

## September 27-28, 2014

Arrival days, airport-hotel transfers, accommodation, registration

## September 28 (Sunday)

**Optional tour:** IACP DVO RAS, Laboratory tours, discussion

**19:00-20:30** Evening event

## September 29 (Monday)

**9:00** Welcome remarks (Conference Hall)

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**Session A** Chair: Shuji Hasegawa (University of Tokyo, JAPAN)

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09:10 **A-1**

F. Komori, S. Kim, S. Yoshizawa, Y. Ishida, S. Shin, K. Eto, K. Segawa, Y. Ando  
*Robust protection from backscattering in the topological insulator  $Bi_{1.5}Sb_{0.5}Te_{1.7}Se_{1.3}$*

09:30 **A-2**

Xi Chen, Kai Chang, Haicheng Lin, Kun Zhao, Chenhui Yan, Shuaihua Ji, Qikun Xue  
*Ferroelectricity in nearly free-standing one-unit-cell SnTe film*

09:50 **A-3**

E.V. Chulkov, S.V. Eremeev, A. Ernst, Yu.M. Koroteev, T.V. Menshchikova, V.N. Menshov, I.A. Nechaev, M.M. Otrokov, I.P. Rusinov, S.S. Tsirkin, V.V. Tugushev, and M. Vergniory  
*Electronic structure of topological insulators, Bychkov-Rashba systems, and graphene: composition, magnetism, and pressure effects*

10:10 **A-4**

Ke He, Xucun Ma, Xi Chen, Li Lu, Yayu Wang, Qi-Kun Xue  
*Quantum anomalous Hall effect in magnetically doped topological insulator*

10:30 **A-5**

S.V. Eremeev, Yu. M. Koroteev, I.A. Nechaev, and E.V. Chulkov  
*Dirac states at polar surfaces of topological crystalline insulators*

**10:50-11:10** COFFEE BREAK

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**Session B** Chair: Alexander Saranin (IACP FEB RAS, Vladivostok, Russia)

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11:10 **B-1**

Han Woong Yeom, Tae-Hwan Kim, Sung-Hwang Kim  
*Edge states of 1D and 2D topological insulators; In/Si(111) and Bi/Bi<sub>2</sub>Te<sub>2</sub>Se*

11:30 **B-2**

Geunseop Lee, Hyungjoon Shim, Yujin Jeon, Jonghoon Yeo  
*Hysteresis and nucleation in the phase transition of In/Si(111)-4×1 surface*

11:50 **B-3**

T. Abukawa, S. Kanzaki  
*Surface structure of Si(111)  $\sqrt{3}\times\sqrt{3}$ -Au+In surface*

12:10 **B-4**

A.V. Zotov, A.V. Matetskiy, L.V. Bondarenko, D.V. Gruznev, D.A. Olyanich, T.V. Utas, A.A. Saranin, J.P. Chou, C.M. Wei and Y.L. Wang  
*Diffusion phenomena in system with coexisting atoms and molecules: C<sub>60</sub> fullerenes and In adatoms on Au/Si(111) $\sqrt{3}\times\sqrt{3}$  surface*

**12:30 – 13:30** LUNCH

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**Session C** Chair: Xi Chen (Tsinghua University, Beijing, China)

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- 13:30 **C-1**  
Y.L. Wang  
*On the concept of constrained self-organization*
- 13:50 **C-2**  
Q. Wu, M. Kim, W.-J. Jang, S.-J. Kahng, D. Odkhuu, N. Park, J. Lee, R. S. Ruoff, S. Lee, Y. J. Song  
*SPM study of graphene-based heterostructure*
- 14:10 **C-3**  
Shangir Gwo  
*Low-loss, active plasmonics based on novel silver macro-, meso-, and nanostructures*
- 14:30 **C-4**  
Won-Jun Jang, Howon Kim, Min Wang, Sung Kyu Jang, Minwoo Kim, Sungjoo Lee, Sang-Woo Kim, Young-Jae Song, Se-Jong Kahng  
*Unbalanced standing wave patterns at a graphene junction caused by chiral electron reflection*
- 14:50 **C-5**  
Qiang Fu  
*The surface chemistry under the 2D-layer like materials*

**15:10-15:30** COFFEE BREAK

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**Session D** Chair: Se-Jong Kahng (Korea University, Seoul, Korea)

