

3rd Announcement

OPTICS & PHOTONICS International Congress 2013



OPIC 2013

Co-located with OPTICS & PHOTONICS International Exhibition 2013



<http://opicon.jp/>

統括主催

OPTICS & PHOTONICS International Council (OPI協議会)

後援

文部科学省、経済産業省、農林水産省、厚生労働省、日本経済団体連合会

協賛

産業技術総合研究所、日本原子力研究開発機構、理化学研究所、日本フォトニクス協議会、ALPROT
光拠点ネットワーク、光産業技術振興協会、レーザー技術総合研究所、日本原子力学会
SPIE (米国)、OSA (米国)、メッセシュトゥットガルト (独)、PIDA (台)、KAPID (韓)

開催日: 2013年4月23日(火) ~26日 (金)

会場: パシフィコ横浜・会議センター

開催趣旨

レーザーの出現50年を経て、光・レーザー技術は飛躍的な発展をみせ、科学技術・産業技術のあらゆる分野の基盤技術となりつつある。21世紀は光の時代といわれるゆえんである。この時に当たり、世界各国の光・レーザー技術を基盤とした学術および産業の最先端を集結し、学術発表と技術展示を併設することにより光・レーザー技術により、齎される具体的な未来社会への指針を得ることを目的とする。

1994年よりレーザー学会主催で毎年開催してきた展示会「Laser Expo」等を含む日本最大級の光関連合同展示会「OPTICS & PHOTONICS International Exhibition」との同時開催とし、光技術・光産業の振興により、科学技術に立脚した我が国の産業を継続的に発展させるため、日本の学術研究者の総力を挙げて開催する唯一の光関連の国際会議と位置付け、2012年に第1回目のOPIC2012を開催し、23か国より500名以上の参加を集めた。第2回は専門会議を初年度の6会議より10会議に拡大して開催の予定である。

OPIC2013 はプレナリーセッションと 10 の専門国際会議で構成されます。

Plenary Special Sessions 4月23日(火) 9:30-15:30

- イントロダクトリートーク 「レーザーの過去、現在、未来」
(Conference Chair 霜田光一/東京大学名誉教授)
- 基調講演 I 「Laser for Ignition and Future Energy Generation」
(Conference Chair Robert L. Byer / Stanford Univ.)
- 基調講演 II 「先進レーザー光源と医学・生物学応用」
(緑川克美/理化学研究所)
(菊地眞/医療機器センター)
- 合同プレナリーセッション A
「バイオマテリアル、食品、農業のためのセンシング技術」 SeTBio'13 Chair (近藤直/京都大学)
「レーザーディスプレイ」 LDC'13 Chair (黒田和男/宇都宮大学)
「LED とその産業応用」 LEDIA'13 Chair (天野浩/名古屋大学)
「レーザー点火」 LIC'13 Chair (平等拓範/分子科学研究所)
- 合同プレナリーセッション B
「レーザーならびに加速器中性子源と応用」 LANSA'13 Chair (疇地宏/大阪大学)
「レーザーの原子力応用」 LANE'13 Advisor (野村茂雄/日本原子力研究開発機構)
「高エネルギー密度科学の応用」 HEDS2013 Chair (兒玉了祐/大阪大学)
「CFRP 等複合材料のレーザー加工」 LPCC2013 Advisor (杓名宗春/光産業創成大学院大学)

Conferences & Sponsors 4月23日(火) - 26日(金)

- 「先進レーザーと光源技術」 (ALPS'13)
(Conference Chair : 緑川克美/理化学研究所) 主催 : レーザー学会
- 「レーザーディスプレイ」 (LDC'13)
(Conference Chair : 黒田和男/宇都宮大学) 主催 : 応用物理学会
- 「レーザー医療・バイオ」 (CLSM2013)
(Conference Chair : 菊地眞/医療機器センター) 主催 : 日本レーザー医学会
- 「高エネルギー密度科学応用」 (HEDS2013)
(Conference Chair : 兒玉了祐/大阪大学) 主催 : レーザー学会
- 「レーザーならびに加速器中性子源と応用」 (LANSA'13)
(Conference Chair : 疇地宏/大阪大学) 主催 : LANSA 組織委員会
- 「CFRP 等複合材料のレーザー加工」 (LPCC2013)
(Conference Chair : 尾形仁士/ALPROT) 主催 : LPCC 組織委員会
- 「レーザーの原子力応用」 (LANE'13)
(Conference Chair : 堀池寛/大阪大学) 主催 : レーザー学会、日本原子力学会、レーザ加工学会
- 「レーザー点火」 (LIC'13)
(Conference Chair : 平等拓範/分子科学研究所)
主催 : レーザー学会「マイクロ固体フォトンクス」専門委員会
- 「LED とその産業応用」 (LEDIA'13)
(Conference Chair : 天野浩/名古屋大学) 主催 : 名古屋大学赤崎記念研究センター
- 「バイオマテリアル、食品、農業のためのセンシング技術」 (SeTBio'13)
(Conference Chair : 近藤直/京都大学) 主催 : SPIE、京都大学生物センシング工学研究室

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八木重典 (レーザー学会)

参加登録

Registration Fees (Member*)

	Before/On Mar. 22, 2013	After Mar. 23, 2013 & On-Site
Conference (General)	¥35, 000	¥40, 000
(Student, Retiree)	¥15, 000	¥20, 000

*) Member of organizer, sponsor and cooperative societies

Registration Fees (Non-Member)

	Before/On Mar. 22, 2013	After Mar. 23, 2013 & On-Site
Conference (General)	¥40, 000	¥45, 000
(Student, Retiree)	¥18, 000	¥23, 000

お申込み <http://opicon.jp/registration-types.html>

パシフィコ横浜 会議センター
〒220-0012 横浜市西区みなとみらい1-1-1
Tel:045-221-2166
<http://www.pacifico.co.jp/english/index.html>



技術展示会

OPTICS & PHOTONICS International Exhibition 2013が2013年4月24日(水)～26日(金)に隣接の
パシフィコ横浜展示ホールにて開催されます。

- レーザーEXPO
- レンズ設計・製造展
- 赤外・紫外応用技術展
- ポジショニングEXPO
- メディカル&イメージングEXPO
- 宇宙・天文光学EXPO

スポンサーシップ/支援

以下の団体よりご支援を頂いております。

Financial Support

独立行政法人日本万国博覧会記念機構、一般財団法人新技術渡辺記念会

Sponsor Ship

浜松ホトニクス株式会社、三菱電機株式会社先端技術総合研究所、株式会社オプトサイエンス、
技術研究組合次世代レーザー加工技術研究所、ユーヴィックス株式会社

OPIC2013事務局

事務局長 小椋行夫 ogura@opicon.jp

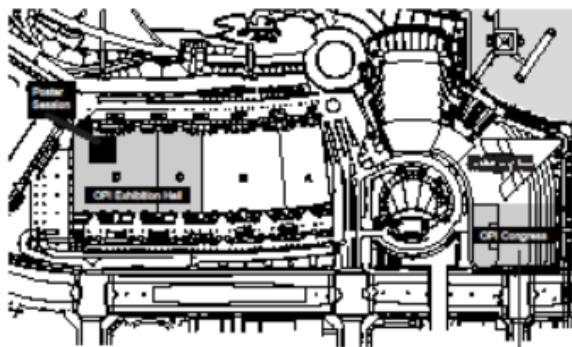
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OPTICS & PHOTONICS International Council (OPI協議会)

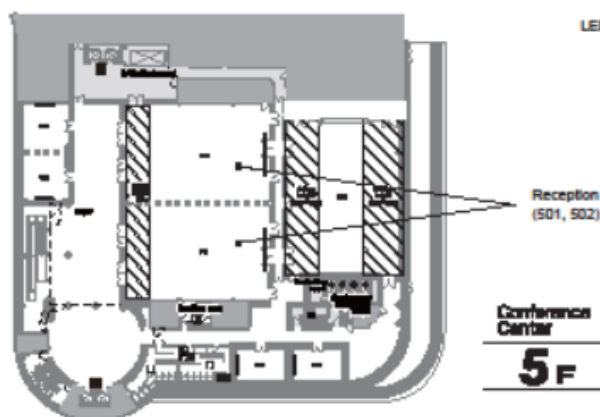
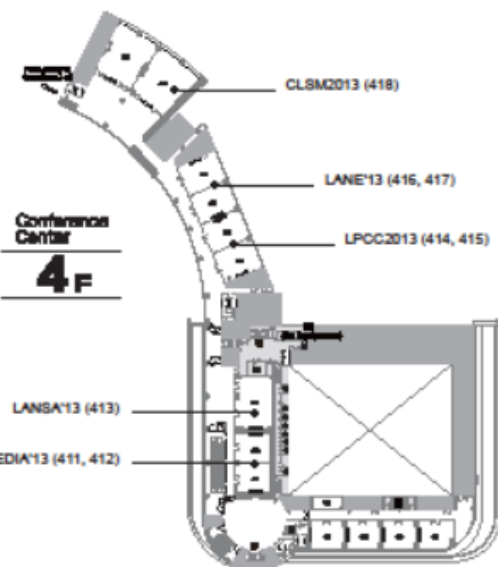
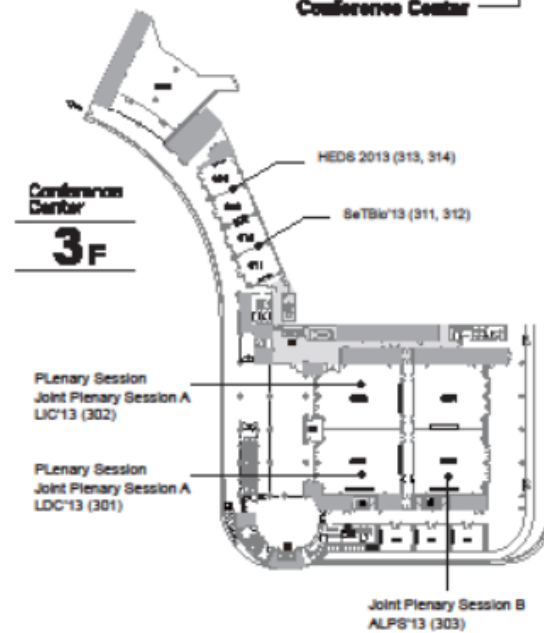
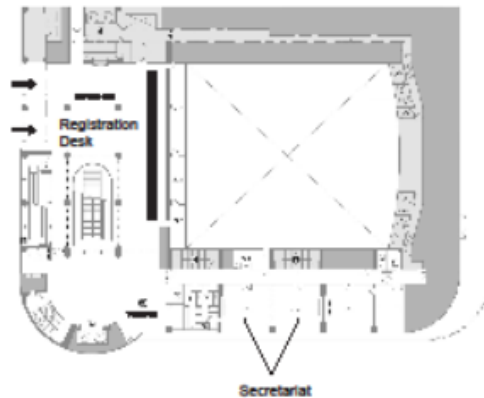
幹事長 上野直樹 ueno@optronics.co.jp

Pacifico Yokohama



Conference Center

Conference Center
2F



OPTICS & PHOTONICS International Congress 2013

開催場所：パシフィコ横浜 会議センター

日時：2013 年 4 月 23 日(火)～26 日(金)

	4月23(火)	4月24(水)	25(木)	26(金)	
展示会		OPTICS & PHOTONICS International Exhibition			
国際会議 (群)	OPTICS & PHOTONICS International Congress				
	Plenary Special Sessions Opening Keynote Lectures Joint Sessions	先進レーザーと光源技術(ALPS'13)			スポンサー 展示製品紹介 展示会
		レーザーディスプレイ(LDC'13)			
		レーザー医療・バイオ(CLSM2013)			
		高エネルギー密度科学の応用(HEDS2013)			
		レーザーならびに加速器中性子源と応用(LANSA'13)			
		CFRP等複合材料のレーザー加工(LPCC2012)			
		レーザーの原子力応用(LANE'13)			
		レーザー点火(LIC'13)			
		LEDとその産業応用(LEDIA'13)			
バイオマテリアル、食品、農業のためのセンシング技術(SeTBio'13)					
その他	レセプション			光科学フォーラムサミット(午後)	

OPIC2013 専門国際会議プログラム

- ・The 2nd Advance Lasers and Photon Sources (ALPS '13)P7
先進レーザーと光源技術
- ・Laser Display Conference '13 (LDC'13)P11
レーザーディスプレイ
- ・Conference on Laser Surgery and Medicine2013 (CLSM2013)P14
レーザー医療・バイオ
- ・International Conference on High Energy Density Science 2013(HEDS2013)P17
高エネルギー密度科学の応用
- ・Conference on Laser and Accelerator Neutron Sources and Applications (LANSA'13)P20
レーザーならびに加速器中性子源と応用
- ・Laser Processing for CFRP and Composite Materials 2013(LPCC2013)P23
CFRP 等複合材料のレーザー加工
- ・International Conference on Laser Applications in Nuclear Engineering(LANE'13)P25
レーザーの原子力応用
- ・The 1st Laser Ignition Conference '13(LIC'13)P28
レーザー点火
- ・Conference on LED and Its Industrial Application '13(LEDIA'13)P31
LED とその産業応用
- ・International Conference on Sensing Technologies for Biomaterial, Food and Agriculture '13
(SeTBio'13)P33
バイオマテリアル、食品、農業のためのセンシング技術

The 2nd Advance Lasers and Photon Sources

ALPS '13

Tuesday, April 23

9:30-10:45 Opening Remarks of OPIC '13

Room 301, 302

9:30 S. Nakai, Organizing Chair of OPIC '13,
President of the Laser Society of Japan

Introductory talk

9:40 **Past, present, and future of lasers**

K. Shimoda, Congress Chair of OPIC '13, Prof.
Emeritus at the Univ. of Tokyo, Japan

10:00-11:55 Keynote Lectures of OPIC '13

Room 301, 302

10:00 **Laser for Ignition and Future Energy
Generation**

R. L. Byer, Congress Chair of OPIC '13, Prof. of
Stanford Univ., USA

10:45 **Advanced laser source and applications to
medicine and biology**

Presenter I

K. Midorikawa, Conference Chair of ALPS '13,
Deputy Director, RIKEN Advanced Science
Institute, Japan

Presenter II

M. Kikuchi, Conference Chair of CLSM2013,
Japan Association for the Advancement of Medical
Equipment, Japan

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions of OPIC '13

Session A

Room 301, 302

13:20 **Sensing technologies for bio-material, food and
agriculture**

N. Kondo, Conference Chair of SeTBio '13, Kyoto
Univ., Japan

13:50 **Laser display**

K. Kuroda, Conference Chair of LDC '13,
Utsunomiya Univ., Japan

14:20 **LED and its industrial application**

H. Amano, Conference Chair of LEIDA '13, Nagoya
Univ., Japan

14:50 **Laser Ignition**

T. Taira, Conference Chair of LIC '13, IMS, Japan

Session B

Room 303

13:20 **Laser and accelerator neutron sources and
applications**

H. Azechi, Conference Chair of LANSa '13, Osaka
Univ., Japan

13:50 **Laser application to nuclear engineering**

S. Nomura, Conference Advisor of LANE '13, Japan
Atomic Energy Agency, Japan

14:20 **High-energy density science**

R. Kodama, Conference Chair of HEDS2013, Osaka
Univ., Japan

14:50 **Laser processing for CFRP and composite
materials**

M. Kutsuna, Conference Advisor of LPCC2013, GPI,
Japan

----- Break (15:20-15:45) -----

15:45-18:00 Joint Sessions between LIC '13 and LDC '13

Room 301+302

Participants of ALPS '13 are highly recommended to join
these joint sessions where advanced laser sources and
applications are highlighted. See the detail in the
conference program of LIC '13 or LDC '13.

