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SRC Winter Workshop on Quantum Coherence & Topological Matter

Phoenix Park Resort / Feb. 2-4, 2017 Organized by Center for Topological Matter (POSTECH) Center for Quantum Coherence in Condensed Matter (KAIST) Under the auspices of National Research Foundation of Korea (NRF)

Feb. 2

– 13:50 Arrivals and Registration

- 13:50 14:00 Welcoming Remark Director
- 14:00 14:45

Philip Kim (Harvard University, USA) "Correlated electrons in graphene"

14:45 – 15:30

Michihisa Yamamoto (University of Tokyo, Japan) "Graphene-based valleytronics and superconductor electronics"

15: 30 – 15:45 Coffee Break

15: 45 – 16:30

Stevan Nadj-Perge (California Institute of Technology, USA) "Majorana bound states in atomic structures"

16:30 – 17:15

Tomoki Machida (Institute of Industrial Science, University of Tokyo, Japan) "Quantum transport in van der Waals junctions of graphene and 2D materials "

17:20 – 18: 50 Poster Session

19:00 - 21:00 Banquet

10:40 – 11:25

Wang Yao (The University of Hong Kong, China) "Valley-spintronics in 2D semiconductors: from monolayer to heterobilayer Moire"

11:25 - 12:00

Jieun Lee (Ajou University, Korea) *"Manipulating valley transport in 2D transition metal dichalcogenides"*

12:00 - 12:35

Hyunyong Choi (Yonsei University, Korea)

"Terahertz investigation of Dirac plasmons in the topological insulator Bi₂Se₃"

12:40 – 18:00 Lunch & Ski Break

18:00 – 19:00 Dinner

19:30-20:05

Donghun Lee (Korea University, Korea) "SPM based on diamond defect centers for possible usage in mesoscopic physics"

20:05-20:40 SRC highlight

Yong-Joo Doh (GIST, Korea) "Strong superconducting proximity effects in semiconductor nanowires"

20:40-21:15 SRC highlight

Tae-Hwan Kim (POSTECH, Korea) "Switching Chiral Solitons for Z₄ Topological Logic Operations"

Feb. 3

Feb. 4

9:00 - 9:45

Yulin Chen (Clarendon Laboratory, University of Oxford, UK) "Visualizing Electronic Structures of Topological Quantum Materials"

<mark>9:45 –</mark> 10:20

Jeil Jung (University of Seoul, Korea)

"Carrier density and strain tunable magnetism in 2D transition metal chalcogenides"

10:20 – 10:40 Coffee Break

9:00-12:30 SRC Internal meetings

(Hotel 2nd Floor Diamond Hall)

- Progress report of Center for Topological Matter (Hotel 2nd Floor Emerald Hall)
- Progress report of Center for Quantum Coherence in Condensed Matter