

2011 Korea-Germany IRTG Workshop in Seoul, Korea

January 16-24, 2011

Mogam Hall, Building 500, Seoul National University

Co-sponsored by

National Research Foundation of Korea (NRF)



&

German Research Foundation (DFG)



Program of Korea-Germany IRTG Meeting 2011 in Seoul

01/16 (Sunday)

14:00 Arrival and Check-in at Hoam Faculty House

17:00 Welcoming Dinner

01/17 (Monday) Bldg 500 Mogam Hall

09:00 ~ 09:10 Welcoming Remarks
 Prof. Myung-Hwan Kim (Dean, College of Natural Sciences, SNU)

09:10 ~ 09:20 Opening Remarks

Session I

(Chairman: Prof. Do Yeung Yoon)

09:20 ~ 09:45 Prof. Rudolf Zentel
 *“Polymer-Nanoparticle Composites: From Orientation Phenomena
 to Optoelectronic Applications”*

09:45 ~ 10:10 Prof. Ji Young Chang
 *“Multifunctional Mesoporous Silica Particles and Their FRET
 Activity”*

10:10 ~ 10:35 Prof. Hans-Jürgen Butt
 *“Scanning Probe Microscopy to Characterize Organic Conducting
 Materials”*

10:35 ~ 10:55 Coffee Break

Session II

(Chairman: Prof. Hans-Jürgen Butt)

10:55 ~ 11:20 Prof. Kwang-Sup Lee

“Photopatternable Quantum Dots and Low Bandgap Polymers for OTFT and Photovoltaic Applications”

11:20 ~ 11:45 Prof. Wolfgang Tremel

“Tin Oxide Nanostructures: From Synthesis to Dye Sensitized Solar Cells”

11:45 ~ 12:10 Prof. Byeong-Hyeok Sohn

“Enhanced Emissions of Fluorophores in Diblock Copolymer Micelles”

12:10 ~ 14:00 Lunch (Dure)

Tutorial Session I

(Chairman: Prof. Kwang-Sup Lee)

14:00 ~ 14:50 Prof. Jin Kon Kim (Department of Chemical Engineering, POSTECH)

“Nano Functional Materials Based on Hard and Soft Nanoporous Templates”

14: 50 ~ 15:40 Dr. Soo-Young Yoon (LG Display)

“Recent Technical Approaches for Flexible Display”

15:40 ~ 16:00 Photo Session

Poster Session (Bldg 500 Lobby)

(Chairman: Prof. Byeong-Hyeok Sohn)

16:00 ~ 17:30 Student Poster Presentation

***Titles given at the end of this program**

18:00 ~ Welcoming Dinner

(Sponsored by LG Display / Ganggangsullae, Sillim-dong)

01/18 (Tuesday) Bldg 500 Mogam Hall

Session III

(Chairman: Prof. Rudolf Zentel)

- 09:00 ~ 09:25 Prof. Do Yeung Yoon
“Effects of Interfaces and Molecular Topology on Chain Conformations and Dynamics in Polymer Melts”
- 09:25 ~ 09:50 Prof. Friederike Schmid
“Self-Consistent Field Theory for Polymer Networks”
- 09:50 ~ 10:15 Dr. Dennis Adrienko
“Extracting Nondispersive Charge Carrier Mobilities of Organic Semiconductors from Simulations of Small Systems”
- 10:15 ~ 10:35 Coffee Break

Session IV

(Chairman: Prof. Ji Young Chang)

- 10:35 ~ 11:00 Prof. Kookheon Char
“Nanohybrids for Optoelectronic Applications”
- 11:00 ~ 11:25 Dr. Frédéric Laquai
“Charge Recombination in Polymer/Fullerene Photovoltaic Blends”
- 11:25 ~ 11:50 Prof. Tae-Dong Kim
“Synthesis of Solution-Processable Fullerene Derivatives for n-Type Organic Field Effect Transistors and Photovoltaics”
- 11:50 ~ 12:15 Prof. Katja Heinze
“Multifunctional Transition Metal Complexes: Synthesis and Properties”
- 12:15 ~ 14:00 Lunch (Dure)

