ISEG-2017

International Symposium on Epitaxial Graphene 2017

22-25 November 2017, Nagoya University, Japan

IMaSS Nagoya University Institute of Materials and Systems for Sustainability

IGER Nagoya University Program for Leading Graduate Schools Integrative Graduate Education and Research Program in Green Natural Sciences

NAGOYA UNIVERSITY

THERMO RIKO CO.,LTD.

SAITO 株式会社斉藤光学製作所

Program

Wednesday, 22 Nov 2017

Registration (16:00 – 18:30, in front of the Room 301)
Welcome Reception (17:00 – 18:30, Room 301)

Thursday, 23 Nov 2017

Morning Session (9:30 – 12:00, Room 201)

9:30 – 9:45		**Opening Remarks** W. Norimatsu
9:45 – 10:15	I01	**Epigraphene nanoelectronics: opportunities and directions** Walt A de Heer, L. Ma
10:15 – 10:30	O01	**Direct van der Waals-based growth of hexagonal boron nitride on epitaxial graphene on SiC** J. M. J. Lopes, M. Heilmann, M. Bashouti, H. Riechert
10:30 – 10:45	O02	**Modification of epitaxial graphene/h-BN heterostructures by focused laser beam** I. Wlasny, Z. Klusek, W. Strupinski, A. Wysmolek
10:45 – 11:00		Coffee Break
11:00 – 11:30	I02	**Detecting Invisible Photons and Perceiving Sulfur Molecules using Low Dimensional Black Magic** D. Kurt Gaskill
11:30 – 11:45	O03	**Chemical State Analysis for the Buried Interface between Epitaxial Graphene and Insulator** Y. Tateno, T. Yonemura, M. Okada, F. Mitsuhashi, H. Fukidome, M. Suemitsu, M. Ueno, and T. Nakabayashi
11:45 – 12:00	O04	**Precise control of chemical characteristics of 4H-SiC(0001) step edges for kinetically sublimated step flow graphene growth** T. Kaneko, D. Dojima, T. Ihara, and K. Ashida

Lunch break (12:00 – 13:15, Room 301)

Afternoon Session (13:15 – 16:15, Room 201)

13:15 – 13:45	I03	**Strong correlation effects in Epitaxial Graphene on SiC(0001)** Ulrich Starke
13:45 – 14:00	O05	**Sn and Pb triangular lattice atomic layers on SiC(0001) and at graphene/SiC(0001) interface** A. Visikovskiy, S. Hayashi, F. Komori, S. Tanaka
14:00 – 14:15	O06	**Sn atomic layer by intercalation at graphene / SiC interface** S. Hayashi, T. Kajiwara, A. Visikovskiy, T. Iimori, T. Shirasawa, K Nakatsuji, T. Miyamachi, S. Nakashima, K. Mase, F. Komori, S. Tanaka
14:15 – 14:30	O07	**Characterization of Ni Intercalated graphene film on SiC(0001)** Y. Ouchi, W. Norimatsu, T. Ito, R. Funahashi, M. Kusunoki
14:30 – 15:00		Coffee Break
15:00 – 15:30	I04	**Nanostructures & Hydrogen/Deuterium-Nanochemistry at Epitaxial Graphene/Silicon Carbide Interface, Surface, and Sub-surfaces** Patrick Soukiassian
15:30 – 15:45	O08	**Atomically flat quasi-free-standing graphene grown on a single SiC terrace** V. Vinel, Y. Sekine, H. Hibino, K. Kumakura, Y. Taniyasu
15:45 – 16:00	O09	**Characterization of boron doped graphene derived from epitaxial B_4C thin film on SiC substrate** N. Takata, W. Norimatsu, T. Ito, M. Kusunoki
16:00 – 16:15	O10	**Fabrication of SiC/B_4C Nano-Composite Film and Subsequent Graphitization** K. Matsuda, W. Norimatsu, M. Kusunoki

Poster Session (16:15 – 18:00, Room 301)

P01	**Negative-thermal-expansion-induced graphenization of buffer layer on SiC** J. Bao, W. Norimatsu, K. Matsuda, T. Ito, M. Kusunoki
P02	**Carrier mobility of graphene on SiC: influence of the substrates** W. Norimatsu, J. Bao, T. Terasawa, M. Kusunoki
P03	**Step unbunching phenomenon of the SiC surface** W. Norimatsu, K. Yuhara, J. Bao, T. Terasawa, M. Kusunoki
P04	**Towards the formation of ideal interface of ultrathin $Si_4O_5N_3$ and SiC**