18:30-20:30 OPIC '13 Conference Reception

18:30- 20:30

Conference Reception

Room 501,502 Room

501,502I

Participants of ALPS '13 are invited.

Wednesday, April 24

9:00-9:15 Opening

Room 303

Opening Remarks

9:00

K. Midorikawa, Conference Chair of ALPS '13,
Deputy Director, RIKEN Advanced Science
Institute, Japan

9:15-10:45 ALPS1 : High Power Lasers (I)

Room 303

Chair:

F. Kannari, Program Committee Chair of
ALPS '13, Keio Univ., Japan

ALPS1-1

**Development of cryogenically-cooled Yb:YLF
chirped-pulse amplification laser for pumping
few-cycle optical-parametric chirped-pulse
amplification**

9:15

Y. Akahane ^{1,2)}, K. Ogawa ^{1,2)}, and
K. Yamakawa ^{1,2)}

¹⁾ Japan Atomic Energy Agency, Japan,

²⁾ JST-CREST, Japan

ALPS1-2

**High small signal gain of monolithic
composite ceramic with Yb:YAG thin layers
- multi-TRAMs -**

9:30

J. Kawanaka ¹⁾, H. Furuse ¹⁾, S. Hwang ¹⁾, and T.
Kawashima ²⁾

¹⁾ ILE, Osaka Univ., ²⁾ Hamamatsu Photonics

K. K., Japan

ALPS1-3

**Thermo-optical calculations of an Yb:YAG
cryogenically cooled slab amplifier with pulse
energy of 100 J**

9:45

O. Slezak, A. Lucianetti, M. Sawicka, M. Divoky,
and T. Mocek

HiLASE project, Institute of Physics ASCR, Czech
Republic

ALPS1-5

**(Invited) 3.1 μ m wavelength, 19 μ J energy, 160
kHz repetition rate OPCPA for strong-field
physics**

10:00

M. Hemmer ¹⁾, A. Thai ¹⁾, M. Baudisch ¹⁾, H.
Ishizuki ²⁾, T. Taira ²⁾, and J. Biegert ^{1,3)}

¹⁾ ICFO, Spain, ²⁾ IMS, Japan, ³⁾ ICREA, Spain

ALPS1-6

**PENELOPE – a diode-pumped, high-energy,
chirped-pulse laser amplifier**

10:30

M. Siebold ¹⁾, M. Loeser ^{1,2)}, D. Albach ¹⁾, F. Roeser
¹⁾, and U. Schramm ^{1,2)}

¹⁾ Helmholtz-Zentrum Dresden-Rossendorf,

Germany, ²⁾ Dresden Univ. of Technology, Germany

----- Break (10:45-11:15) -----

11:15 -12:30 ALPS2 : New Laser Sources

Room 303

- Chair:** H. Nishioka, Program Committee of ALPS '13
Univ. of Electro-Communications, Japan
- ALPS2-1 (Invited) Development of Deep-UV LEDs and THz-QCLs and those applications**
- 11:15** H. Hirayama^{1,3}, S. Fujikawa^{1,3}, N. Maeda^{1,3}, W. Terashima¹, T.-T. Lin¹, and N. Kamata²
¹RIKEN, Japan, ²Saitama Univ., Japan, ³JST-CREST, Japan
- ALPS2-2 Cr:YAG as a saturable absorber for a Q-switched and mode-locked 639-nm Pr:YLF laser**
- 11:45** R. Abe, J. Kojou, K. Masuda, and F. Kannari
Keio Univ., Japan
- ALPS2-3 Milli-joule level 2μm fractional vortex generation form an optical parametric master oscillator and amplifier**
- 12:00** Y. Tokizane^{1,2}, M. Yamada¹, T. Yusufu¹, K. Miyamoto¹, and T. Omatsu^{1,2}
¹Chiba Univ., Japan, ²JST-CREST, Japan
- ALPS2-4 VUV light generation with borate crystals**
- 12:15** C. Qu^{1,2}, M. Yoshimura^{1,2}, J. Tsunoda^{1,2}, Y. Kaneda^{1,2,3}, M. Imade¹, T. Sasaki^{1,2}, and Y. Mori^{1,2}
¹Graduate School of Engineering, Osaka Univ., Japan, ²CREST, Japan, ³College of Optical Sciences, The Univ. of Arizona, USA

----- Lunch Break (12:30-13:30) -----

13:30-15:00 ALPS3 : Fiber Lasers

Room 303

- Chair:** S. Sakabe, Steering Committee Chair of ALPS '13,
Kyoto Univ., Japan
- ALPS3-1 (Invited) Photonic bandgap and multicore fiber lasers for next-generation high-power lasers**
- 13:30** A. Shirakawa
Univ. of Electro-Communications, Japan
- ALPS3-2 Dynamics of Er-doped soliton-similariton fiber laser and application for ultrahigh resolution optical coherence tomography**
- 14:00** N. Nishizawa and S. Ishida
Nagoya Univ., Japan
- ALPS3-3 Coherent superposition of few-cycle laser pulses based on frequency resolved two-wave-mixing**
- 14:15** H. Nishioka, H. Nahara, and T. Morishita
Univ. of Electro-Communications, Japan
- ALPS3-4 Mode-locked thulium-doped all-fiber figure-eight laser and amplifier around 2-μm**
- 14:30** C. W. Rudy, K. E. Urbanek, M. J. F. Digonnet, and R. L. Byer
Stanford Univ., USA
- ALPS3-5 Pulsewidth-tunable fiber laser for processing thin-film devices**
- 14:45** K. Nishigori¹, T. Koizumi¹, and S. Wada²
¹Megaopto, Co., Ltd, Japan, ²RIKEN, Japan

----- Coffee Break (15:00-15:30) -----

15:30-17:15 ALPS4 : THz Sources and its applications

Room 303

- Chair:** H. Minamide, Program Committee of ALPS '13,
RIKEN, Japan
- ALPS4-1 (Invited) Photonic terahertz sources and their applications in fundamental and applied research**
- 15:30** D. Molter¹, F. Ellrich², and R. Beigang^{1,2}
¹Univ. Kaiserslautern, Germany, ²Fraunhofer Institute for Physical Measurement Techniques IPM, Germany
- ALPS4-2 Photoluminescence flash induced by intense single-cycle terahertz pulses in undoped GaAs quantum wells**
- 16:00** K. Shinokita¹, H. Hirori², K. Tanaka^{1,2}, T. Mochizuki^{2,3}, C. Kim^{2,3}, H. Akiyama^{2,3}, L. N. Pfeiffer⁴, and K. W. West⁴
¹Kyoto Univ., Japan, ²JST-CREST, Japan, ³Univ. of Tokyo, Japan, ⁴Princeton Univ., USA
- ALPS4-3 High Al composition AlGaAs THz QCLs with operation temperature and T₀ improvement**
- 16:15** Tsung-Tse Lin and H. Hirayama
Terahertz Quantum Device Laboratory, RIKEN, Japan
- ALPS4-4 Broadband and high power THz wave generation using femtosecond fiber laser in 4-dimethylamino-N-methyl-4-stilbazolium tosylate crystal**
- 16:30** S. R. Tripathi^{1,2}, T. Sugiyama¹, K. Murate¹, K. Takeya¹ and K. Kawase^{1,2}
¹Nagoya Univ., Japan, ²RIKEN, Japan
- ALPS4-5 Gapless terahertz frequency comb spectroscopy of molecular gas**
- 16:45** Y.-D. Hsieh¹, Y. Iyonaga¹, Y. Sakaguchi¹, S. Yokoyama¹, H. Inaba², K. Minoshima², T. Araki¹, F. Hindle³, and T. Yasui^{1,4}
¹Graduate School of Engineering Science, Osaka Univ., Japan, ²AIST, Japan, ³Université du Littoral Côte d'Opale, France ⁴Univ. of Tokushima, Japan
- ALPS4-6 Energy enhancement of THz emission from intense-laser cluster plasmas by optimizing laser pulse duration**
- 17:00** K. Mori¹, M. Hashida¹, T. Nagashima², S. Tokita¹, M. Hangyo², and S. Sakabe¹
¹Advanced Research Center for Beam Science, ICR, Kyoto Univ., Japan and Department of Physics, GSS, Kyoto Univ., Japan, ²Institute of Laser Engineering, Osaka Univ., Japan

Thursday, April 25

9:00-12:00 JALPS5 : Joint Session with CLSM'13 on Optical Devices and Techniques for Bio and Medical Applications

Room 303

- Chair:** T. Kushibiki, Steering Committee of CLSM '13,
NDMC, Japan
- JALPS5-1 (Invited) Optical harmonic generation biopsy of human skin based on a femtosecond Cr:forsterite laser**
- 9:00** Chi-Kuang Sun^{1,2,3}
¹Molecular Imaging Center, National Taiwan Univ., Taiwan, ²Graduate Institute of Photonics

and Optoelectronics, Graduate Institute of Biomedical Electronics and Bioinformatics, and Department of Electrical Engineering, National Taiwan Univ., Taiwan, ³⁾ Research Center for Applied Sciences and Institute of Physics, Academia Sinica, Taiwan

JALPS5-2 (Invited) Fourier domain mode-locked lasers and their application to OCT

9:30 T. Klein, W. Wieser, T. Pfeiffer, and R. Huber
Ludwig-Maximilians-Universität München, Germany

JALPS5-3 (Invited) Spatial overlap modulation nonlinear optical microscopy for background-free deep imaging

10:00 K. Isobe ¹⁾, H. Kawano ²⁾, A. Suda ³⁾ A. Kumagai ²⁾, H. Mizuno ²⁾, A. Miyawaki ²⁾, and K. Midorikawa ¹⁾
¹⁾ ASI, RIKEN, ²⁾ BSI, RIKEN, ³⁾ Tokyo Univ. of Science, Japan

----- Break (10:30-11:00) -----

Chair: N. Nishizawa, Program Committee of ALPS '13, Nagoya Univ., Japan

JALPS5-4 Highly sensitive ultrahigh resolution OCT using high power supercontinuum at 1.7μm wavelength region based on single wall carbon nanotube fiber laser

11:00 H. Kawagoe ¹⁾, S. Ishida ¹⁾, M. Aramaki ¹⁾, Y. Sakakibara ^{2,3)}, E. Omoda ²⁾, H. Kataura ^{2,3)}, and N. Nishizawa ¹⁾
¹⁾ Nagoya Univ., Japan, ²⁾ AIST, Japan, ³⁾ JST CREST, Japan

JALPS5-5 Measurement of the photobleaching spectrum based on the excited-state absorption of fluorescence proteins with Fourier-transform nonlinear spectroscopy

11:15 H. Takahashi, K. Toda, and A. Suda
Tokyo Univ. of Science, Japan

JALPS5-6 Dynamic SERS imaging of living cells

11:30 K. Fujita, K. Bando, Kai-Chih Huang, J. Ando, N. I. Smith, S. Kawata
Graduate School of Engineering, Osaka Univ., Japan

JALPS5-7 Selective excavation of demineralized dentin using a mid-infrared tunable nanosecond pulsed laser at wavelengths around 6 μm

11:45 K. Ishii ¹⁾, T. Kita ¹⁾, K. Yoshikawa ²⁾, K. Yasuo ²⁾, K. Yamamoto ²⁾, and K. Awazu ^{1,3,4)}
¹⁾ Graduate School of Engineering, Osaka Univ., Japan, ²⁾ Department of Operative Dentistry, Osaka Dental Univ., Japan, ³⁾ Graduate School of Frontier Biosciences, Osaka Univ., Japan, ⁴⁾ The Center for Advanced Medical Engineering and Informatics, Osaka Univ., Japan

