

2007 RCIQE International Seminar on "Advanced Semiconductor Materials and Devices"



February 8th-9th, 2007
Conference Hall, Hokkaido University

日時：平成19年 2月8日(木)10:00 - 2月9日(金)15:30

場所：北海道大学学術交流会館

主催：北海道大学量子集積エレクトロニクス研究センター

Research Center for Integrated Quantum Electronics (RCIQE), Hokkaido University

Program

(Thursday, February 8th)

10:00 - 10:10 "Opening Address"

Takashi Fukui, Hokkaido University

- Formation of Nanostructures -

10:10 - 10:50 "Growth fundamentals of GaAs and InAs nanowires by using vapor-liquid-solid mechanism"

*Kenji Hiruma, Keiichi Haraguchi,
Masamitsu Yazawa and Toshio Katsuyama,
Central Research Laboratory, Hitachi Ltd.*

10:50 - 11:30 "Evolution mechanism of InAs quantum dot on GaAs(001) investigated by STM/BE: in-situ STM observation during MBE growth"

Shiro Tsukamoto, University of Tokyo

11:30-11:50 "MOVPE growth and structural characterization of ferromagnetic MnAs nanoclusters"

Shinjiro Hara, Hokkaido University

11:50-12:10 "Electrochemical formation of uniform arrays of InP nanostructures"

Taketomo Sato, Hokkaido University

12:10-13:30 Lunch Break

- Advanced Optoelectronic and Electronic Devices -

13:30-14:10 "Optical properties of GaN films for different nonpolar orientations"

Holger Grahn, Paul Drude Institute, Germany

14:10-14:50 "High-efficiency InAlGaIn-based UV LEDs"

Hideki Hirayama, RIKEN

14:50-15:10 Break

15:10-15:50 "AlGaIn/GaN HFETs for power switching applications"

Tsuyoshi Tanaka, Matsushita Electric Industrial Co., Ltd.

15:50-16:10 "MBE growth and in-situ XPS characterization of silicon interlayers for surfaces passivation of GaAs quantum devices"

*Masamichi Akazawa and Hideki Hasegawa,
Hokkaido University*

16:10-17:40 **Poster Viewing Session**

17:40-18:20 **Lab Tour to RCIQE**

18:30-20:00 **Reception (Clark Memorial Student Center 2F)**

(Friday, February 9th)

- Physics and Device Application of Nanostructures -

9:15-9:55 "Single-electron control of supercurrent transport in semiconductor quantum dots"

*Silvano De Franceschi, Jorden van Dam,
Yong-Joo Doh, Leo Kouwenhoven, Arnoud
Roest and Erik Bakkers, CEA-DRFMC,
Grenoble, France, Kavli Institute of Nanoscience,
Delft, The Netherlands*

9:55-10:30 "Growth and photoluminescence study of semiconductor nanowires"

Junichi Motohisa, Hokkaido University

10:30-10:50 Break

10:50-11:30 "Nanoscale metal switches and their application to reconfigurable circuits"

Hisao Kawaura, NEC Corporation

11:30-12:10 "Photon-spin qubit-conversion based on dynamic nuclear polarization of a single quantum dot"

*Shunichi Muto, Satoru Adachi and
Hirotaka Sasakura, Hokkaido University*

12:10-13:30 Lunch Break

- Carbon Nanoelectronics -

13:30-14:10 "Controlling the electronic structure of bilayer graphene"

*Taisuke Ohta, Fritz Haber Institute, Germany,
Advanced Light Source, E. O. Lawrence Berkeley
National Laboratory, USA*

14:10-14:50 "Electrical and optical characterization of carbon nanotube FETs"

Takashi Mizutani, Nagoya University

14:50-15:25 "Electrical properties of nano-graphite grown on silicon carbide"

Kanji Yoh, Hokkaido University

15:25-15:30 "Closing Remarks"

Kanji Yoh, Hokkaido University

聴講料無料、懇親会参加費 1,000円

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