	M. Kabiruzzaman, T. Nakagawa, S. Mizuno
P05	**Simple formation of quasi-free-standing epitaxial graphene (QFSEG) using microwave annealing** K-S. Kim, G-H. Park, H. Fukidome, S. Takashi, I. Takushi, K. Fumio, M. Iwao, M. Suemitsu
P06	**Water adsorption and desorption for graphene on SiC** M. Kitaoka, K. Nakamura, H. Teratani, Y. Ohno, M. Nagase
P07	**Toward mobility improvement of epitaxial graphene** R. Sakakibara, W. Norimatsu, M. Kusunoki
P08	**Epitaxial Al_4C_3 growth on SiC substrate and subsequent graphenization** K. Matsuda, M. Fukui, W. Norimatsu, T. Terasawa, M. Kusunoki
P09	**Orientational control of a-axis in initial stage of InN by Si nuclei formation on epitaxial graphene substrate** D. Ishimaru, T. Terai, A. Hashimoto
P10	**Relation between Thermal Resistance and Deformation of Vertically Aligned Carbon Nanotubes on SiC** Y. Tsukiyama, W. Hoshino, Y. Nakamura, I. Nitta, W. Norimatsu, M. Kusunoki
P11	**Effect of oxygen gas on diameter of carbon nanotubes formed by SiC surface decomposition** Y. Matsuyama, W. Norimatsu, M. Kusunoki
P12	**Orientational control of initial Si nuclei growth on epitaxial graphene substrate by RF-MBE** T. Terai, D. Ishimaru, A. Hashimoto
P13	**Theoretical study on H intercalation into buffer layer grown on SiC(0001)** J. Nara, T. Yamasaki, T. Ohno
P14	**Graphene transfer on periodic SiC nanosurfaces** T. Kajiwara, A. Visikovskiy, T. Iimori, T. Miyamachi, F. Komori, S. Tanaka
P15	**Numerical study on phonon properties of porous silicon-carbide system by force vibrational method** Y. Sato, S. Oyagi, D. Ishimaru, A. Hashimoto
P16	**Synthesis of Epitaxial Graphene Quantum Dots along Periodic Steps of SiC** M. Kusunoki, S. Nakano, Y. Harada, W. Norimatsu, Y. Nishikawa
P17	**Electrical property of metal/graphene/SiC Schottky junctions** T. Fujii, M. Sato
P18	**Control of pore size and density of porous epitaxial graphene by RF-N_2 plasma irradiation**

	N. Takeda, D. Ishimaru, A. Hashimoto
P19	**Low-temperature magnetotransport of inhomogeneous epitaxial graphene grown on SiC** A. Endo, S. Katsumoto, J. Bao, W. Norimatsu, M. Kusunoki
P20	**Relation of kinds of Intercalated metallic atoms and charge transfer** K. Yagyu, H. Tochihara, T. Suzuki
P21	**Time-Resolved Photoluminescence from Epitaxial and Transferred Monolayer Graphene on SiC Substrate** H. Imaeda, T. Koyama, H. Kishida, K. Kawahara, H. Ago, J. Bao, T. Terasawa, W. Norimatsu, M. Kusunoki
P22	**Fabrication and graphenization of WC thin film by pulsed laser deposition** M. Oi, W. Norimatsu, M. Kusunoki
P23	**Theoretical study on graphene growth mechanism on SiC substrate** H. Kageshima, H. Hibino
P24	**Very gradual and anomalous oxidation at the interface of hydrogen-intercalated graphene/4H-SiC(0001)** F. Maeda, M. Takamura, H. Hibino
P25	**A study of epitaxial graphene on 3C-SiC(111) via Ar^+ ion beam irradiation** J. Ishii, T. Yamasaki, Y. Motokawa, T. Ikari, M. Naitoh
P26	**Bandgap opening in cross-bridging structures of buckled graphene nanoribbons** T. K. Yamada, H. Fukuda, T. Fujiwara, P. Liu, K. Nakamura, S. Kasai, A. L. Vazquez de Parga, H. Tanaka
P27	**LEEM/LEED analysis of exfoliated few-layer MoS_2 on epitaxial graphene** H. Hibino, S. Mizuno, K. Nishiguchi, H. Kageshima
P28	**Angle-resolved photoemission study of p-doped graphene with Cu-intercalation** T. Ito, K. Yamamoto, M. Imai, W. Norimatsu, M. Kusunoki
P29	**Effect of impurities in Ar gas on growth of epitaxial graphene** T. Terasawa, W. Norimatsu, M. Kusunoki
P30	**Tuning of Cu intercalation between graphene and SiC(0001)** T. Terasawa, M. Imai, W. Norimatsu, M. Kusunoki
P31	**Graphene nanoribbons grown on facets resulted from macro-step bunching on vicinal SiC surfaces** K. Fukuma, A. Visikovskiy, S. Hayashi, T. Kajiwara, T. Iimori, F. Komori, S. Tanaka

Friday, 24 Nov 2017

Morning Session (9:30 – 12:00, Room 201)