----- Lunch Break & Poster Session (12:00-14:30) -----

12:15-14:15 ALPS6 : Poster Session Exhibition Hall D

Chair: A. Suda, Program Committee of ALPS '13, Tokyo Univ. of Science, Japan

ALPSp6-1 Optical amplification of vacuum ultraviolet femtosecond pulses at 126 nm in an optical-field-induced ionization Ar₂* amplifier

M. Kaku ¹⁾, Y. Ezaki ¹⁾, T. Daikyujii ¹⁾, K. Fujiyoshi ¹⁾, M. Katto ¹⁾, S. Kubodera ¹⁾, and K. Miyazaki ²⁾,

¹⁾ Univ. of Miyazaki, Japan, ²⁾ Kyoto Univ., Japan

ALPSp6-2 Development of high averaged power ultra-short pulse laser system

K. Tsubakimoto ^{1,4)}, H. Yoshida ^{1,4)}, H. Fujita ^{1,4)}, N. Miyanaga ^{1,4)}, Y. Nagata ^{2,4)}, and H. Kinoshita ^{3,4)}

¹⁾ ILE, Osaka Univ., Japan, ²⁾ RIKEN, Japan,

³⁾ Univ. of Hyogo, Japan, ⁴⁾ JST-CREST, Japan

ALPSp6-3 Enhancement of output laser power in high-power Nd/Cr:YAG ceramic active mirror amplifiers based on cross-relaxation effect under white light source pumping

N. Matsuoka ¹⁾, T. Saiki ¹⁾, N. Fujiwara ¹⁾, T. Hayashi ¹⁾, N. Hirota ¹⁾, K. Fujioka ²⁾, M. Nakatsuka ³⁾, and Y. Iida ¹⁾

¹⁾ Kansai Univ., Japan, ²⁾ ILE, Osaka Univ., Japan,

³⁾ Institute for Laser Technology, Japan

ALPSp6-4 Development of Q-switched and mode-locked Nd/Cr:YAG ceramic laser

N. Hirota, T. Saiki, N. Fujiwara, N. Matsuoka, T. Hayashi, and Y. Iida
Kansai Univ., Japan

ALPSp6-5 Air fuel cells using sintered metal pastes for solar energy cycle

T. Karita, T. Saiki, T. Okada, K. Nakamura, Y. Nishikawa, and Y. Iida
Kansai Univ., Japan

ALPSp6-6 Illumination of arbitrary patterns using multi-level free-form three dimensional micro-fabricated high performance diffractive optical elements

A. Hamano ¹⁾, A. Yamada ¹⁾, T. Takada ²⁾, and Y. Usuki ¹⁾

¹⁾ Material Research Laboratory, R&D Division, Furukawa Co. Ltd., Japan,

²⁾ R&D Planning Department, R&D Division, Furukawa Co. Ltd., Japan

ALPSp6-7 THz intersubband emission from GaN based quantum cascade laser with development of new growth technique on RF-MB

W. Terashima ^{1,2)} and H. Hirayama ^{1,2)}

¹⁾ Quantum Optodevice Laboratory, RIKEN, Japan,

²⁾ Terahertz Quantum Device Laboratory, RIKEN, Japan

ALPSp6-8 Measurement and calculation of laser-induced damage threshold at different temperature for optical coating

K. Mikami ^{1,2,3)}, S. Motokoshi ⁴⁾, T. Somekawa ⁴⁾, T. Jitsuno ¹⁾, M. Fujita ⁴⁾, and K. A. Tanaka ²⁾

¹⁾ ILE, Osaka Univ., Japan, ²⁾ Graduate School of Engineering, Osaka Univ., Japan, ³⁾ JSPS Research Fellow, Japan, ⁴⁾ Institute for Laser Technology, Japan

ALPSp6-9 75 nm-wide tunable ytterbium doped fiber ring laser based on bidirectional pumping scheme

Y. Jhang and Wen-Piao Lin
Chung Gung Univ., Taiwan

ALPSp6-10 Analysis of energy transfer process in Nd/Cr:YAG materials

Y. Honda ¹⁾, S. Motokoshi ²⁾, T. Jitsuno ¹⁾, N. Miyanaga ¹⁾, K. Fujioka ¹⁾, M. Nakatsuka ²⁾, and M. Yoshida ³⁾
¹⁾ ILE, Osaka Univ., Japan, ²⁾ Institute for Laser Technology, Japan, ³⁾ Kinki Univ., Japan

ALPSP6-11 Optimization of depolarization losses and scaling of a high average power diode pumped laser amplifier using Yb³⁺ doped CaF₂

D. Albach ¹⁾, M. Loeser ^{1,2)}, F. Roeser ¹⁾, M. Siebold ¹⁾, and U. Schramm ^{1,2)}
¹⁾ Helmholtz-Center Dresden-Rossendorf, Germany, ²⁾ Dresden Univ. of Technology, Germany

ALPSP6-12 10-mm short fiber laser demonstration with single-mode Nd-doped silica fiber fabricated by Zeolite method

M. Murakami ¹⁾, Y. Fujimoto ¹⁾, H. Shiraga ¹⁾, S. Motokoshi ²⁾, and T. Sato ³⁾
¹⁾ ILE, Osaka Univ., Japan, ²⁾ Institute of Laser Technology, Japan, ³⁾ Shin-Etsu Quartz Products Co., Ltd., Japan

ALPSP6-13 Broadband, diode pumped Yb:SiO₂ multicomponent glass laser

M. Loeser ^{1,2)}, A. Reichelt ^{1,2)}, D. Albach ¹⁾, F. Roeser ¹⁾, M. Siebold ¹⁾, S. Grimm ³⁾, D. Litzendorf ³⁾, A. Schwuchow ³⁾, J. Kirchhof ³⁾, and U. Schramm ^{1,2)}
¹⁾ Helmholtz-Center Dresden-Rossendorf, Germany, ²⁾ Dresden Univ. of Technology, Germany, ³⁾ Institute of Photonic Technology, Germany

ALPSP6-14 Intracavity second-harmonic generation at 261nm of an actively Q-switched Pr:LiYF₄ laser

J. Kojou, R. Abe, A. Sakurai, and F. Kannari
 Keio Univ., Japan

ALPSP6-15 Investigation of gain spectral filtering for spectral enhancement on fiber oscillator system

S. Hwang ¹⁾, F. Hiroaki ²⁾, C. Lim ³⁾, K. Junji ¹⁾, and M. Noriaki ¹⁾
¹⁾ ILE, Osaka Univ., ²⁾ Institute for Laser Technology, Japan, ³⁾ Korea Atomic Energy Research Institute, Korea

ALPSP6-16 Analysis of fluorescence for Nd:CNCG powder

T. Isshiki ¹⁾, S. Motokoshi ²⁾, K. Fujioka ¹⁾, T. Jitsuno ¹⁾, M. Murakami ¹⁾, and M. Yoshida ³⁾
¹⁾ ILE, Osaka Univ., Japan, ²⁾ Institute for Laser Technology, Japan, ³⁾ Kinki Univ., Japan

ALPSP6-17 Rapidly-tunable Cr:ZnSe laser system for high energy optical-parametric oscillator

M. Yumoto, N. Saito, U. Takagi, T. Tomida, and S. Wada
 ASI, RIKEN, Japan

ALPSP6-18 Temperature distribution characteristics in a cryogenic Yb:YAG TRAM laser medium

T. Sakurai ¹⁾, H. Furuse ¹⁾, H. Chosrowjan ¹⁾, J. Kawanaka ²⁾, N. Miyanaga ²⁾, K. Hamamoto ³⁾, T. Yamada ³⁾, M. Fujita ¹⁾ and Y. Izawa ¹⁾
¹⁾ Institute for Laser Technology, Japan, ²⁾ ILE, Osaka Univ., Japan, ³⁾ Mitsubishi Heavy Industries LTD., Japan

ALPSP6-19 Coherent sodium D₂ resonance light source for

tromsø sodium lidar

N. Saito ¹⁾, T. Tsukihana ²⁾, T. D. Kawahara ³⁾, S. Nozawa ⁴⁾, T. Kawabata ⁴⁾, T. T. Tsuda ⁴⁾, and S. Wada ¹⁾
¹⁾ ASI, RIKEN, Japan ²⁾ MegaOpt Co., Ltd., Japan, ³⁾ Shinshu Univ., Japan, ⁴⁾ Nagoya Univ., Japan

ALPSP6-20 Solar light pumped laser technology for brightness enhancement as renewable energy utilization

S. Uchida ¹⁾ and W. Bin ²⁾
¹⁾ Laser Institute for Technology, Japan, ²⁾ Nagoya Univ., Japan

ALPSP6-21 An InGaN diode-laser pumped Ti:sapphire laser

S. Sawai, H. Kawauchi, and F. Kannari
 Keio Univ., Japan

ALPSP6-22 Relativistic effects in strong-field nonsequential double ionization: importance of the laser magnetic field and Darwin corrections

E. Lötstedt and K. Midorikawa
 ASI, RIKEN, Japan

ALPSP6-23 Anti-corrosion properties of DLC films as novel biomaterials

A. Alanazi ¹⁾, T. Sato ²⁾, Y. Ohgoe ³⁾, F. Shizuku ⁴⁾, and K. Hirakuri ²⁾
¹⁾ King Saudi Univ., Saudi Arabia, ²⁾ Tokyo Denki Univ., Japan, ³⁾ Division of Science of Engineering, Tokyo Denki Univ., Japan, ⁴⁾ Sankyo Seisakusho Co., Japan

ALPSP6-24 Longitudinally excited N₂ Laser with high beam quality for cell sectioning

W. Gong ¹⁾, K. Uno ¹⁾, S. Shitajima ¹⁾, T. Akitsu ¹⁾, T. Jitsuno ²⁾
¹⁾ Univ. of Yamanashi, Japan, ²⁾ ILE, Osaka Univ., Japan

ALPSP6-25 Determination of the thermal expansion coefficient in TGG ceramics between 293 K and 64 K

R. Yasuhara ¹⁾, H. Nozawa ²⁾, T. Yanagitani ²⁾, J. Kawanaka ³⁾
¹⁾ National Institute for Fusion Science, Japan, ²⁾ Konoshima Chemical Co. Ltd., Japan, ³⁾ ILE, Osaka Univ., Japan

ALPSP6-26 High-frequency modulating laser to reduce light power on super-resolution high density optical disc with Sb-Te active film

K. Nakai ¹⁾, M. Ohmaki ¹⁾, N. Takeshita ¹⁾, M. Shinoda ¹⁾, H. Nakayama ¹⁾, T. Shima ²⁾, T. Nakano ³⁾, and J. Tominaga ³⁾
¹⁾ Advanced Technology R&D Center, Mitsubishi Electric Corporation, Japan, ²⁾ Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan, ³⁾ Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan

ALPSP6-27 Optical waveguide using metal nanoparticles

M. Yada, Y. Iida, and T. Saiki
 Kansai Univ., Japan

ALPSP6-28 Computational model for generation and auto-oscillations of Lyman-α radiation by

resonant laser mixing in Kr-Ar gas under discharge

O. A. Louchev ¹⁾, N. Saito ¹⁾, S. Wada ¹⁾, K. Miyazaki ¹⁾, Y. Ohishi ²⁾ and M. Iwasaki ²⁾

¹⁾ ASI, RIKEN, Japan ²⁾ RIKEN Nishina Center, Japan

ALPSp6-29 Ultraviolet laser-induced degradation in CsLiB₆O₁₀

M. Yoshimura ^{1,2)}, K. Takachiho ^{1,2)}, Y. Takahashi ^{1,2)}, T. Sasaki ^{1,2)}, and Y. Mori ^{1,2)}

¹⁾ Graduate School of Engineering, Osaka Univ., Japan, ²⁾ CREST, JST, Japan

ALPSp6-30 1 kW peak-power, narrowband terahertz-wave generation comparable to THz-FEL by nonlinear parametric conversion

S. Hayashi ¹⁾, K. Nawata ¹⁾, K. Kawase ^{1,2)}, and H. Minamide ¹⁾

¹⁾ ASI, RIKEN, Japan, ²⁾ Nagoya Univ., Japan

ALPSp6-31 Ultra-widely tunable DFG THz-wave source using organic DAST and BNA crystals pumped by a dual-wavelength β -B_aB₂O₄ optical parametric oscillator

T. Notake, K. Nawata, T. Matsukawa, Q. Feng, H. Kawamata, and H. Minamide

ASI, RIKEN, Japan

ALPSp6-32 Cherenkov phase-matched terahertz wave generation from ridge-type waveguide

F. Shuzhen ¹⁾, H. Takeuchi ¹⁾, K. Kajiki ²⁾, T. Ouchi ²⁾, K. Takeya ¹⁾, and K. Kawase ^{1,3)}

¹⁾ Nagoya Univ., Japan, ²⁾ Canon Inc., Japan, ³⁾ RIKEN Sendai, Japan

14:30-16:15 ALPS7 : High Power Lasers (II)

Room 303

Chair: K. Oguri, Program Committee of ALPS '13, NTT, Japan

ALPS7-1 Development of a high-average-power, thin-disk ring oscillator

14:30 A. A. Eilanlou ¹⁾, Y. Nabekawa ¹⁾, M. Kuwata-Gonokami ^{2,3)}, and K. Midorikawa ^{1,2)}

¹⁾ ASI, RIKEN, Japan, ²⁾ Photon Science Center, The Univ. of Tokyo, Japan, ³⁾ Graduate School of Science, The Univ. of Tokyo, Japan

ALPS7-2 Development of a kW class Nd:YAG ceramic thin disc laser for advanced laser machining

14:45 H. Fujita ¹⁾, K. Iyama ^{1,3)}, R. Bhushan ¹⁾, K. Tsubakimoto ¹⁾, H. Yoshida ¹⁾, M. Fujita ²⁾, N. Miyanaga ¹⁾, and T. Kawashima ³⁾