Tutorial Session II

(Chairman: Prof. Kookheon Char)

14:00 ~ 14:25 Prof. Tai-Lim Choi (Department of Chemistry, SNU)

“Cyclopolymerization of 1, 6-heptadiyne derivatives”

14:25 ~ 15:15 Prof. Myongsoo Lee (Department of Chemistry, SNU)

“From Molecular Assembly to Nanostructured Materials”

15:15 ~ 15:35 Concluding Remarks

Faculty Discussion (Bldg 503 Seminar Room 404 on 4th Floor)

16:00 ~ 17:30 Korean and German Faculty

18:00 ~ Banquet (*Badalbi, Sillim-dong*)

01/19 (Wednesday) LG Display Tour

09:00 ~ 10:30 Move to LG Display/Paju

10:30 ~ 12:00 LG Display Tour

12:00 ~ 14:00 Lunch at LG Display

14:00 ~ 15:30 Return to Seoul (Hoam)

15:30 ~ 17:30 Discussion

17:30 ~ Dinner

01/20 (Thursday) Hannam Univ Tour

09:00 ~ 11:00 Move to HNU/Daejeon

11:00 ~ 12:00 HNU Campus Tour

12:00 ~ 14:00 Lunch (Daejeon)

14:00 ~ 17:00 HNU Lab Tour

17:00 ~ 19:00 Dinner (Daejeon)

19:00 ~ Return to Seoul (Hoam)

01/21 (Friday) Seoul National Univ Tour

09:00 ~ 12:00 SNU Lab Tour

12:00 ~ 14:00 Lunch

14:00 ~ 18:00 SNU Lab Tour

18:00 ~ Dinner

01/22 (Saturday) ~ 01/23 (Sunday) Individual Lab Visit

01/24 (Monday)

11:00 ~ Check-Out and Departure

***Poster Titles**

- P1. ***“Microwave-Assisted Synthesis of SnO₂ Nanoparticles and their Application in Dye-Sensitized Solar Cells”***
Yong-Gun Lee, Alexander Birkel, Dominik Koll, Yong Soo Kang, Wolfgang Tremel, Kookheon Char
- P2. ***“Charge Generation and Recombination in PCDTBT:PCBM Photovoltaic Blends”***
Fabian Etzold, Ian A. Howard, Ralf Mauer, Michael Meister, Tae-Dong Kim, Kwang-Sup Lee, and Frédéric Laquai
- P3. ***“Efficient Inverted Organic Solar Cells Using ZnO Nanoparticles”***
Seunguk Noh, Insun Park, Jun Young Kim, Donggu Lee, Do Yeung Yoon, and Changhee Lee
- P4. ***“A High Gain and High Charge Carrier Mobility Indenofluorene-Phenanthrene Copolymer for Light Amplification and Organic Lasing”***
Hun Kim, Niels Schulte, Gang Zhou, Michael Meister, Klaus Müllen and Frédéric Laquai
- P5. ***“Effect of Cell Size on the Performance of Polymer Bulk Heterojunction Solar Cells”***
Won-Ik Jeong, Sun-Young Park, Jane Lee, Joo Hyun Kim, Jae-Wook Kang, and Jang-Joo Kim
- P6. ***“Charge Generation and Recombination in Perylene Dye-Sensitized Solar Cells”***
Michael Meister, Henrike Wonneberger, Chen Li, Klaus Müllen and Frédéric Laquai
- P7. ***“Nanostructures in Small Molecular Organic Photovoltaics”***
Hyo Jung Kim, Jun Hyuk Jang, Taemin Kim, and Jang-Joo Kim
- P8. ***“Incorporation of Inorganic Nanorods into Cholesteric Liquid Crystals”***
Daniel Wenzlik, Carsten Sönnichsen and Rudolf Zentel