9:30 – 10:00	I05	**Polarization Doping and Work Function of Epitaxial Graphene on Silicon Carbide** S. Mammadov, M. Wanke, J. Ristein, Th. Seyller
10:00 – 10:15	O11	**Epitaxial growth of low doped monolayer graphene on 4H-SiC (0001) at low argon pressure** T. Wang, P. Landois, M. Bayle, J. -R. Huntzinger, A. De Cecco, C. Winkelmann, M. Paillet, B. Jouault, S. Contreras
10:15 – 10:30	O12	**Electron scattering by the inter-layer phonon in epitaxial graphene on SiC and graphite probed by the angle-resolved photoelectron spectroscopy: Dependence on the number of graphene layers** S-I. Tanaka, T. Terasawa, M. Kusunoki, S-I Ideta, K. Tanaka
10:30 – 10:45		Coffee Break
10:45 – 11:15	I06	**Epitaxial graphene on SiC: the blessing and the curse of the buffer layer** Alexander Tzalenchuk
11:15 – 11:30	O13	**Nano-second Order Molecular Dynamics Simulations for Graphene Formation Process on SiC** S. Takamoto, T. Yamasaki, J. Nara, T. Ohno, C. Kaneta,S. Izumi
11:30 – 11:45	O14	**Initial Process of Graphene Growth on [11-20] Stepped 4H-SiC(0001) Surface Revealed by First-Principles Molecular Dynamics Simulations** T. Yamasaki, Y. Ono, J. Nara, T. Ohno
11:45 – 12:00	O15	**An Insight into the Initial Formation of Graphene on SiC(0001) Surfaces Based on the First-Principles Molecular Dynamics** F. Imoto, J-I. Iwata, M. Boero, A. Oshiyama

Lunch break (12:00 – 13:15, Room 301)

Afternoon Session (13:15 – 16:30, Room 201)

13:15 – 13:45	I07	**Transport channels in functionalized graphene nanostructures** J. Aprojanz, Christoph Tegenkamp
13:45 – 14:00	O16	**Spatially-modulated electron-phonon coupling in one-dimensionally nanorippled graphene** F. Komori, K. Ienaga, T. Iimori,K. Yaji, T. Miyamachi, K. Fukuma, S. Hayashi, T. Kajiwara, A. Visikovsliy, K. Mase, K. Nakatsuji, S. Tanaka
14:00 – 14:15	O17	**Formation of Zigzag Graphene Nanoribbons on Vicinal SiC (0001)** Y. Harada, K. Matsuda, K. Higuchi, W. Norimatsu, M. Kusunoki
14:15 – 14:30	O18	**Morphology control of epitaxial graphene by Ar flow rate in large-scale** T. Terasawa, W. Norimatsu, M. Kusunoki
14:30 – 14:45	O19	**Confinement-Controlled Growth of Epitaxial Graphene on Hexagonal SiC with Metal Plate Capping: Enhanced Structural and Carrier Transport Properties** K. Park, H. Jin, S. Jung, J. Kim, K. Mo, K-J. Min, D-H. Chae, J. Park, W-S. Kim
14:45 – 15:15		Coffee Break
15:15 – 15:45	I08	**Tailoring electrical and optical properties of epitaxial graphene - electrical and Raman studies** J. Binder, E. Łacińska, I. Wlasny, R. Stępniewski, J. M. Baranowski, Z. Klusek, W. Strupiński, A. Wysmołek
15:45 – 16:00	O20	**Theoretical and experimental insights into detection of toxic heavy metals by epitaxial graphene on SiC** I. Shtepliuk, M. Vagin, V. Khranovskyy, T. Iakimov, R. Yakimova
16:00 – 16:15	O21	**Growth Mechanism of Carbon Nanotubes on SiC C-face by Thermal Decomposition** T. Maruyama, S. Naritsuka, K. Amemiya, M. Kusunoki
16:15 – 16:30	O22	**Fabrication of the carbon nanotubes/graphene composite film on silicon carbide** Y. Nagae, W. Norimatsu, M. Kusunoki

Banquet (17:30 – 19:30, Restaurant Universal Club)

Saturday, 25 Nov 2017

Morning Session (9:30 – 11:45, Room 201)

9:30 – 10:00	I09	**Gas-source MBE of cubic SiC on Si and formation of epitaxial graphene thereon** Maki Suemitsu
10:00 – 10:15	O23	**Carbonization-driven motion of Si islands on epitaxial graphene** H. Hibino, H. Kageshima
10:15 – 10:30	O24	**Epitaxial growth of two-dimensional GaN film on SiC substrates** S. Nakao, W. Norimatsu, M. Kusunoki
10:30 – 10:45		Coffee Break
10:45 – 11:00	O25	**Less uniform that we think: the effect of stacking domains in epitaxial graphene** J. Jobst, T. A. de Jong, C. Ott, H. B. Weber, W. E. Krasovskii, R. M. Tromp, S. J. van der Molen
11:00 – 11:15	O26	**Epitaxial growth of graphene on SiC: The role of residual gas** J. Kunc, M. Rejhon, V. Dědič, E. Belas, P. Moravec, J. Franc
11:15 – 11:30	O27	**Overcoming technological issues of graphene grown on SiC** A. García-García, G. Rius, A. Ballestar, L. Serrano, M. J. Pérez, E. Prats-Alfonso, R. Villa, J. M. De Teresa, M. R. Ibarra, P. Godignon
11:30 – 11:45		Closing Remarks

Lunch (12:00 –)