¹⁾ ILE, Osaka Univ., Japan, ²⁾ Institute for Laser Technology, Japan, ³⁾ Hamamatsu Photonics K.K., Japan

ALPS7-3 (Invited) High average power ultrafast thin disk lasers

15:00 C. J. Saraceno ^{1,2)}, F. Emaury ¹⁾, C. Schriber ¹⁾, M. Hoffmann ¹⁾, M. Golling ¹⁾, T. Südmeyer ^{1,2)}, and U. Keller ¹⁾

¹⁾ ETH Zurich, Switzerland, ²⁾ Univ. of Neuchâtel, Switzerland

ALPS7-4 (Invited) Temporal pulse cleaning for high-contrast PW laser pulse

15:30 J. H. Sung ^{1,2)}, S. K. Lee ^{1,2)}, T. J. Yu ^{1,2)}, I. J. Kim ^{1,2)}, T. M. Jeong ^{1,2)}, and C. H. Nam ^{1,3)}

¹⁾ Institute for Basic Science, Republic of Korea, ²⁾

Advanced Photonics Research Institute, GIST, Republic of Korea, ³⁾ Department of Physics and Photon Science, GIST, Republic of Korea

ALPS7-5 DPSSL pumped 20-TW Ti:sapphire laser system for high-intensity laser applications

16:00 T. Sekine, Y. Hatano, Y. Takeuchi, and T. Kawashima

Hamamatsu Photonics K. K, Japan

----- Break (16:15-16:30) -----

16:30-18:00 ALPS8 : High Energy Light Sources and its Applications

Room 303

Chair: N. Miyanaga, Program Committee of ALPS '13, ILE, Osaka Univ., Japan

ALPS8-1 (Invited) Laser plasma accelerators for future colliders and light sources

16:30 W. Leemans

Lawrence Berkeley National Laboratory, USA

ALPS8-2 Laser plasma sources of extreme ultraviolet (EUV) for application in science and technology

17:00 H. Fiedorowicz, A. Bartnik, T. Fok, R. Jarocki, B. Korczyk, J. Kostecky, A. Szczurek, M. Szczurek, I. U. Ahad, P. Wachulak, and Ł. Węgrzyński

Military Univ. of Technology, Poland

ALPS8-3 A proposal of transverse-flow CO₂ laser amplifiers for an EUV light source

17:15 Y. Tanino, J. Nishimae, T. Tamida, and S. Fujikawa

Advanced Technology R&D Center, Mitsubishi Electric Corporation, Japan

ALPS8-4 Relativistic soft x-ray harmonics beam characterizing by high performance imaging using sub-micron resolution LiF detectors

17:30 T. Pikuz ^{1,2)}, A. Faenov ^{1,2)}, A. S. Pirozhkov ¹⁾, M. Nishikino ¹⁾, N. Hasegawa ¹⁾, T. Esirkepov ¹⁾, H. Kotaki ¹⁾, Y. Hayashi ¹⁾, K. Ogura ¹⁾, J. Koga ¹⁾, T. Nakamura ¹⁾, S. Bulanov ¹⁾, Y. Fukuda ¹⁾, S. Magnitskiy ³⁾, N. Nagorskiy ³⁾, M. Epitshev ²⁾, S. Pikuz, Jr. ²⁾, Y. Kato ⁴⁾, T. Kawachi ¹⁾, P. Bolton ¹⁾, K. Kondo ¹⁾, and M. Kando ¹⁾

¹⁾ JAEA, Japan, ²⁾ Russian Academy of Sciences, Russia, ³⁾ International Laser Center of M.V. Lomonosov Moscow State Univ., Russia, ⁴⁾ The Graduate School for the Creation of New Photonics Industries, Japan

ALPS8-5 Recently completed petawatt-class SCARLET laser facility at The Ohio State University

17:45 F. Aymond, E. Chowdhury, C. Willis, P. Pool, K. George, S. Feister, S. Jiang, R. Daskalova, J. Marketon, M. Storm, S. Jiang, J. Retz, D. Austin, J. Snyder, K. Kafka, D. Kelly, J. Krygier, D. Andereck, D. Schumacher, and R. R. Freeman

Physics Department, The Ohio State Univ., USA

18:00-18:15 Closing

Room 303

Closing Remarks: S. Sakabe, Steering Committee Chair of ALPS '13, Kyoto Univ., Japan

Laser Display Conference'13

LDC'13

Tuesday, April 23

9:30-10:00 Opening Remarks

Room 301,302

10:00-11:55 Keynote Lectures

Room 301,302

(See page7)

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions

Room 301,302,303

(See Page7)

----- Break (15:20-15:45) -----

15:45-18:00 LDC-LIC Joint Session (Laser Display and Laser Ignition)

Room 301+302

Co-Chairs: T. Omatsu, Program Committee Co-Chair of LDC'13, Chiba Univ., Japan, H. Furutani, Program Committee Chair of LIC'13, AIST, Japan

Joint Session Opening Remarks

15:45

T. Omatsu

Chiba Univ., Japan

LDC/LIC1-1 (Plenary) Nonlinear Optics for Displays and Combustion Measurements (Tentative)

15:50

M. Fejer

Stanford Univ., USA

LDC/LIC1-2 (Invited) Ultrafast-thin Disk Laser Driven RGB System

16:30

T. Sudmeyer

Univ. of Neuch Nbtel, Switzerland

LDC/LIC1-3 (Invited) High Repetition Rate MW Peak Power Green Microchip Laser (Tentative)

17:00

R. Bhandari

Institute for Molecular Science, Japan

LDC/LIC1-4 (Invited) Optical MEMS Scanners and Color Filters for Image Display Applications

17:30

H. Toshiyoshi

Univ. Tokyo, Japan

18:30- 20:30 Conference Reception

Room 501,502

Wednesday, April 24

9:00-9:10 Opening

Room 301

Opening Remarks

9:00

K. Kuroda, Conference Chair of LDC' 13
Utsunomiya Univ., Japan

9:10-10:15 LDC2:Plenary Session

Room 301

Chair: S. C. Wang, Program Committee Member, National Chiao Tung Univ., China

LDC2-1 (Plenary) The Status of High-Brightness Laser Projectors

9:10

P. Janssens

Barco Entertainment Division, Belgium

LDC2-2 (Plenary) Watt-Class AlInGaN Blue and

Green Laser Diodes

9:50

S. Nagahama, S. Masui, T. Miyoshi, D. Kasahara,
E. Okahisa, T. Hirao, T. Yanamoto
Nichia Corp., Japan

----- Break (10:30-10:45) -----

10:45-12:15 LDC3: Scanning Display Technology

Room 301

Chair: K. Kuroda, Conference Chair of LDC' 13,

Utsunomiya Univ., Japan

LDC3-1 (Invited) The World's First-Vehicle Head-up Laser Display

10:45

A. Kurosawa, O. Utsuboya, T. Shimizu
Pioneer Corp., Japan

LDC3-2 (Invited) Scanning Laser Display Based on Biaxial Polysilicon MEMS Mirrors

11:15

U. Hofmann, J. Janes, V. Stenchly, F. Senger, C. Mallas, T. v. Wantoch, W. Benecke
Fraunhofer Institute for Silicon Technology ISIT, Germany

LDC3-3 RGB Laser Pico-Projection System Using a Fiber Bundle Combiner

11:45

S. Fukaya, T. Nozaki, M. Ide
Citizen Holdings Co., Ltd, Japan

LDC3-4 Beam-steering in Hollow ZrO₂/SiO₂ DBR Waveguides for 1D RGB Imaging

12:00

X. Gu, M. Nakahama, F. Koyama
Tokyo Institute of Technology, Japan

----- Lunch Break (12:15-13:30) -----

13:30-15:30 LDC4: Poster Session

Exhibition Hall D

LDCp4-1 Fiber Pigtailed Multi-Color Laser Module for Laser Display Applications Using Si-Platform Technology

M. Ide, K. Yoda, S. Fukaya, T. Komiyama, T. Nozaki
Citizen Holdings Co., Ltd., Japan

LDCp4-2 Low Threshold GaN-based Blue High Contrast Grating Surface-emitting Lasers

T. -T. Wu, S. -H. Wu, T. -C. Lu, S. -C. Wang
National Chiao Tung Univ., Taiwan

LDCp4-3 Light Extraction from Plastic Optical Fibers for Laser Backlight Units

K. Yasu, S. Kojima, I. Fujieda
Ritsumeikan Univ., Japan

LDCp4-4 Effect of Number of Pixels of Rectangular Shaped 1D SLM for Lensless Electronic Holography

A. Ueno¹⁾, K. Nitta¹⁾, O. Matoba¹⁾, K. Fukue²⁾, M. Sasada²⁾, K. Ueta²⁾

¹⁾Kobe Univ., Japan, ²⁾Dainippon Screen Mfg. Co., Ltd., Japan

LDCp4-5 Efficient Reduction of Speckle Contrast Ratio in Scanning Laser Projectors

P. -C. Yeh¹⁾, J. -H. Hong¹⁾, Y. -T. Wang¹⁾, Y. -M. Lin¹⁾, J. -H. Lee¹⁾, H. -Y. Lin¹⁾, L. -H. Peng¹⁾, C. -M. Lai²⁾, C. -C. Tu³⁾, C. -H. Lin³⁾

¹⁾National Taiwan Univ., Taiwan, ²⁾Ming Chuan Univ., Taiwan, ³⁾Touch Micro-System Technology, Taiwan

- LDCp4-6 Verification of Speckle Contrast Measurement Interrelation with Observation Distance**
K. Suzuki, T. Fukui, S. Kubota, Y. Furukawa
Oxide Corp., Japan
- LDCp4-7 Modification of Multiple Phase Modulations for Electronic Holography**
A. Nakagawa, T. Wakizaka, K. Nitta, O. Matoba
Kobe Univ., Japan
- LDCp4-8 A Study of Optical Design of Extreme High Contrast Laser Projector with Liquid Crystal Elements**
W. -T. Li, Y. -C. Fang
National Kaohsiung First Univ. of Science and Technology, Taiwan
- LDCp4-9 Laser-LCOS Projector: Design and Verification**
B. Na, L. Bao, W. Wang
East China Normal Univ., China
- LDCp4-10 Interactive Projection System that Follows User's View Using Laser Pico-Projector and RGB-D Cameras**
J. Imai, S. Takihara
Chiba Institute of Technology, Japan
- LDCp4-11 Research on Measuring Luminosity & Chromaticity Performance for Laser Display**
W. Wang¹⁾, H. Liu^{1),2)}
¹⁾East China Normal Univ., China, ²⁾Shanghai Dianji Univ., China

15:30-17:00 LDC5 : High Power Visible Lasers

Room 301

- Chair: S. Kurimura, Program Committee Co-Vice Chair of LDC'13, National Institute for Materials Science, Japan**
- LDC5-1 (Invited) Development of Multi-Watt CW Lasers with Switchable Output Across Green, Yellow and Red Wavelengths**
A. Lee
Macquarie Univ., Australia
- LDC5-2 (Invited) Compact Low-Cost Green Lasers for Laser Display Applications**
C. -Q. Xu, J. Sun, Y. Gan
McMaster Univ., Canada
- LDC5-3 Continuous-wave Frequency-doubled Planar Waveguide Nd:YVO₄ Laser Operated at 543 nm**
Y. Akino, F. Shoda, H. Fukahori, K. Kuramoto, T. Yanagisawa, Y. Hirano
Mitsubishi Electric Corp., Japan
- LDC5-4 Study on Thermal Lensing Effect for High Power Green SHG Laser**
H. H. Lim¹⁾, S. Kurimura¹⁾, K. Noguchi^{1),2)}, W. Nagashima^{1),2)}, I. Shoji²⁾
¹⁾National Institute for Materials Science, Japan, ²⁾Chuo Univ., Japan

----- Break (17:00-17:15) -----

17:15-18:45 LDC6: Special Session (Standard for Laser Displays)

Room 301

- Chair: P. Janssens, Barco Entertainment Division, Belgium**
- LDC6-1 (Invited) Wide-Gamut UHDTV System Colorimetry**

- 17:15 K. Masaoka
NHK Science & Technology Research Lab., Japan
- LDC6-2 (Invited) Laser Display Standardization Project (Tentative)**
Y. Hisatake
Japan Display, Japan
- LDC6-3 (Invited) Safety Aspects of Modern Laser-based Displays (Tentative)**
E. Buckley
Qualcomm, USA

Thursday, April 25

9:00-10:15 LDC7: Speckle Management 1

Room 301

- Chair: C. -Q. Xu, McMaster Univ., Canada**
- LDC7-1 (Invited) Standardized Speckle Measurement Method Matched to Human Speckle Perception in Laser Projection Systems**
9:00 S. Roelandt¹⁾, Y. Meuret¹⁾, G. Verschaffelt¹⁾, P. Janssens²⁾, H. Thienpont¹⁾
¹⁾Vrije Universiteit Brussel, Belgium, ²⁾Barco – Entertainment Division, Belgium
- LDC7-2 Speckle Reduction with Multiple Laser Pulses**
9:30 F. Shevlin
DYOPTYKA, Ireland
- LDC7-3 An Investigation of Speckle Reduction Effect of a Moving Diffuser Sheet in a Laser Backlight System**
9:45 K. Sakuma¹⁾, T. Arai²⁾, A. Tagaya¹⁾, Y. Koike¹⁾
¹⁾Keio Univ., Japan, ²⁾Enplas Corp., Japan
- LDC7-4 Speckle Contrast Measurement of Spectrum-Broaden Laser Beam from Semiconductor Laser with Direct Modulation at Microwave Frequency**
10:00 H. Murata, K. Shibasaki, K. Yamamoto, Y. Okamura
Osaka Univ., Japan

