

April 27 (Friday)

The 4th User Workshop of
Ultrashort Quantum Beam Facility

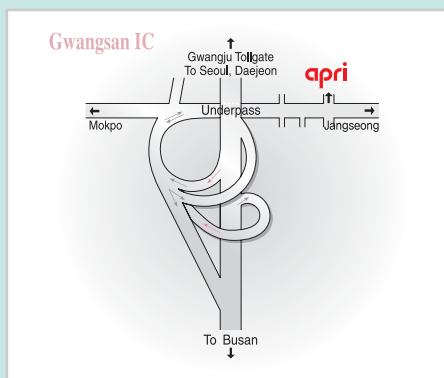
13:30 -14:50	Session FRIB: Femtosecond low power laser applications II	Chair : Prof. Jaewook Ahn
13:30	(FRIB-1) Real-time diffraction using ultrashort electron pulse	Jae Hyuk Lee (KAIST)
13:50	(FRIB-2) Development of femtosecond laser pulse switching and patterning technology	Dr. Ik-Bu Sohn (APRI, GIST)
14:10	(FRIB-3) Amplification of a Selected mode of a phase-stable optical frequency comb for spectroscopy & remote transfer	Prof. Tai Hyun Yoon (Korea Univ.)
14:30	(FRIB-4) Preparation of general single-quart states using ultrafast spontaneous parametric down-conversion	Prof. Yoon-Ho Kim (POSTECH)
14:50 -15:10	Break	
15:10 -16:30	Session FRIC: Femtosecond low power laser applications III	Chair : Dr. Young-Chul Noh
15:10	(FRIC-1) Sub-Doppler traps in an asymmetric magneto-optical trap	Prof. Heung-Ryoul Noh (Chonnam Univ.)
15:30	(FRIC-2) Temperature effect on the transport dynamics of a small molecule through a liposome bilayer	Dr. Joon Heon Kim (KAIST)
15:50	(FRIC-3) Secondary radiations induced by laser-produced high energy electrons and photon	Prof. Yong-Kyun Kim (Hanyang Univ.)
16:10	(FRIC-4) Precise and long-term stabilization of the carrier-envelope phase in a few-cycle pulses regime	Dr. Tae Jun Yu (APRI, GIST)
16:30 -16:40	Closing Remark	Director of APRI

▶ **Registration**

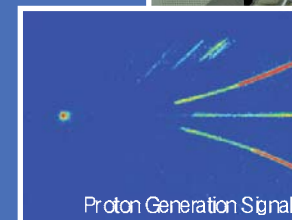
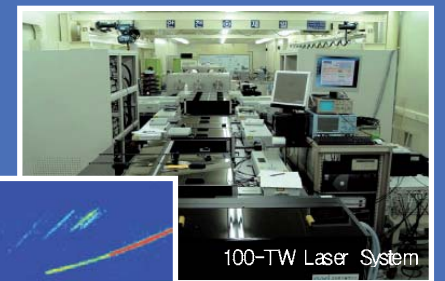
- Fee : free
- Location : APRI Auditorium Lobby

▶ **Workshop Venue**

- Address : Advanced Photonics Research Institute, GIST, 1 Oryong-dong, Buk-Gu, Gwangju 500-712, Republic of Korea
- Phone : +82-62-970-3415~7
- Fax : +82-62-970-3419
- Web-site : <http://apri.gist.ac.kr>
- Transportation
 - By car : 3 minutes from Gwangsan IC
 - By taxi from Gwangju Bus Terminal : 30 minutes
 - By taxi from Gwangju Airport : 30 minutes
 - By taxi from Gwangju Station : 25 minutes
- Map



Korea-China-Japan Joint Meeting on
Ultra-High Intense Laser
Development and Their Applications
and
The 4th User Workshop of
Ultrashort Quantum Beam Facility



April 26-27, 2007
APRI Auditorium, GIST
Gwangju, Korea

Organized by
Advanced Photonics Research Institute, GIST (Korea)

Under the aegis of
Asian Intense Laser Network (AILN)
Femto-Science and Technology Research Center, GIST (Korea)
Optical Society of Korea
SPIE Korea Chapter

▶ **Accommodations**

- Empire Hotel : +82-62-973-3400 (phone)
- GIST Guest House : +82-62-970-3331 (phone)

▶ **Contacts**

- Do-Kyeong Ko : +82-62-970-2227 (phone)
dkko@gist.ac.kr (e-mail)
- Chul-Sik Kee : +82-62-970-3426 (phone)
cskee@gist.ac.kr (e-mail)



<http://apri.gist.ac.kr>

Welcoming Message

Femto Science and Technology have become one of the main issues in modern optics and photonics. The **Advanced Photonics Research Institute (APRI)** was founded as a sole research institute in Korea specializing in optical science and photonics. APRI has successfully developed a 100-TW ultrashort, ultrahigh-intensity laser system, and several international research collaborations are already in progress utilizing this extremely high power laser facility as well as many domestic collaborations. As a result, our 100-TW facility has produced scientifically important outputs such as high-energy electron acceleration, proton beam generation and X-ray laser demonstration. Furthermore, a ground breaking ceremony was held for construction of a new building for the PW facility.

