fujisaki, Masaaki Tsukuda, Takahiro Yamamoto</i>	
2P-4	Improvement of catalytic performance by adding single-walled carbon nanotubes aqueous dispersion	90
☆	* <i>Kazuki Kishida, Toru Harigai, Tsuyoshi Tanimoto, Hirofumi Takikawa, Takeshi Hashimoto, Takumi Yana, Yoshiyuki Suda</i>	
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☆	* <i>Yusei Kioka, Yuki Maekawa, Kenji Sasaoka, Takahiro Yamamoto</i>	
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☆	* <i>Xiaofan Wang, Keisuke Shinokita, Yuhei Miyauchi, Kazunari Matsuda</i>	
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☆	* <i>Yuhei Takaguchi, Jiang Pu, Matsuoka Hirofumi, Yu Kobayashi, Taishi Takenobu, Yutaka Maniwa, Yasumitsu Miyata</i>	
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☆	* <i>Daichi Obana, Feng Liu, Katsunori Wakabayashi</i>	
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☆	* <i>Yukiko Nagai, Minoru Kawaguchi, Jun Ohno, Tsuyohiko Fujigaya</i>	
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Endohedral metallofullerenes

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* Shinji Kanzawa, Fumiaki Ozeki, Shinpei Fukazawa, Masahiro Kako, Kumiko Sato, Michio Yamada, Yutaka Maeda, Makoto Furukawa, Takeshi Akasaka
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* Shinya Nishimoto, Takaaki Hirayama, Hiroyuki Nishidome, Yasumitsu Miyata, Kazuhiro Yanagi, Koichi Kikuchi, Yohji Achiba, Takeshi Kodama

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* Pengyingkai Wang, Yongjia Zheng, Taiki Inoue, Rong Xiang, Makoto Watanabe, Shohei Chiashi, Shigeo Maruyama
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* Takumi Inaba, Yoshikazu Homma

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- 2P-23 Relationship Between Catalysts and Diameter of Single-Walled Carbon Nanotubes 109
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* *Md Shafiqul Islam, Nguyen Tuan Hung, Ahmad Ridwan Tresna Nugraha, Riichiro Saito*
- Properties of graphene**
- 2P-27 Electronic structures of porphyrin graphene nanoribbons 113
* *Hideyuki Jippo, Manabu Ohtomo, Shintaro Sato, Hironobu Hayashi, Hiroko Yamada, Mari Ohfuchi*
- 2P-28 Electrostatic properties of graphene nanoribbons under an external electric field 114
* *Yoshimasa Omata, Susumu Okada*
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- 2P-30 Exciton polarizability and renormalization effects for optical modulation in monolayer semiconductors 116
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- 2P-33 The spin angular momentum of surface plasmon in 2D material 119
** M. Shoufie Ukhtary, Riichiro Saito*
- 2P-34 Growth dynamics of hexagonal boron nitride on Ni-Fe alloy catalysts 120
** Yuki Uchida, Kenji Kawahara, Masato Akiyama, Shigeto Yamasaki, Masatoshi Mitsuhara, Hiroki Ago*
- 2P-35 Growth of monolayer chalcogenide nanoribbons and their heterostructures 121
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Carbon nanoparticles

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- 2P-37 Electrochemical characterization of CVD-grown graphene films for glucose biofuel cells 123
** Keishu Miki, Akihiro Kato, Takeshi Watanabe, Shinji Koh*
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>>>>>>> Lunch Time (12:15-13:30) <<<<<<<<<

Poster Session (13:30-15:15)

During 13:30-14:00, please give priority to selection of candidates for Young Scientist Poster Award

Awards Ceremony (15:15-16:00)

Special Lecture (16:00-16:30)

- 2S-4 Single SWCNT spectroscopy 4
** Yoshikazu Homma, Shohei Chiashi*

March 3rd, Sun.