----- Break (10:15-10:30) -----

10:30-11:45 LDC8: Speckle Management 2

Room 301

- Chair: H. Murata, Program Committee Member of LDC'13, Osaka Univ., Japan**
- LDC8-1 (Invited) Evaluation of Speckle Contrast with Holographic Illumination System**
10:30 M. Kurashige, K. Ishida, O. Iwata, K. Nakatsugawa, Y. Ohyagi, M. Watanabe
Dai Nippon Printing Co., Ltd., Japan
- LDC8-2 Nonuniform intensity Distribution of the Scattered Light by the Moving Diffuser Across the Projection Lens Pupil and its Influence in Speckle Reduction**
11:00 Y. Tomita, K. Suzuki, T. Fukui, H. Tokita, S. Kubota
Oxide Corp., Japan
- LDC8-3 8-Level Computer Generated Hologram as a Light Diffuser for Laser Display**
11:15 O. Iwata, M. Kurashige, T. Takanokura, Y. Taniguchi, Y. Ohyagi, M. Watanabe
Dai Nippon Printing Co., Ltd., Japan

LDC8-4 Color Speckle
11:30 K. Kuroda¹⁾, T. Ishikawa¹⁾, M. Ayama¹⁾, S. Kubota²⁾
¹⁾Utsunomiya Univ., Japan, ²⁾Oxide Corp., Japan

----- Lunch Break (11:45-13:15) -----

13:15-14:30 LDC9 : Visible Laser Diodes

Room 301

Chair: T. Yagi, Program Committee Member of LDC'13,
Mitsubishi Electric Corp., Japan

LDC9-1 (Invited) High Power InGaN Based Green Laser Diodes on Semipolar GaN Substrates

13:15 M. Ueno¹⁾, S. Takagi¹⁾, Y. Enya¹⁾, T. Kyono¹⁾, M. Adachi¹⁾, Y. Yoshizumi¹⁾, T. Sumitomo¹⁾, Y. Yamanaka¹⁾, T. Kumano¹⁾, S. Tokuyama¹⁾, K. Sumiyoshi¹⁾, N. Saga¹⁾, K. Katayama¹⁾, T. Ikegami¹⁾, T. Nakamura¹⁾, K. Yanashima²⁾, H. Nakajima²⁾, K. Tasai²⁾, K. Naganuma²⁾, N. Fuutagawa²⁾, Y. Takiguchi²⁾, T. Hamaguchi²⁾, M. Ikeda²⁾

¹⁾Sumitomo Electric Industries, Ltd., Japan, ²⁾Sony Corp., Japan

LDC9-2 (Invited) Miniaturized Highly Brilliant Diode Laser Modules for Future Display Applications

13:45 K. Paschke, Chr. Fiebig, G. Blume, A. Sahm, D. Jedrzejczyk, D. Feise, G. Erbert
Ferdinand-Braun-Institut, Germany

LDC9-3 Reliability Study on High Power 638 nm Broad Stripe LD

14:15 H. Mitsuyama, T. Motoda, T. Nishida, N. Shimada, K. Kadoiwa, T. Yagi
Mitsubishi Electric Corp., Japan

----- Break (14:30-14:45) -----

14:45-15:45 LDC10 : Advanced Technology for Laser Displays

Room 301

Chair: T. Omatsu, Program Committee Co-Chair of LDC'13,
Chiba Univ., Japan

LDC10-1 (Invited) 45000lm High Brightness Laser Projection System (Tentative)

14:45 G. Zheng
Chinese Academy of Science, China

LDC10-2 Realistic Reproduction of Surface Highlight by Superposed Laser-scanning Projection Display

15:15 M. Yamaguchi, K. Suzuki, Y. Murakami
Tokyo Institute of Technology, Japan

LDC10-3 Development of the Backlight using the Laser Light Source for LCD

15:30 N. Nakano, E. Niikura, R. Murase, A. Nagase, T. Sasagawa, K. Minami, M. Hanai
Mitsubishi Electric Corp., Japan

----- Break (15:45-16:00) -----

16:00-16:20 LDC11 : Post-deadline Session

Room 301

Chair: B. Schowengerdt, Program Committee Co-Chair of LDC'13, Univ. Washington., USA

LDC11-1 not yet

16:00

LDC11-2 not yet
16:10

16:20-16:45 Award Ceremony & Closing Remarks

Room 301

Chair: T. Omatsu, Program Committee Co-Chair of LDC'13,
Chiba Univ., Japan

Award Ceremony

16:20 K. Kuroda
Utsunomiya Univ., Japan

Closing Remarks

16:40 T. Omatsu
Chiba Univ., Japan

Conference on Laser Surgery and Medicine
2013

CLSM 2013

Tuesday, April 23

9:30-15:20 Plenary Special Sessions Room 301, 302

Introductory talk

Key notes lectures for advanced laser sources and applications to medicine and biology

Joint plenary sessions

(In detail, <http://opicon.jp/plenary-session.html>)

----- Conference Reception (18:30-20:30) -----
Room 501, 502

Wednesday, April 24

9:00-12:00 Joint-workshop on R&D and Manufacturing of the Laser Equipments for Surgery and Medicine between JSLSM and the Saitama City
(Japanese language only) Room 418

----- Lunch Break (12:00-13:00) -----

13:00-13:15 Opening Remarks Room 418

Makoto Kikuchi

Conference Chair of CLSM 2013

Chair of the Board of Directors, Japan Association for the Advancement of Medical Equipment

13:15-15:00 CLSM1 : Therapeutic Applications of Lasers

Room 418

Chair: Katsunori Ishii, Osaka University, Japan

CLSM1-1 (Educational Lecture) A Feasibility of Laser Endovascular Intervention for Peripheral Arterial Diseases

13:15 Masayoshi Okada¹⁾, Masato Yoshida²⁾, Yoshihiko Tsuji³⁾

¹⁾International Institute for Advanced General Medicine, Japan, ²⁾Himeji Cardiovascular Center, Japan, ³⁾Shinsuma Hospital, Japan

CLSM1-2 First Clinical Result of Ultra-High Peak Power More Than Thousand Watts for Endovenous Pulsed Laser Ablation

13:45 Naoki Sakakibara¹, Tomoyuki Fujita¹, Hironobu Yamaoka¹, Takashi Shimabukuro¹, Rei Kansaku¹, Michiaki Sueishi², Atsushi Amano³, Shizuyuki Dohi³

¹Department of Cardiovascular Surgery, Edogawa Hospital, Japan, ²Shinagawa Heart Medical Clinic, Japan, ³Department of Cardiovascular Surgery, Juntendo University School of Medicine, Japan

CLSM1-3 Selective Ablation of WHHLM1 Rabbit Atherosclerotic Aorta by a Quantum Cascade Laser in the 5.7 μ m Wavelength Range

14:00 Keisuke Hashimura¹, Katsunori Ishii¹, Naota Akikusa², Tadataka Edamura², Harumasa Yoshida², Kunio Awazu^{1,3,4}

¹Graduate School of Engineering, Osaka University, Japan, ²Hamamatsu Photonics K.K., Japan, ³Graduate School of Frontier Biosciences, Osaka University, Japan, ⁴The Center for Advanced Medical Engineering and Informatics, Osaka University, Japan

CLSM1-4 Selective Removal of Human Carious Dentin Using a Nanosecond Pulsed Laser with 5.8 μ m Wavelength Range

14:15 Tetsuya Kita¹, Katsunori Ishii¹, Kazushi Yoshikawa², Kenzo Yasuo², Kazuyo Yamamoto², Kunio Awazu^{1,3,4}

¹Graduate School of Engineering, Osaka University, Japan, ²Department of Operative Dentistry, Osaka Dental University, Japan, ³Graduate School of Frontier Biosciences, Osaka University, Japan, ⁴The Center for Advanced Medical Engineering and Informatics, Osaka University, Japan

CLSM1-5 Quantitative Evaluation of Safety and Effectiveness of Laser Treatment for Benign Prostatic Hyperplasia Using a High-Power Laser Diode at the Wavelength of 980 nm

14:30 Junya Takada¹, Saki Nozoe¹, Norihiro Honda^{1,2}, Hisanao Hazama¹, Kunio Awazu^{1,3,4}

¹Graduate School of Engineering, Osaka University, Japan, ²Research Fellow of the Japan Society for the Promotion of Science, Japan, ³Graduate School of Frontier Biosciences, Osaka University, Japan, ⁴The Center for Advanced Medical Engineering and Informatics, Osaka University, Japan

CLSM1-6 Pivotal Anti-tumor Effects by Photodynamic Therapy in an In Vitro Model of Human Esophageal Squamous Cell Carcinoma

14:45 Shinya Ohashi¹, Mihoko Tsurumaki², Osamu Kikuchi², Daisuke Kuriyama², Yusuke Amanuma², Yukie Nakai², Takeshi Setoyama², Shinichi Miyamoto², Tsutomu Chiba², Manabu Muto³

¹Translational Research Center, Esophageal Cancer PDT Project, Kyoto University Hospital, Japan, ²Department of Gastroenterology and Hepatology, Graduate School of Medicine, Kyoto University, Japan, ³Department of Therapeutic Oncology, Graduate School of Medicine, Kyoto University, Japan

----- Break (15:00-15:30) -----

15:30-16:30 CLSM2 : SHORT PRESENTATION of Poster Presentation Room 418

Chair: Hisanao Hazama, Osaka University, Japan

CLSMp2-1 Ultraviolet Gas-Spectroscopy System Using Hollow Optical Fiber as Micro-Volume Gas Cell

Yuki Dessen¹, Takashi Katagiri¹, Yuji Matsuura²
¹Graduate School of Engineering, Tohoku University, Japan, ²Graduate School of Biomedical Engineering, Tohoku University, Japan

CLSMp2-2 Fabrication of Hollow Fiber Based Probe for SERS Detection of Biomolecules

Masahiro Nagaoka¹, Takashi Katagiri², Yuji Matsuura^{1,2}
¹Graduate School of Biomedical Engineering, Tohoku University, Japan, ²Graduate School of Engineering, Tohoku University, Japan

CLSMp2-3 Dynamic Analysis of the Small Artery of a Human Finger by Optical Coherence Tomography

Masato Ohmi, Mitsuo Kuwabara, Gakuji Tamaki, Masamitsu Haruna
Division of Health Sciences, Osaka University Graduate School of Medicine, Japan

CLSMp2-4 Noncontact Plethysmographic Imaging Using a Digital Red-Green-Blue Camera

Izumi Nishidate¹, Ryohei Matsuda¹, Noriyuki Tanaka¹, Takaaki Maeda², Tomonori Yuasa³, Tetsuya Yuasa⁴, Kyuichi Niizeki⁴, Yoshihisa Aizu³
¹Graduate School of Bio-applications & Science Engineering, Tokyo University of Agriculture & Technology, Japan, ²Department of Mechanical Engineering, Koshiro National College of Technology, Japan, ³College of Design and Manufacturing Technology, Muroran Institute of Technology, Japan, ⁴Graduate School of Bio-system Engineering, Yamagata University, Japan

CLSMp2-5 High-resolution Fluorescence Imaging of Cells in 3D Culture by Saturated Excitation (SAX) Microscopy

Masahito Yamanaka¹, Kumiko Uegaki¹, Nicholas I. Smith², Satoshi Kawata^{1,3}, Katsumasa Fujita¹
¹Department of Applied Physics, Osaka University, Japan, ²Immunology Frontier Research Center, Osaka University, Japan, ³RIKEN, Japan

CLSMp2-6 Evaluation of Articular Cartilage Degeneration in Mice Based on Second Harmonic Generation Microscopy

Hiroshi Kiyomatsu^{1,2}, Yusuke Oshima^{2,3}, Atsuhiko Hikita², Hiromasa Miura¹, Takeshi Imamura²
¹Department of Orthopaedic Surgery, Ehime University Graduate School of Medicine, Japan, ²Department of Molecular Medicine for Pathogenesis, Ehime University Graduate School of Medicine, Japan, ³Translational Research Center, Ehime University Hospital, Japan

CLSMp2-7 Simultaneous Recording of Local Field Potential and Optical Properties of In Vivo Rat Brain During Cortical Spreading Depression

Ciharu Mizushima¹, Izumi Nishidate¹, Satoko Kawauchi², Shunichi Sato², Manabu Sato³

¹Graduate School of Bio-Applications & Systems Engineering, Tokyo University of Agriculture and Technology, Japan, ²Division of Biomedical Information Sciences, National Defense Medical College, Japan, ³Graduate School of Science and Engineering, Yamagata University, Japan

CLSMp2-8 Longitudinally Excited CO₂ Laser for Hard Tissue Drilling

Hiroyuki Hayashi¹, Kazuyuki Uno¹, Tetsuya Akitsu¹, Takahisa Jitsuno²

¹Interdisciplinary Graduate School of Medicine and Engineering, University of Yamanashi, Japan,

²Institution of Laser Engineering, Osaka University, Japan

CLSMp2-9 Nd:YAG Laser Treatment of Keloids and Hypertrophic Scars

Atsuko Sugimoto, Yuki Nagashima, Sachiko Koike, Satoshi Akaishi, Hiko Hyakusoku, Rei Ogawa
Nippon Medical School Hospital, Japan

CLSMp2-10 Non-Contact Mode Nd:YAG Laser (Genesis®) Treatment for Keloids and Hypertrophic Scars

Atsuko Sugimoto, Satoshi Akaishi, Sachiko Koike, Hiko Hyakusoku Rei Ogawa
Nippon Medical School Hospital, Japan

CLSMp2-11 Improvement of Scattering Coefficient Estimation in Inverse Monte Carlo Calculation by Considering Wavelength Dependence of Refractive Index and Sample Thickness

