

"JSPS – University of North Texas(UNT) Winterschool on Nanophotonics"

On February 14-15, 2008, the University of North Texas and JSPS Washington Office held its Winterschool on Nanophotonics at the Gateway Center, on the campus of the University of North Texas in Denton, Texas. With the advent of nanofabrication and nanoscale characterization, photonics in the nanoscale limit plays an increasing role in a number of other related sectors. This Winterschool aimed to capture the growing excitement in this field and to train young researchers in nanophotonics.

The Winterschool opened with remarks from Arup Neogi, University of North Texas, event chairman.

Then there was a welcome address by Warren Burggren, Dean, University of North Texas. Akira Masaïke, Director, JSPS Washington Office also welcomed the audience.

On the first day, presentations were made by Osamu Wada, Kobe University; Zhiming Wang, University of Arkansas; and Satoshi Iba, Nara Institute of Technology. In the next session the presenters were Vladimir Agronovich, University of Texas at Dallas; Koïchiro Zaitso, University of Tokyo; Abhijit Sarkar, Michigan Molecular Institute.

In the afternoon there was a poster session. There were fourteen posters prepared by young researchers. The posters attracted many interested onlookers. Lively discussions arose and new ideas for collaborations were made. After the poster session, the presentations resumed. M. Saif Islam, University of California – Davis; Weidong Zhou, University of Texas at Arlington; Ryoko Shimada, Virginia Commonwealth University; and M. Achtenhagen, Photdigm, Inc., all made presentations of their projects. Later that evening there was a reception to celebrate the event.



Kawano, Osaka University; Ronald Siegel, University of Minnesota; Tong Cai, University of North Texas; and Santaneel Ghosh, Southeast Missouri State University. The Winterschool closed with remarks from Arup Neogi. Kotaro Kodera, Deputy Director, JSPS Washington Office also made remarks to congratulate the participants. The Winterschool was quite a success creating much excitement, and Mr. Kodera took the opportunity to promote the JSPS Fellowship program.



【Agenda】

Session I: *Opening Session*

Introduction (Chair: A. Neogi)

08:30-08:35 Opening and Introduction from the Winterschool Chairman

Arup Neogi, *University of North Texas, Denton, USA*

08:35-08:45 Welcome Address

Provost, *University of North Texas, Denton, USA*

08:45-09:00 Welcome Address

Akira Masaïke, *Japan Society for Promotion of Sciences, Washington DC, USA*

Session II:

Nanoscale Photonics and Ultrafast Optics

09:00-09:45 Ultrafast Optoelectronics

Th-1 Osamu Wada, *Kobe University Kobe, Japan*

09:45-10:15 All-Optical Modulation using Photonic bandgap structures

Th-2 N. Ozaki, *University of Tsukuba*

10:15-10:45 Nanophotonics in the 21st Century

Th-3 Arup Neogi, *University of North Texas, Denton, USA*

10:45-11:00 Refreshment Break

Session III:

Quantum Dots for Nanophotonics

11:00-11:45 Growth and Synthesis of Spatially Localized Quantum Dots for Nanophotonics

Th-4 Zhiming Wang, *University of Arkansas, USA*

11:45-12:05 MBE growth of MQW on a (110) GaAs substrate for obtaining long lifetime of electron spins

Th-5 Satoshi Iba, *Nara Institute of Technology, Denton, USA*

12:05-13:30 Lunch Break

Noon Session

Session IV:

Poster Session I – Contributed Papers (for Graduate Students)

13:30-14:30

Session V:

Plasmonics and Meta Materials

14:30-15:15 Negative index meta-materials based on two-dimensional metallic structures

Th-6 Genady Shvets, *University of Texas, Austin*

15:15-16:00 Long Range Plasmons in Metamaterials

Th-7 Arkadii Krokhin, *University of North Texas, Denton*

16:00-16:20 Plasmonics using Ga droplets

Duke University, Durham, NC

16:20-16:40 Near-field Optical Spectroscopy of metal droplets

Tony Llopis, UNT

17:00 -18:00 Lab tour

18:30:- 20:30 Reception

Friday February 15, 2008

Session VII:

Nanoscale Molecular Organic materials

08:30-09:15 Hybrid Excitons in Organic-Inorganic semiconductors

V. Agranovich

F-1

09:00-09:30 Nanoscale Molecular Organic Photovoltaics

Mohammad Omary, University of North Texas

F-2

09:30-10:00 Terry Ishihara's group

Tohoku University *Sendai, Japan*

F-3

10:00-10:15 Refreshment Break

Session VIII:

Nano-biophotonics

10:15-10:45 Surface Plasmon Enhanced Emission Spectroscopy of Biological Molecules

F-4 Ignacy Grycznski, University of North Texas Health Science Center

10:45-11:15 Biological Applications of Nanoparticles - An Industrial Perspective

F-5 Abhijit Sarkar, *Michigan Molecular Institute, Midland, USA*, and

11:15-11:45 Hydrogels for Biophotonics

F-6 Tong Cai, *University of North Texas*

11:45-12:15 ZnO nanoparticles conjugated to biological molecules

F-7 Shimane University

12:15-13:30 Lunch Break

Session IX:

Poster Session II – Student Contribution

13:30-14:30

MEMS and NEMS.

14:30-14:45 MEMS for Optoelectronics -

F-8 J.B. Lee, University of Texas, Dallas

14:30-15:00 Magnetically doped hydrogels for Lab on a chip

S. Ghosh., South East Missouri State *University*

F-9

15:00-15:30 Femtosecond Laser Ablation and Micromachining

F-10 *Tae-Youl Choi, UC Berkeley*

15:30-15:45 Refreshment Break

Session XI:
Nanoscale Plasmonics.

15:45-16:15 Near-field optics

F-11 T. Kawazoe, University of Tokyo

16:15-16:35 Bright, Eye-Matched Visible Emission from ZnO Nanowires

F-12 Henry O. Everitt, *et al.*, *Duke University, Durham, USA*

16:35-17:00 System Architecture for Nanoscale integrated circuits

F-13 Molecules

Mohammad A. Omary, *University of North Texas, Denton, USA*

17:00-17:25 Infrared Optical Detectors based on Photonic Bandgap structures

F-14 Weidong Zhou

17:25-17:30 Concluding Remarks