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- 15:30 **D-1**  
R. Peng, H.C. Xu, S.Y. Tan, M. Xia, X.P. Shen, Z.C. Huang, C.H.P. Wen, Q. Song, T. Zhang, B.P. Xie, and D.L. Feng  
*Enhanced superconductivity in single layer FeSe and the critical role of substrate*
- 15:50 **D-2**  
Chanyoung Hwang, Kyoung-Woong Moon, Z.Q. Qiu  
*Nonlinear reversal of magnetic vortex*
- 16:10 **D-3**  
V.U. Nazarov, F. Alharbi, T.S. Fisher, and S. Kais  
*Coupled plasmon-lattice motion in quasi-two-dimensional crystals*
- 16:30 **D-4**  
Byong Sun Chun, Kyoung-Woong Moon, Won Dong Kim, Chanyoung Hwang  
*Spin injection, propagation, and magneto-transport properties in a molybdenum disulfides lateral spin valve*
- 16:50 **D-5**  
Fang Yang, Y.R. Song, K.F. Zhang, Xiaole Zhang, Yishuai Xu, W.D. Luo, X.F. Chen, H. Li, X. Yao, Canhua Liu, Dong Qian, Chunlei Gao, Jin-Feng Jia, Y.Y. Zhang, S.B. Zhang  
*Investigating magnetic structure and magnetic anisotropy on the atomic scale*

**19:00** WELCOME PARTY

**September 30 (Tuesday)**

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**Session E** Chair: Han Woong Yeom (IBS) & POSTECH, Pohang, Korea)

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- 09:00 **E-1**  
S. Hasegawa, N. Fukui, R. Hobara, T. Hirahara, A. Takayama  
*Spin current at surfaces*

09:20 **E-2**  
Wei-Chuan Chen, Tay-Rong Chang, Sung-Ting Tsai, Sh. Yamamoto, Je-Ming Kuo,  
Cheng-Maw Cheng, Ku-Ding Tsuei, Koichiro Yaji, Hsin Lin, H -T Jeng, Chung-Yu Mou,  
Iwao Matsuda, S -J Tang  
*Dirac cones induced by significantly enhanced giant Rashba splitting in a thin film of binary alloy*

09:40 **E-3**  
A.A. Saranin, D.V. Gruznev, L.V. Bondarenko, A.V. Matetskiy, A.A. Yakovlev,  
A.Y. Tupchaya, S.V. Ereemeev, E.V. Chulkov, Jyu-Pin Chou, C.-M. Wei, M.-Y. Lai,  
Y.-L. Wang, A.V. Zotov  
*A strategy to create spin-split metallic bands on silicon using a dense alloy layer*

10:00 **E-4**  
Hidemi Shigekawa  
*Spin dynamics detection by laser-combined STM*

10:20 **E-5**  
A.V. Matetskiy, L.V. Bondarenko, A.Y. Tupchaya, D.V. Gruznev, A.V. Zotov, A.A. Saranin  
*Adsorbate-induced transformations in electronic structure of Bi(0001) surface*

**10:40-11:00** COFFEE BREAK

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**Session F** Chair: Andrey Zotov (IASP FEB RAS, Vladivostok, Russia)

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11:00 **F-1**  
T. Aruga, S. Hatta, K. Yaji, H. Okuyama  
*Ge(111)- $\beta$ ( $\sqrt{3}\times\sqrt{3}$ )R30 $^\circ$ -Pb: An intriguing 2D metal*

11:20 **F-2**  
Jun-Ho Lee, Xiao-Yan Ren, Yu Jia, and Jun-Hyung Cho  
*Antiferromagnetic superexchange mediated by a resonant surface state in Sn/Si(111) and Sn/Ge(111)*

11:40 **F-3**  
Kazushi Miki and Martin Setvín  
*Electronic structure of Si(110)-(16 $\times$ 2) surface*

12:00 **F-4**  
Sung-Hoon Lee, Sangmo Cheon, and Han Woong Yeom  
*Electronic structures of In nanowires on Si(111)*

**12:20-13:20** LUNCH

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**Session G** Chair: Yuh-Lin Wang (IAMS, Academia Sinica, Taipei, Taiwan)

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13:20 **G-1**  
C. M. Wei  
*Material simulations using ab-initio random structure searching*

13:40 **G-2**  
Yan Jun Li, Hirotaka Yokoyama, Yoshitaka Naitoh, and Yasuhiro Sugawara  
*Size-dependent surface potential of Pd clusters on Al<sub>2</sub>O<sub>3</sub>/NiAl(110) by KPFM*

14:00 **G-3**  
C.R. Hsing, C.M. Wei  
*Quantum Monte Carlo study of surface and adsorption properties*

14:20 **G-4**  
Wei-Tao Liu  
*Nonlinear optical studies of surface reactions*

14:40 **G-5**  
Ya-Ping Chiu  
*Atomic-scale electronic structures across heterointerfaces by cross-sectional STM*

15:00-15:20 COFFEE BREAK

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**Session H** Chair: Fumio Komori (University of Tokyo, Japan)