- P9. ***“Fabrication of Nanopatterns of Gold Nanoparticles Using Block Copolymer Micelles for Controlled Fluorescence”***
Jeong-Hee Kim and Byeong-Hyeok Sohn
- P10. ***“Optical Properties and Structure of Dye and Quantum Dot Oligomers”***
Sven Stöttinger, Gerald Hinze, Mathias Haase, Ting Ren, Peter Roth, Zhihong Liu, Patrick Théato, Rudolf Zentel, Klaus Müllen and Thomas Basché
- P11. ***“Surface Plasmon Enhanced Emission of Fluorophores by Micellar Nanostructures on Metal Nanoparticles”***
Ki-Se Kim and Byeong-Hyeok Sohn
- P12. ***“Novel 2D Organic-Inorganic Hybrid Nanostructures: H-Bonding Assisted 2D Self-Assembly of Bis-acylureas”***
Jong-Uk Kim and Rudolf Zentel
- P13. ***“Full Color and White Quantum Dot Light-Emitting Diodes with a Inverted Structure”***
Donggu Lee, Jaehoon Lim, Jeonghun Kwak, Wan Ki Bae, Kookheon Char, Seonghoon Lee, and Changhee Lee
- P14. ***“Biphasic Nanoparticles for Optoelectronic Applications”***
Birger Freisinger, Anna Musyanovych, Ulrich Ziener and Katharina Landfester
- P15. ***“Patternable Semiconductor Nanocrystals”***
Prém Prabhakran, Kwang-Sup Lee and Lisa zurBorg, Muhammad Nawaz Tahir, Rudolf Zentel, and Wolfgang Tremel.
- P16. ***“New Hybrid Systems for LEDs and Solar Cells”***
Liza Zur Borg, Jaehoon Lim, Donggu Lee, Wan Ki Bae, Aaron Breivogel, Katja Heinze, Kookheon Char, Changhee Lee, Rudolf Zentel
- P17. ***“Cyclopentadithiophene-Thienothiophene Copolymers for Field-Effect Transistors”***
Pramod Kandoth Madathil, Don Cho, Tae-Dong Kim, Dirk Beckman, Martin Baumgarten, Klaus Mullen and Kwang-Sup Lee

- P18. ***“Polythiophene:Perylene Diimide Solar Cells-The Impact of Alkyl-Substitution on the Photovoltaic Performance”***
Valentin Kamm, Glauco Battagliarin, Ian A. Howard, Chen Li, Klaus Müllen, and Frédéric Laquai
- P19. ***“Synthesis of a Small Molecule Having a Coordination Site and Its Photovoltaic Application”***
Hyungwoo Kim and Ji Young Chang
- P20. ***“Kelvin Probe Force Microscopy on Nanoscale Structures”***
Anna Domanski, Esha Sengupta, Maria B. Retschke, Stefan A. L. Weber, Rüdiger Berger and Hans-Jürgen Butt
- P21. ***“Synthesis and Property of Anthracene Derivatives Having Dendritic Oligothiophenes”***
Yoonbin Lim and Ji Young Chang
- P22. ***“Tuning Microphase Separation in Diblock-Copolymers via Post-Polymerization Volume Fraction Modification”***
Mark Schäfer, Jochen Gutmann and Andreas Kilbinger
- P23. ***“Plasmon Induced High Efficiency Solid State Dye Sensitized Solar Cell”***
Sanghyuk Wooh, Michael Meister, Muhammad Nawaz Tahir, Yong-Gun Lee, Frederic Laquai, Wolfgang Tremel and Kookheon Char
- P24. ***“Template-Based Fabrication of Highly-Ordered Interpenetrating Networks for Photovoltaic Applications”***
Philipp Schattling, Taeyong Kim, Niko Haberkorn, Kookheon Char and Patrick Théato
- P25. ***“New Ruthenium Chromophores with Optimized Properties”***
Aaron Breivogel, Christoph Förster, and Katja Heinze
- P26. ***“The Influence of Humidity on the Surface Potential of Polymer Blends”***
Maria Retschke, Sergei Magonov, Rüdiger Berger, Hans-Jürgen Butt

P27. ***“Controlled Cyclopolymerization of 4,4-Disubstituted 1,6-Heptadiyne Derivates by Grubbs Catalyst”***

In Sun Lee, Eun Hye Kang, and Tae-Lim Choi