Takuro Horibe¹, Katsunori Ishii¹, Norihiro Honda^{1,2}, Kunio Awazu^{1,3,4}

¹Graduate School of Engineering, Osaka University, Japan, ²Research Fellowship for Young Scientists, Japan Society for the Promotion of Science, Japan, ³Graduate School of Frontier Biosciences, Osaka University, Japan, ⁴The Center for Advanced Medical Engineering and Informatics, Osaka University, Japan

CLSMp2-12 Comparison of Regularization Methods for Photoacoustic Image Reconstruction

Shinpei Okawa, Takeshi Hirasawa, Toshihiro Kushibiki, Miya Ishihara
Department of Medical Engineering, National Defense Medical College, Japan

Thursday, April 25

9:00-12:00 CLSM3: Joint Session with Advance Lasers and Photon Sources (ALPS) on Optical Devices and Techniques for Bio and Medical Applications

Room 303

Chair: Toshihiro Kushibiki, National Defense Medical College, Japan

CLSM3-1/JALPS5-1

Optical Harmonic Generation Biopsy of Human Skin Based on a Femtosecond Cr:forsterite Laser

9:00 Chi-Kuang Sun^{1,2,3}

¹Molecular Imaging Center, National Taiwan University, Taiwan, ²Graduate Institute of Photonics and Optoelectronics, Graduate Institute of Biomedical Electronics and Bioinformatics, and

Department of Electrical Engineering, National Taiwan University, Taiwan, ³Research Center for Applied Sciences and Institute of Physics, Academia Sinica, Taipei, Taiwan

CLSM3-2/JALPS5-2

Fourier Domain Mode-locked Lasers and Their Application to OCT

9:30 Thomas Klein, Wolfgang Wieser, Tom Pfeiffer, Robert Huber

Lehrstuhl für BioMolekulare Optik, Fakultät für Physik, Ludwig Maximilians Universität München, Germany

CLSM3-3/JALPS5-3

Spatial Overlap Modulation Nonlinear Optical Microscopy for Background-Free Deep Imaging

10:00 Keisuke Isobe¹, Hiroyuki Kawano², Akira Suda³, Akiko Kumagai², Hideaki Mizuno², Atsushi Miyawaki², Katsumi Midorikawa¹

¹RIKEN Advanced Science Institute, Japan,

²RIKEN Brain Science Institute, Japan,

³Department of Physics, Graduate School of Science and Technology, Tokyo University of Science, Japan

----- Break (10:30-11:00) -----

Chair: Norihiko Nishizawa, Nagoya University, Japan

CLSM3-4/JALPS5-4

Highly Sensitive Ultrahigh Resolution OCT Using High Power Supercontinuum at 1.7µm Wavelength Region Based on Single Wall Carbon Nanotube Fiber Laser

11:00 H. Kawagoe¹, S. Ishida¹, M. Aramaki¹, Y. Sakakibara^{2,3}, E. Omoda², H. Kataura^{2,3}, N. Nishizawa¹

¹Nagoya University, Japan, ²AIST, Japan, ³JST CREST, Japan

CLSM3-5/JALPS5-5

Measurement of the Photobleaching Spectrum Based on the Excited-state Absorption of Fluorescence Proteins with Fourier-transform Nonlinear Spectroscopy

11:15 H. Takahashi, K. Toda, A. Suda
Tokyo University of Science, Japan

CLSM3-6/JALPS5-6

Dynamic Surface Enhanced Raman Scattering (SERS) Imaging of Living Cells

11:30 Katsumasa Fujita¹, Kazuki Bando¹, Kai-Chih Huang², Jun Ando¹, Nicholas I. Smith³, Satoshi Kawata^{1,4}

¹Department of Applied Physics, Osaka University, Japan, ²Department of Electrical Engineering, National Taiwan University, Taiwan, ³Immunology Frontier Research Center, Osaka University, Japan, ⁴RIKEN, Japan

CLSM3-7/JALPS5-7

Selective Excavation of Demineralized Dentin Using a Mid-infrared Tunable Nanosecond Pulsed Laser at Wavelengths around 6 µm

11:45 Katsunori Ishii¹, Tetsuya Kita¹, Kazushi Yoshikawa², Kenzo Yasuo², Kazuyo Yamamoto², Kunio Awazu^{1,3,4}

¹Graduate School of Engineering, Osaka University, Japan, ²Department of Operative Dentistry, Osaka Dental University, Japan, ³Graduate School of Frontier Biosciences, Osaka University, Japan, ⁴The Center for Advanced Medical Engineering and Informatics, Osaka University, Japan

----- Lunch Break (12:00-12:30) -----

12:30-13:45 CLSM2: Poster Presentation

Exhibition Hall D

13:45-15:00 CLSM4: Development of Systems and Technology for Advanced Measurement and Analysis Room 418

Chair: Takashi Katagiri, Tohoku University, Japan

CLSM4-1 (Invited) Saturable Scattering of Plasmonic Particles and Its Application to Superresolution Imaging

13:45 Shi-Wei Chu^{1,2}, Tung-Yu Su¹, Yasuo Yonemaru³, Masahito Yamanaka³, Guan-Yu Zhuo¹, Ming-Ying Lee¹, Ryosuke Oketani³, Satoshi Kawata³, Katsumasa Fujita³

¹Department of Physics, National Taiwan University, Taiwan R.O.C., ²Molecular Imaging Center, National Taiwan University, Taiwan R.O.C., ³Department of Applied Physics, Osaka University, Japan

CLSM4-2 High-frame Rate Shack Hartmann Wavefront Sensor Based on Flexible Read-out Technique for C-MOS Image Sensors

14:15 Jiro Suzuki, Toshiyuki Ando, Takao Endo
Information Technology R & D Center, Mitsubishi Electric Corporation, Japan

CLSM4-3 Calculation based Spherical Aberration Correction Method Using Spatial Light Modulator under Deep-Part Fluorescence Observation

14:30 Yu Takiguchi¹, Hisayoshi Takamoto¹, Masamitsu Kanada², Koyo Watanabe¹, Naoya Matsumoto¹, Takashi Inoue¹, Susumu Terakawa²

¹Hamamatsu Photonics K.K., Japan, ²Hamamatsu University School of Medicine, Japan

CLSM4-4 Measurement of Biological Tissue Thickness by Laser-Induced Sound

14:45 Shu Sano¹, Shun Kobayashi², Yuichi Hashishin^{1,2}

¹Faculty of Science and Engineering, Kinki University, Japan, ²The Interdisciplinary Graduate School of Science and Engineering, Kinki University, Japan

----- Break (15:00-15:15) -----

15:15-16:45 CLSM5: Imaging and Diagnosis Room 418

Chair: Masato Ohmi, Osaka University, Japan

CLSM5-1 (Invited) In Vivo Rapid Cancer Detection by Topically Spraying a Novel γ -Glutamyl transpeptidase-activated Fluorescence Probe

15:15 Yasuteru Urano^{1,2}

¹Graduate School of Medicine, The University of Tokyo, Japan, ²Basic Research Program, Japan Science and Technology Agency, Japan

Chair: Shinpei Okawa, National Defense Medical College, Japan

CLSM5-2 In Vivo Imaging and Tissue Ablation for Spinal Cord Injury Model Mice Using Multiphoton Microscopy System with 1045 nm Femtosecond Fiber Laser

15:45 Yusuke Oshima^{1,2}, Hideki Horiuchi³, Tadanori Ogata³, Atsuhiko Hikita², Hiromasa Miura³, Takeshi Imamura²

¹Translational Research Center, Ehime University Hospital, Japan, ²Department of Molecular Medicine for Pathogenesis, Ehime University Graduate School of Medicine, Japan, ³Department of Orthopaedic Surgery, Ehime University Graduate School of Medicine, Japan

CLSM5-3 Investigation of Optimal Wavelengths in Near-infrared Multi-spectral Imaging for Atherosclerotic Plaque Observation

16:00 Ryo Nagao¹, Katsunori Ishii¹, Akiko Kitayayabu¹, Kunio Awazu^{1,2,3}

¹Graduate School of Engineering, Osaka University, Japan, ²Graduate School of Frontier Bioscience, Osaka University, Japan, ³The Center for Advanced Medical Engineering and Informatics, Osaka University, Japan

CLSM5-4 Investigation of Optical Detection Method of Blood Vessels in Endoscopic Submucosal Dissection Using Carbon Dioxide Laser

16:15 Rinna Kawaguchi¹, Hisanao Hazama¹, Kunio Awazu^{1,2,3}

¹Graduate School of Engineering, Osaka University, Japan, ²Graduate School of Frontier Biosciences, Osaka University, Japan, ³The Center for Advanced Medical Engineering and Informatics, Osaka University, Japan

CLSM5-5 Visualization of Skin Chromophores Using Spectral Reflectance Images Reconstructed from RGB Values by Wiener Estimation

16:30 Izumi Nishidate¹, Yoshiyuki Tomiyama¹, Aditya Wiswadarma¹, Noriyuki Tanaka¹, Takaaki Maeda², Kyuichi Niizeki³, Yoshihisa Aizu⁴

¹Graduate School of Bio-applications & Science Engineering, Tokyo University of Agriculture & Technology, Japan, ²Department of Mechanical Engineering, Koshiro National College of Technology, Japan, ³Graduate School of Bio-system Engineering, Yamagata University, Japan, ⁴College of Design and Manufacturing Technology, Muroran Institute of Technology, Japan

16:45-17:00 Closing Remarks

Room 418

Makoto Kikuchi
Conference Chair of CLSM 2013
Chair of the Board of Directors, Japan Association for the Advancement of Medical Equipment

International Conference on High Energy Density Sciences 2013

HEDS2013

Tuesday, April 23

9:30-10:00 Opening Remarks Room 301,302
10:00-11:55 Keynote Lectures Room 301,302
 (See page7)

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions Room 301,302,303
 (See Page7)

18:30- 20:30 Conference Reception Room 501&502

Wednesday, April 24

9:30- 9:40 Opening

Room 313&314

Opening Remarks

9:30 R. Kodama, Conference Chair of HEDS2013
 Osaka Univ., Japan

9:40-10:10 HEDS1: Japanese XFEL 1

Room 313&314

Chair: R. Kodama, Osaka University, Japan

HEDS1-1 Overview of SACLA

9:40 Tetsuya Ishikawa, RIKEN, Japan

----- Break (10:30-10:45) -----

10:10-11:40 HEDS2: Planetary Science

Room 313&314

Chair: M. Koenig, Ecole Polytechnique, France

HEDS2-1 (Invited) Exotic Behaviors of Forsterite along
 Extreme Hugoniot State

10:10 Toshimori Sekine, Hiroshima University, Japan

HEDS2-2 (Plenary) Giant Planets: Laboratories for
 Warm Dense Matter

10:50 Toshimori Sekine, Hiroshima University, Japan

HEDS2-3 (Invited) Ultra-High Pressure Phase
 Transformations in Planetary Mantle
 Materials using Laser-Driven Shock
 Compression

11:15 Ryan Stewart McWilliams, Universidad de Los
 Andes, Colombia

----- Lunch Break (11:40-13:00) -----

13:00-15:00 HEDS3: Poster Session

Exhibition Hall D

Chair: N. Ozaki, Osaka University, Japan

HEDSp3-1

Energy-resolved Electron-Microscopic
 Diagnostics of Laser-Produced Plasma
 Electron Sources

Daiki Ikeda, Kyoto University, Japan

HEDSp3-2

Multiple-Fluid Model of The Magnetic
 Deformation of the Collision-Less Shock Wave
 Over Blunt Body

Koichi Mori, Nagoya University, Japan

HEDSp3-3

Development and Installation of a
 Plasma-Mirror Pulse Cleaner for

High-Intensity Laser System of ICR, Kyoto
 University

Kazuya Maeda, Kyoto University, Japan

HEDSp3-4

Effects of Electron Self-Injection on The Stable
 Laser Wake-field Acceleration

Alexey Zhidkov, Osaka University, Japan

HEDSp3-5

High-quality Electron Beam Generation
 Driven by Staged LWFA with Chirped
 Electron Bunch Transport

Tomonao Hosokai, Osaka University, Japan

HEDSp3-6

Ultrashort Electron Bunch Generation by
 Laser Ponderomotive Acceleration in Vacuum

Shinichi Masuda, Osaka University, Japan

HEDSp3-7

Detection of Point Defect Dynamics in
 Tungsten Using High-voltage Electron
 Microscopy

Kazuto Arakawa, Shimane University, Japan

HEDSp3-8

Hugoniot Measurement of MgO up to 1 Tpa:
 an Experimental Evidence for B1-B2
 Transition and Melting

Yoshinori Tange, Ehime University, Japan

HEDSp3-9

Platform Design for Matter under Dynamical
 Compression Driven by 45 TW Laser Pulses in
 XFEL

Takeshi Matsuoka, Osaka University, Japan

HEDSp3-10

THz wave Frequency Upshift by Rapidly
 Plasma Creation in Semiconductor

Noboru Yugami, Utsunomiya University, Japan

HEDSp3-11

Formation of High Density Lattice Defects in
 Pure Iron Using Femtosecond Laser-Driven
 Shock Wave

Tomoki Matsuda, Osaka University, Japan

HEDSp3-12

Exploring High-energy Density Material with
 High-power Laser

Norimasa Ozaki, Osaka University, Japan

HEDSp3-13

Development of x-ray spectroscopy for high
 energy density science using XFEL

Yuichi Inubushi, RIKEN, Japan

HEDSp3-14

Investigation of Damage Dynamics of Matter
 Irradiated with Intense Energetic Particles

Toshinori Yabuuchi, Osaka University, Japan

HEDSp3-15

Splash Plasma Channels Produced by
 Picosecond Laser Pulses for Wave Guided
 Laser Wakefield Acceleration