General Lecture (16:30–17:15)

Properties of nanotubes

- 2-7 Chirality dependence of plasmon peak in carbon nanotubes 31
* *Riichiro Saito, Daria Sacco, Ahmad R. T. Nugraha, M. Shoufie Ukhtary*
- 2-8 Decay dynamics and diffusion lengths of bright and dark excitons in air-suspended carbon nanotubes 32
* *Akihiro Ishii, Hidenori Machiya, Yuichiro Kato*
- 2-9 Surface-Enhanced Raman Spectroscopy of Individual Single-Walled Carbon Nanotubes 33
* *Juan Yang, Chenmaya Xia, Henan Li, Daqi Zhang, Sheng Li, Haoming Liu, Ruoming Li, Yan Li*

>>>>>>> **Coffee Break (17:15–17:30)** <<<<<<<<<

Invited Lecture (17:30–17:45)

- 2I-4 NEDO-TSC's future efforts in 2-D materials R&D 12
* *Takayuki Iseki*

General Lecture (17:45–18:30)

Applications of nanotubes ▪ Carbon nanoparticles ▪ Other topics

- 2-10 Design and Synthesis of a New Ir-based Catalyst Deposited on Ti Nanotubes for Efficient Water Splitting 34
*Junfang Cheng, Jun Yang, Sho Kitano, Miho Yamauchi, * Naotoshi Nakashima*
- 2-11 Self-Assembly of Nanodiamonds from their Solutions 35
* *Toshihiko Tanaka, Yasuhiro F. Miura, Tetsuya Aoyama, Kazunori Miyamoto, Masanobu Uchiyama, Eiji Osawa*
- 2-12 A Case Study for Nanoparticles on Nanodiamond: Facile Preparation of Nanodiamond-iron oxide Nanohybrid 36
* *Ahmad Tayyebi, Takuya Hayashi, Fumi Yoshino, Naoki Komatsu*

>>>>>>> **Coffee Break (18:30–18:45)** <<<<<<<<<

Banquet (18:45–20:30)

March 4th, Mon.

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

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

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

Poster Preview: 1min (Presentation)

Special Lecture (9:00–9:30)

- 3S-5 Structure control, Mass Production and Applications of Well Aligned Carbon Nanotubes 5
* *Fei Wei*

General Lecture (9:30–10:15)

Formation and purification of nanotubes ▪ Applications of graphene

- 3-1 Growth mechanism of multi-millimeter-tall single-wall carbon nanotube forests using Fe/Gd/Al catalysts 37
* *Hisashi Sugime, Rei Nakagawa, Toshihiro Sato, Cinzia Cepek, Suguru Noda*
- 3-2 Single-walled carbon nanotube growth onto graphene crystals 38
* *Kamal P Sharma, Takuya Okada, Aliza Khaniya Sharma, Takahiro Maruyama*
- 3-3 Enhanced gas-phase production of single-wall carbon nanotubes by overheating of catalyst source 39
* *Katsuya Namiki, Hisashi Sugime, Toshio Osawa, * Suguru Noda*

>>>>>>> **Coffee Break (10:15–10:30)** <<<<<<<<

Special Lecture (10:30–11:00)

- 3S-6 Environment effects on the charge states of metallic and semiconducting SWCNTs during ELF separation 6
* *Takeshi Saito, Yuki Kuwahara*

General Lecture (11:00–11:30)

Applications of nanotubes

- 3-4 All solution-processed heterogeneously integrated junction diode 40
* *Kuniharu Takei, Daisuke Yamamoto, Mao Shiomi, Takayuki Arie, Seiji Akita*
- 3-5 Low-voltage operable complementary carbon nanotube thin-film transistors with threshold tuning by controlled doping on plastic substrate 41
* *Fu-Wen Tan, Jun Hirotoni, Shigeru Kishimoto, Yutaka Ohno*

March 4th, Mon.

Poster Preview (11:30–12:15) (☆)Candidates for the Young Scientist Poster Award
Candidates for the Young Scientist Poster Award

- 3P-1 Platinum-catalyzed reaction of [60]fullerene with 9-Ethynyl-9*H*-fluoren-9-yl carboxylates 125
☆ * *Mayu Takizawa, Yoko Nukatani, Mitsuaki Suzuki, Yutaka Maeda, Michio Yamada*
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