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- 15:20 **H-1**  
M. Yoshimura, Y. Matsuoka  
*Growth of graphite-capped vertically aligned carbon nanotube arrays*
- 15:40 **H-2**  
Joung Real Ahn  
*Wafer-scale single-crystal single-layer graphene*
- 16:00 **H-3**  
A. Visikovskiy, S. Kimoto, T. Kajiwara, M. Yoshimura, S. Tanaka  
*Si intercalation in graphene/SiC interface*
- 16:20 **H-4**  
M. Suemitsu and S.N. Filimonov  
*Heteroepitaxy of 3C-SiC on Si using GSMBE and formation of epitaxial graphene thereon*

18:00 – OUTDOOR/INDOOR ACTIVITIES (weather dependent)

**October 1 (Wednesday)**

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**Session I** Chair: Ching-Ming Wei (IAMS, Academia Sinica, Taipei, Taiwan)

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- 09:00 **I-1**  
W. W. Paj, Y. C. Hu, Y. C. Chao, R. Breitwieser  
*Electronic signature of intercalated  $C_{60}$  in CVD graphene on Cu*
- 09:20 **I-2**  
G.E. Cirlin  
*III-V nanowires: growth, properties and applications*
- 09:40 **I-3**  
Sheng Meng  
*Quantum interactions and dynamics at surfaces*
- 10:00 **I-4**  
O.E. Tereshchenko, V.A. Golyashov, A.S. Jaroshevich, I.B. Chistokhin, X. Li, G. Lampel,  
Y. Lassailly, D. Paget, J. Peretti  
*Electron spin polarimetry in ferromagnetic/semiconductor hybrid structures*
- 10:20 **I-5**  
Ying Jiang  
*Probing H-bonding configuration and proton dynamics of interfacial water with submolecular resolution*

10:40 -11:00 COFFEE BREAK

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**Session J** Chair: Tetsuya Aruga (Kyoto University, Kyoto, Japan)

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- 11:00 **J-1**  
Gyu-Hyung Kim, Sukmin Jeong  
*Electronic structure on the Ag/Si(111)- $\sqrt{3}\times\sqrt{3}$  surface with metal adatoms*

- 11:20 **J-2**  
D.V. Gruznev, A.V. Matetskiy, L.V. Bondarenko, A.Y. Tupchaya, A.A. Alekseev,  
S.V. Ereemeev, J.P. Chou, C.M. Wei, Y.L. Wang, A.V. Zotov, A.A. Saranin  
*Structure and electronic properties of one-atomic In layers on Si(111)*
- 11:40 **J-3**  
E.D. Obraztsova, A.A. Tonkikh, V.I. Tsebro, E.A. Obraztsova, P.V. Fedotov,  
A.A. Dolgoborodov, A.G. Nasibulin, E. I. Kauppinen, A. L. Chuvilin  
*A new approach to formation of transparent conductive films of single-wall carbon  
nanotubes*
- 12:00 **J-4**  
S.V. Zaitsev-Zotov, A.B. Odobesko, A.A. Mayzlahk  
*Tunneling density of states, electron density of states and wide-temperature-range conduction  
of the surface Si(111)-7x7*

**12:20-13:20 LUNCH**

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**Session K** Chair: Sergey Zaitsev-Zotov (Inst. for Radioeng. and Electron. of RAS, Moscow, Russia)

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- 13:20 **K-1**  
Minn-Tsong Lin  
*Scanning tunneling microscopy study on two emergent materials: Fe-PTCDA and BiTeI*
- 13:40 **K-2**  
Iwao Matsuda  
*Resonant magneto-optical Kerr effect for tracing spin dynamics*
- 14:00 **K-3**  
Jian Wang  
*Direct evidence of the thinnest high temperature superconductor*
- 14:20 **K-4**  
C.R. Hsing, C. Cheng, J. P. Chou, C. M. Chang, C. M. Wei  
*Van der Waals interaction in BN bilayer*
- 14:40 **K-5**  
L.V. Bondarenko, A.V. Matetskiy, A.Y. Tupchaya, I.A. Kibirev, A.A. Yakovlev, C.R. Hsing,  
C.M. Wei, S.V. Ereemeev, E.V. Chulkov, D.V. Gruznev, A.V. Zotov, A.A. Saranin  
*Rashba effect in two-dimensional Tl/Sn/Si(111) system*

**15:00 – 15:20 COFFEE BREAK**

**15:20 Closing remarks**

**16:00 CITY TOUR**

**19:30 FAREWELL PARTY**

**October 2 (Thursday)**

**CHECKOUT & DEPARTURE**

Transfers to the airport