Yoshio Mizuta, Osaka University, Japan

HEDSp3-16

Terahertz Radiation Enhancement Correlated
 with Asymmetric Plasma Filament Generated
 by Femtosecond Laser Pulses

Junghun Shin, Osaka University, Japan

- HEDSp3-17**
Focus-ability of Ellipsoidal Plasma Mirror for Ultrahigh Intensity Laser
Kon Akira, Osaka University, Japan
- HEDSp3-18**
Ultrafast XFEL Diffraction Measurements of Femtosecond Laser-Driven Shock-Compressed Iron
Tomokazu Sano, Osaka University, Japan
- HEDSp3-19**
Direct Observation of Laser-Shock Compressed Iron Near Melting
Yoshihiko Kondo, Osaka University, Japan
- HEDSp3-20**
Direct Observation of Shock-Compressed Silicon by Using Near-Infrared Diagnostics
Tsung-Han Yang, Osaka University, Japan
- HEDSp3-21**
Shock Compression of Water and Alcohol-Water Mixture in Phase Transition Region from Ionic Fluid to Electronic Fluid
Mika Kita, Osaka University, Japan
- HEDSp3-22**
Properties of Hydrocarbon under Laser-Driven Low-Entropy Compression Using Static and Dynamic Coupling Compression Technique
Tsuyoshi Ogawa, Osaka University, Japan
- HEDSp3-23**
Observation of Laser Driven Multiple Shock Wave Structure with Line-imaging VISAR and X-ray Diffraction
Yuya Sato, Osaka University, Japan
- HEDSp3-24**
In-situ Angular and Energy Resolved X-ray Diffraction/Scattering Diagnostics for Dynamically Compressed Matter
Syotaro Iketani, Osaka University, Japan
- HEDSp3-25**
Measurements of Optical Property of MgO Under Laser-shock Compression
Kohei Miyanishi, Osaka University, Japan
- HEDSp3-26**
Electroluminescence Induced by Intense THz Pulse
Jin Zhan, Osaka University, Japan
- HEDSp3-27**
Laboratory Synthesis of Extrasolar Earth-size Planet
Takuo Okuchi, Okayama University, Japan

15:00-16:45 HEDS4: Material Science & Technology

Room 313&314

Chair: H. Yoneda, Utsunomiya Univ., Japan

- HEDS4-1** (Plenary) **Physics of Material Transformations under Extreme Pressure and Temperature Generated by the Ultra-fast Laser-induced Micro-explosion (Theory and Experiments)**
 15:00 E. G. Gamaly, Australian National University, Australia
- HEDS4-2** (Invited) **Enhancement of Structural Integrity of Metallic Components by Laser Peening: Mechanism and In-situ Experiments at**

SACLA

- 15:40 *Yuji Sano, Toshiba, Japan*
- HEDS4-3** **Ultrashort Electron Source via Laser Wakefield Acceleration and its Transport System for Applications**
 16:05 *Nobuhiko Nakanii, Osaka University, Japan*
- HEDS4-4** **Metal Surfaces Nanomodifications Induced by the Single and Multiple Pulse Soft X-ray Laser Beam Irradiations**
 16:25 *Anatoly Faenov, Russian Academy of Science, Russia*

Thursday, April 25

9:30-10:00 HEDS5: Japanese XFEL 2

Room 313&314

Chair: K. A. Tanaka, Osaka Univ., Japan

- HEDS5-1** (Special Talk) **Current Status and Future Challenges of X-ray Free Electron Laser**
 9:30 *Makina Yabashi, RIKEN, Japan*

10:00-11:25 HEDS6: WDM

Room 313&314

Chair: T. Cowan, Technische Universität Dresden, Germany

- HEDS6-1** (Plenary) **Understanding Warm and Dense Matter Using Absorption and Scattering Spectroscopies**
 10:00 *Roger Falcone, Lawrence Berkeley National Laboratory, United States*
- HEDS6-2** (Invited) **Nonlinear Optical Phenomena with Intense X-ray Laser Filed above $I=10^{19}$ W/cm²**
 10:40 *Hitoki Yoneda, University of Electro-Communications, Japan*
- HEDS6-3** **Time-resolved Measurements of Electromagnetic Fields Produced by Intense Femtosecond Laser Irradiation on Metal and Polyethylene Foil Targets**
 11:05 *Shunsuke Inoue, Kyoto University, Japan*

----- Lunch Break (11:25-13:30) -----

13:30-14:50 HEDS7: Extreme Matter State

Room 313&314

Chair: T. Sekine, Hiroshima Univ., Japan

- HEDS7-1** (Plenary) **Creating and Probing Solid Density Plasmas with X-ray Free Electron Lasers**
 13:30 *Justine Wark, Oxford University, United Kingdom*
- HEDS7-2** **High-Power Laser Generated Dense Matter and Its Applications**
 14:10 *Michel Koenig, Ecole Polytechnique, France*

----- Coffee Break (14:50-15:05) -----

15:05-16:50 HEDS8: Plasma and Quantum Beams

Room 313&314

Chair: N. Yugami, Utsunomiya Univ., Japan

- HEDS8-1** (Plenary) **Coupling High-power Laser and XFEL in European XFEL Facility**
 15:05 *Tomas E. Cowan, Institute of Radiation Physics, Technische Universität Dresden, Germany*

- HEDS8-2 (Invited) Scientific Horizon Seen with Combination of XFEL and Power Lasers
15:45 Kazuo A. Tanaka, Osaka University, Japan
HEDS8-3 Off-axis High-order Harmonics from Relativistic Laser-gas Jet Interaction
16:10 A. Pirozhkov, JAEA, Japan
HEDS8-4 Selective TNSA Deuteron Beam Production for Applications
16:30 Danielle Kelly, Ohio State University, United States

16:50-17:00 Closing

Room 313&314

Closing Remarks

- 16:45 R. Kodama, Conference Chair of HEDS2013
Osaka Univ., Japan

**Conference on Laser and Accelerator
Neutron Sources and Applications
LANSA'13**

Tuesday, April 23

- 9:30-10:00 Opening Remarks** Room 301,302
10:00-11:55 Keynote Lectures Room 301,302
(See page7)

----- Lunch Break (11:55-13:20) -----

- 13:20-15:20 Joint Plenary Sessions** Room 301,302,303
(See Page7)

----- Break (15:20-15:40) -----

- 15:40-15:45 Opening** Room 413
Opening Remarks
15:40 H. Azechi, Institute of Laser Engineering,
Osaka University, Osaka, Japan

- 15:45-18:00 LANSA1 : LANSA Plenary** Room 413
Chair: H. Nishimura, Institute of Laser Engineering,
Osaka University, Osaka, Japan

- LANSA1-1 (Plenary) Progress towards ignition on the US National Ignition Facility**

- 15:45 M. Dunne
National Ignition facility, Lawrence Livermore
National Laboratory, California, U.S.A.

- LANSA1-2 (Invited) RANS present status and future planning for industrial use and transportable compact neutron source**

- 16:30 Y. Otake, A. Taketani, RIKEN, Wako, Japan

- LANSA1-3 (Invited) Basic experiments on accelerator driven subcritical system for transmutation of minor actinide and for innovative neutron source**

- 17:15 M. Misawa, C. Pyeon, T. Yagi, Kyoto university,
Kyoto, Japan

-----Conference Reception (18:30-20:30)-----

Wednesday, April 24

9:00-12:30 LANSA2: Neutron sources Room 413

- Chair:** M. Roth, Institut für Kernphysik Technische
University, Darmstadt, Germany

- LANSA2-1 (Invited) Low energy neutron measurements for ignition and capture cross section studies at the National Ignition Facility**

- 9:00** L.A. Bernstein¹, D.L. Bleuel¹,
J.A. Caggiano¹, C. Cerjan¹, R. J. Fortner¹,
C. Hagmann¹, R. Hatarik¹, D. Sayre¹,
D.H.G.Schneider¹, W. Stoeffl¹,
D. Shaughnessy¹, K.J. Moody¹, J. Gostic¹,
P.M. Grant¹, C.B. Yeaman¹, N.P. Zaitseva¹,
J.A. Brown², N.M. Brickner², B.H. Daub²,
P.F. Davis², B.L. Goldblum¹,
K.A. Van Bibber², J. Vujic², R.B. Firestone³,
A.M. Hurst³, A.M. Rogers³

¹Lawrence Livermore National Laboratory,
California, U. S. A

²University of California, Berkeley Dept. of
Nuclear Engineering, U. S. A.

³Lawrence Berkeley National Laboratory,
U. S. A

- LANSA2-2 Fast ignition scheme fusion using high-repetition-rate laser**

- 9:45** Y. Kitagawa¹, Y. Mori¹, O. Komeda¹,
R. Hanayama¹, K. Ishii¹, S.Nakayama¹,
T. Sekine², N. Sato², T.Kurita²,
T. Kawashima², H. Kan², N. Nakamura³,
T. Kondo³, M. Fujine³, H. Azuma⁴,
T. Motohiro⁴, T. Hioki⁴, M. Kakeno⁴,
Y. Nishimura⁵, A. Sunahara⁶, Y. Sentoku⁷,
E. Miura⁸, Y. Arikawa⁹, T. Nagai⁹, Y. Abe⁹,
¹The Graduate School for the Creation of New
Photonics Industries,

²Development Bureau, Hamamatsu Photonics
K.K.

³Advanced Material Engineering Div.,
TOYOTA Motor Corporation,

⁴TOYOTA Central Research and Development
Laboratories, Inc.,

⁵Toyota Technical Development Corp.,

⁶Institute for Laser Technology,

⁷Department of Physics, University of Nevada,

⁸National Institute of Advanced Industrial
Science and Technology,

⁹Institute of laser Engineering, Osaka
University,

- LANSA2-3 The advanced neutron diagnostics in the fast ignition experiment by using GEKKO XII and LFEX**

- 10:15** . Y. Arikawa¹, T. Nagai¹, Y. Abe¹, S. Kojima¹, S.
Sakata¹, H. Inoue¹, T. Murata²,
N. Sarukura¹, M. Nakai¹, H. Shiraga¹,
H. Azechi¹

¹Institute of Laser Engineering, Osaka
University,

²Kumamoto Univ. Japan

----- Break (10:45-11:00) -----

- Chair:** L.A. Bernstein, Lawrence Livermore National

Laboratory, U. S. A.

LANSA2-4 (Invited) A bright neutron source driven by short pulse lasers

11:00 M. Roth,
Institut for Kernphysik Technische University
Darmstadt, Germany,

LANSA2-5 Efficient and stable neutron generation by Coulomb explosion of solid nanoparticles using DPSSL-pumped high-repetition-rate 20-TW laser

11:45 D.P. Higginson^{1,2)}, J.M. McNaney²⁾,
V. Yu Glebov³⁾, G.M. Petrov⁴⁾, B. Qiao¹⁾,
C. Stoeckl³⁾, D.C. Swift²⁾, D.L. Bleuel²⁾,
J. Cobble⁵⁾, J. Davis⁴⁾, J.A. Frenje⁶⁾,
P.K. Patel²⁾, G. Tynan¹⁾, and F.N. Beg¹⁾
¹⁾University of California-San Diego, U. S. A.
²⁾Lawrence Livermore National Laboratory,
U. S. A.
³⁾Laboratory for Laser Energetics, University
of Rochester, Rochester, U. S. A
⁴⁾Naval Research Laboratory, Washington,
⁵⁾Los Alamos National Laboratory,
⁶⁾Massachusetts Institute of Technology,

----- Lunch Break (12:30-13:30) -----

13:30-15:00 LANSA3: Poster Session

Exhibition Hall D

LANSAp3-1 The development of the neutron detector for the fast ignition experiment by using LFEX and GEKKO XII facility

T. Nagai, M. Nakai, Y. Arikawa, Y. Abe,
S. Kojima, S. Sakata, H. Inoue, S. Fujioka,
H. Shiraga, N. Sarukura, T. Norimatsu, and
H. Azechi,
Institute of Laser Engineering, Osaka
University, Osaka, Japan

LANSAp3-2 Development of multichannel TOF neutron spectrometer for the fast ignition experiment

Y. Abe, H. Hosoda, Y. Arikawa, T. Nagai,
S. Kojima, S. Sakata, H. Inoue, Y. Iwasa,
K. Iwano, M. Nakai, T. Norimatsu, and
H. Azechi
Institute of Laser Engineering, Osaka
University, Osaka, Japan

LANSAp3-3 The neutron imaging diagnostics and unfolding technique for fast ignition experiment

H. Inoue, Y. Arikawa, S. Nozaki, S. Fujioka,
T. Nagai, S. Kojima, Y. Abe, S. Sakata,
M. Nakai, H. Shiraga, and H. Azechi,
Institute of Laser Engineering, Osaka
University, Osaka, Japan

LANSAp3-4 Generation of directed energetic neutron beams using short pulse lasers

G. M. Petrov¹⁾, D. P. Higginson²⁾, J. Davis¹⁾,
Tz. B. Petrova¹⁾, C. McGuffey²⁾, B. Qiao²⁾,
and F. N. Beg²⁾
¹⁾Naval Research Laboratory, Plasma Physics
Division, U.S.A.
²⁾Mechanical and Aerospace Engineering,
University of California-San Diego, U.S.A.