APRI expands itself tremendously by recruiting distinguished research scientists and establishing research laboratories with many state-of-the-art equipments. The Laboratory Groups (Femto Science, Nanophotonics, Nonlinear Optics, Laser Spectroscopy, Optical Information and Communications, etc.) at APRI have already been producing many excellent research outcomes and publishing the results in internationally recognized journals. We will continue our expansion as a specialized research institute in optical science and photonics by opening other Laboratory Groups including many of the leading high tech areas such as atto-second physics, THz-imaging, etc.

We are very pleased to hold the **Korea-China-Japan Joint Meeting on Ultra-High Intense Laser Development and Their Applications** where the recent progress of their unique laser facilities and exciting research results will be presented. We will also have the **Fourth User Workshop of Ultrashort Quantum Beam Facility** together with the meeting. Many domestic researchers will report their recent results including ultrafast dynamics in quantum structures, laser machining, X-ray imaging, energetic ion beam generation, etc. and also have fruitful discussions.

We are looking forward to seeing you in this exciting workshop.

Prof. Jongmin Lee
Director, Advanced Photonics Research Institute
Gwangju Institute of Science and Technology

Program

April 26 (Thursday)		
Korea-China-Japan Joint Meeting on Ultra-High Intense Laser Development and Their Applications and The 4 th User Workshop of Ultrashort Quantum Beam Facility		
09:30 -10:00	Registration	
10:00 -10:10	Opening Remark and Welcoming Address	Director of APRI
10:10 -11:30	Session THUA	Chair : Prof. Do-Kyeong Ko
10:10	(THUA-1) Recent progress in photon science research at advanced photon research center	Prof. Toyooki Kimura (APRC, JAEA, Japan)
10:50	(THUA-2) Compact multi-100 TW Ti:sapphire laser facility and trend to high contrast ratio	Prof. Zhiyi Wei (IOP, CAS, China)
11:30 -13:30	Photo and Lunch	
13:30 -15:30	Session THUB	Chair : Prof. Toyooki Kimura
13:30	(THUB-1) Progress report of the construction of the ultrashort quantum beam facility and high field physics research of APRI	Prof. Do-Kyeong Ko (APRI, GIST, Korea)
14:10	(THUB-2) Science and application of ultrashort pulse laser-electron acceleration and filament	Dr. Yuji Oishi (CRIEPI, Japan)
14:50	(THUB-3) Effect of laser spot size on the stability and quality of quasi-monoenergetic electron beams produced by a laser wake field acceleration	Dr. Nasr Hafz (APRI, GIST, Korea)
15:10	(THUB-4) X-ray and proton generation using the ultrashort quantum beam facility at APRI	Dr. Il Woo Choi (APRI, GIST, Korea)
15:30 -15:50	Break	
15:50 -17:50	Session THUC : Femtosecond Low Power Laser Applications I	Chair : Dr. Tae Moon Jeong
15:50	(THUC-1) Energetic ion generation in laser-plasma interaction: physics and simulation	Ju Tae Seo (Chung-Ang Univ.)
16:10	(THUC-2) Hard x-ray diffraction microscopy	Prof. Do Young Noh (GIST)

16:30	(THUC-3) Generation of CEP stabilized femto second laser pulse using Yb doped fiber laser	Jungkwuen An (POSTECH)
16:50	(THUC-4) Frequency noise measurement of broad infrared frequency comb using optical heterodyne techniques	Prof. Kyoungsik Kim (Yonsei Univ.)
17:10	(THUC-5) Full-range complex spectral-domain optical coherence tomography using phase-shifting methods	Prof. Byeong Ha Lee (GIST)
17:30	(THUC-6) Development of thermal birefringence compensation technology in a Nd:Glass MOPA system	Prof. Hyun Su Kim (Chosun Univ.)
17:50 -18:20	User Meeting	

April 27 (Friday)		
The 4 th User Workshop of Ultrashort Quantum Beam Facility		
09:30 -10:00	Registration	
10:00 -12:00	Session FRIA : Femto-Nano Science and Technology	Chair : Dr. Chul-Sik Kee
10:00	(FRIA-1) Chiral-selective excitation of lattice vibrations in carbon nanotubes using femtosecond pulse shaping	Prof. Ki Ju Yee (Chungnam Univ.)
10:20	(FRIA-2) Growth and nonlinear optical properties of vertically-aligned ZnO nanorods	Prof. Fabian Rotermund (Ajou Univ.)
10:40	(FRIA-3) High resolution laser spectroscopy by using NSOM	Prof. Seung Han Park (Yonsei Univ.)
11:00	(FRIA-4) fs-Laser induced optical properties of GaAs QDs	Dr. Jong Su Kim (APRI, GIST)
11:20	(FRIA-5) Spectral shapes of terahertz waves from ternary zinc-blende EM emitters	Prof. Jaewook Ahn (KAIST)
11:40	(FRIA-6) Feasibility of multi-layer optical data storage and color change in silver-doped glasses	Prof. Ki-Soo Lim (Chungbuk Univ.)
12:00 -13:30	Photo and Lunch	