LANSAp3-5 Simplified neutron detector for angular

distribution measurement of p-Li neutron source

M. Sakai, S. Tamaki, I. Murata
Graduate School of Engineering,
Osaka University, Osaka, Japan

LANSAp3-6 Development of Compton X-ray spectrometer for the fast ignition experiment

S. Kojima¹⁾, Y. Arikawa¹⁾, T. Nagai¹⁾, Y. Abe¹⁾,
S. Sakata¹⁾, H. Inoue¹⁾, T. Namimoto¹⁾,
M. Nakai¹⁾, H. Shiraga¹⁾, H. Azechi¹⁾,
M. Asakawa²⁾, T. Ozaki³⁾, R. Kato⁴⁾
¹⁾Institute of Laser Engineering, Osaka
University, Osaka, Japan

²⁾Kansai University, Osaka, Japan
³⁾National Institute for Fusion Science, Japan

⁴⁾The Institute of Science and Industrial
Research, Osaka University, Osaka, Japan

LANSAp3-7 Development of the high energy bremsstrahlung X-ray spectrometer by using (γ,n) reaction

S. Sakata¹⁾, Y. Arikawa¹⁾, S. Kojima¹⁾, Y. Abe¹⁾,
T. Nagai¹⁾, H. Inoue¹⁾, R. Kato²⁾, M. Nakai¹⁾,
H. Shiraga¹⁾, H. Azechi¹⁾

¹⁾Institute of Laser Engineering, Osaka
University, Osaka, Japan

²⁾Institute of Science and Industrial Research,
Osaka University, Osaka, Japan

LANSAp3-8 Study on nuclear transmutation of nuclear waste by 14MeV neutrons

T. Kitada, A. Umamura, K. Takahashi
Osaka University, Graduate School of
Engineering, Division of Sustainable Energy
and Environmental Engineering, Osaka, Japan

LANSAp3-9 Method of beam steering with FWM in ICF -compensation of PC beam direction and generation with scattered beam from a foam target

N. Kameyama, H. Yoshida,
Gifu University, Gifu, Japan

LANSAp3-10 Generation of monoenergetic deuterons by tailored intense laser pulses for high fluence energetic neutron production

S. M. Weng¹⁾, M. Murakami¹⁾, J. W. Wang^{1,4)},
M. Chen²⁾, Z. M. Sheng²⁾, N. Tasoko¹⁾,
P. Mulser³⁾, W. Yu⁴⁾

¹⁾Institute of Laser Engineering, Osaka
University, Osaka, Japan

²⁾Key Laboratory for Laser Plasmas and
Department of Physics, Shanghai
Jiaotong University, China

³⁾Theoretical Quantum Electronics (TQE),
Technische Universität Darmstadt, German,

⁴⁾Shanghai Institute of Optics and Fine
Mechanics, Chinese Academy of Sciences,
China

LANSAp3-11 The ESS-BILBAO Project

F. Sordo, The ESS-BILBAO Team
Edificio Cosimet Paseo Landabarro nº 2,
1ª Planta. Leioa, Spain

----- Break (15:00-15:15) -----

15:15-17:00 LANSA4: Applications

- Chair:** M. Murakami, Institute of Laser Engineering,
Osaka University
- LANSA4-1 (Invited) Studies on accelerator-driven system in JAEA**
- 15:15** Toshinobu Sasa and Hiroyuki Oigawa
J-PARC Center, Japan Atomic Energy Agency,
Japan
- LANSA4-2 Nuclear reaction analysis of the Li-ion battery electrodes by proton and neutron beams**
- 16:00** K.Mima¹⁾, Raquel Gonzalez Arrabal²⁾, K.Fujita¹⁾, Miguel Panizo Laiz²⁾, Y.Orikasa³⁾, Y.Uchimoto³⁾, A.Yamazaki⁴⁾, T.Kamiya⁴⁾, H.Sawada⁵⁾, C.Okuda⁵⁾, Y.Ukyo⁵⁾, S.Nakai¹⁾, S.Sakabe⁶⁾, H.Nishimura⁷⁾, T.Saito⁸⁾, T.Yanagawa⁹⁾, H.Sakagami⁹⁾, J. Manuel Perlado²⁾ and Y.Kato¹⁾
¹⁾The Graduate School for the Creation of New Photonics Industries
²⁾Institute of Fusion Nuclear, UPM
³⁾Graduate School of Human and Environmental Studies, Kyoto University
⁴⁾Takasaki Advanced Radiation Research Institute, Japan Atomic Energy Agency
⁵⁾Toyota Central R&D Labs.,
⁶⁾Institute for Chemistry, Kyoto University
⁷⁾Institute of Laser Engineering, Osaka University
⁸⁾Battery Research Div., Toyota Motor
- LANSA4-3 Development of high-average-power short-pulse laser system for the isotope-specific nondestructive assay using laser-Compton γ -rays**
- 16:15** M. Mori, A. Kosuge, H. Okada, H. Kiriya, Y. Ochi., M. Tanaka, and K. Nagashima,
Advanced laser development group,
Quantum Beam Science Directorate, Japan Atomic Energy Agency, Kizu, Japan

Thursday, April 25

9:00-12:15 LANSA5: Neutron sources Room 413

- Chair:** T. Murata, Osaka University, Osaka, Japan,
- LANSA5-1 (Invited) A planning effort for severe fusion neutron source generation in Korea and fusion-fission hybrid transmutation reactor R&D**
- 9:00** Jung-Hoon Han¹⁾, G.S. Lee²⁾, Y.S. Hwang¹⁾, B.G. Hong³⁾, Yong-Su Na¹⁾, Han-Gyu Joo¹⁾, Hyung-Jin Shim¹⁾, and K-DEMO team
¹⁾CARFRE, Seoul National University, 599 Gwanak-ro, Gwanak-gu, Seoul, Korea, tel.
²⁾National Fusion Research Institute, Korea,
³⁾Jeon-Buk National University, Korea,
- LANSA5-2 Transformation of the beam intensity distribution and formation of a uniform ion beam by means of nonlinear focusing**
- 9:45** Y. Yuri, T. Yuyama, T. Ishizaka, I. Ishibori, and S. Okumura,
Takasaki Advanced Radiation Research Institute, Japan Atomic Energy Agency
- LANSA5-3 Generation of high-quality proton beams**

with nanotube accelerator

- 10:15** M. Murakami¹⁾ M. Tanaka²⁾
¹⁾Institute of Laser Engineering, Osaka University, Osaka, Japan
²⁾Department of Engineering, Chubu University, Japan

----- Break (10:15-10:30) -----

- LANSA5-4 (Invited) Compact accelerator driven neutron sources and their applications**
- 10:30** M. Furusaka and H. Sato
Faculty of Engineering, Hokkaido University, Hokkaido, Japan
- LANSA5-5 Development of X-band 30 MeV Linac neutron source at fcommissioned experimental reactor “Yayoi” for fukushima nuclear accident analysis**
- 11:15** M. Uesaka¹⁾, K. Dobashi¹⁾, T. Fujiwara¹⁾, K. Tagi¹⁾, H. Harda²⁾
¹⁾Nuclear Professional School, University of Tokyo, Tokyo, Japan
²⁾Japan Atomic Energy Agency, Japan

----- Lunch Break (11:45-13:30) -----

13:30-15:45 LANSA 6: Neutron diagnostics Room 413

- Chair:** D.P. Higginson, University of California-San Diego, U.S.A
- LANSA6-1 (Invited) Low-energy neutron spectrometer for boron neutron capture therapy**
- 13:30** I. Murata and T. Obata,
Division of Electrical, Electronic and Information Engineering, Graduate School of Engineering, Osaka University, Osaka, Japan,
- LANSA6-2 A new neutron time-of-flight detector to measure the MeV neutron spectrum at the National Ignition Facility**
- 14:15** R. Hatarik¹⁾, J. A. Caggiano¹⁾, V. Glebov²⁾, J. McNaney¹⁾, C. Stoeckl²⁾, and D. H. G. Schneider¹⁾
¹⁾Lawrence Livermore National Laboratory, California, U. S. A.
²⁾Laboratory for Laser Energetics, University of Rochester, U. S. A.
- LANSA6-3 High-performance neutron imaging with microns scale resolution using LiF crystal detector**
- 14:45** A. Faenov^{1,2)}, M. Matsubayashi³⁾, T. Pikuz^{1,2)}, Y. Fukuda¹⁾, M. Kando¹⁾, R. Yasuda³⁾, H. Iikura³⁾, T. Nojima³⁾, T. Sakai³⁾, M. Shiozawa⁴⁾, Y. Kato⁵⁾
¹⁾Quantum Beam Science Directorate, Japan Atomic Energy Agency, Japan
²⁾High Temperatures, Russian Academy of Sciences, Russia,
³⁾Quantum Beam Science Directorate, Japan Atomic Energy Agency, Kizu, Japan
⁴⁾Nippon SOKEN, Japan
⁵⁾The Graduate School for the Creation of New Photonics Industries, Hamamatsu, Japan
- LANSA6-4 Nuclear emulsion technique for fast**

neutron measurement using automatic track analysis system

- 15:15** H. Tomita¹⁾, H. Minato¹⁾, Y. Sakai¹⁾, K. Morishima²⁾, K. Ishihara¹⁾, M. Isobe³⁾, J. Kawarabayashi¹⁾, T. Naka²⁾, T. Asada²⁾, T. Nakano²⁾, M. Nakamura²⁾, T. Iguchi¹⁾, K. Ogawa³⁾, K. Ochiai⁴⁾
¹⁾Graduate School of Engineering, Nagoya University
²⁾Graduate School of Science, Nagoya University,
³⁾National Institute for Fusion Science,
⁴⁾Fusion Research and Development Directorate, Japan Atomic Energy Agency

----- Break (15:45-16:00) -----

16:00-17:15 LANS7: Neutron sources Room 413

- Chair:** K. Mima, *The Graduate School for the Creation of New Photonics Industries, Hamamatsu, Japan*
LANS7-1 Efficient and stable neutron generation by Coulomb explosion of solid nanoparticles using DPSSL-pumped high-repetition-rate 20-TW laser
16:00 N. Satoh, T. Watari, K. Matsukado, T. Sekine, Y. Takeuchi, Y. Hatano, R. Yoshimura, K. Nishihara, M. Takagi, and T. Kawashima, *Hamamatsu Photonics, K. K*
LANS7-2 High yield neutron production via laser accelerated deuteron ion beam
16:30 F. Aymond, D. Kelley, J.T. Morrison, M. Storm, M. McMahon, K.U. Akli, E. Chowdhury, R.L. Daskalova, D. Schumacher, R. R. Freeman, *The Ohio State University, SCARLET, Laser Facility, U. S. A.*
LANS7-3 Monte-Carlo simulations for neutron production of laser driven D(d,n) and ⁷Li(d,xn) reactions using MCUNED
17:00 J. Alvarez¹⁾, P. Sauvan²⁾, J. Perlado¹⁾, J. Sanz²⁾
¹⁾ Instituto de Fusión Nuclear, Universidad Politécnica de Madrid, José Gutierrez Abascal, Madrid, Spain
²⁾ Departamento de Ingeniería Energética, Universidad de Educación a Distancia, Madrid, Spain
Closing Remarks
17:30 H. Azechi, *Institute of Laser Engineering, Osaka University, Osaka, Japan*

Laser Processing for CFRP and Composite Materials 2013

LPCC2013

Tuesday, April 23

- 9:30-10:00 Opening Remarks** Room 301,302
10:00-11:55 Keynote Lectures Room 301,302
 (See page7)

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions Room 301,302,303
 (See Page7)

----- Break (15:20-15:45) -----

- 15:45-16:00 Opening** Room 414+415
Opening Remarks
15:45 H. Ogata, *Conference Chair of LPCC2013 Advanced Laser and Process Technology Research Association (ALPROT), Japan*

16:00-18:00 LPCC1 : Room 414+415
Chair: Seiji Katayama, Steering & Program Committee Chair of LPCC2013, Osaka Univ., Japan

- LPCC1-1 (Invited) Influence of process strategy and composite reinforcements**
16:00 P. Jaeschke, U. Stute, and D. Kracht *Laser Zentrum Hannover e.V., Germany*
LPCC1-2 Laser direct joining of CFRP to dissimilar materials
16:45 Kwang-Woon Jung, Y. Kawahito, and S. Katayama *Osaka Univ., Japan*
LPCC1-3 In-situ inspection of thermoplastic CFRP welded zones using eddy current thermo-sensing
17:00 K. Mizukami, Y. Mizutani, A. Todoroki, and Y. Suzuki *Tokyo Institute of Technology, Japan*
LPCC1-4 (Invited) Investigations on laser remote cutting of tailored fiber reinforced structures
17:15 A. Klotzbach¹⁾, A. Fürst^{1,2)}, M. Kempe¹⁾, J. Hauptmann¹⁾, and E. Beyer^{1,2)}
¹⁾Fraunhofer IWS Dresden, Germany,
²⁾Technische Universität Dresden, Germany

18:30- 20:30 Conference Reception Room 501&502

Wednesday, April 24

- 10:00-12:00 LPCC2:** Room 414+415
Chair: Masayuki Fujita, Institute for Laser Technology, Japan
LPCC2-1 (Invited) (T.B.D.)
10:00 K. Uzawa *Tokyo Univ., Japan*
LPCC2-2 (Invited) Characteristic analysis of CFRP cutting with nanosecond pulsed laser
10:30 W. Inami *Shizuoka Univ., Japan*
LPCC2-3 Effect of tension under curing process on mechanical properties of MWNT spun yarn reinforced epoxy
11:00 K. Oshima, Y. Shimamura, K. Tohgo, T. Fujii, and Y. Inoue, *Shizuoka Univ., Japan*
LPCC2-4 Evaluation of interfacial fracture toughness for interface of CFRP/adhesives treated by in-mold surface preparation under mode II loading

- 11:15 Y. Yukimoto¹⁾, R. Matsuzaki¹⁾, and A. Todoroki²⁾
¹⁾Tokyo Univ. of Science, Japan, ²⁾Tokyo Institute of Technology, Japan
- LPCC2-5 (Invited) Study on laser application to the pre-treatment of CFRP surface for painting
- 11:30 H.Hira
Daido Univ., Japan

----- Lunch Break (12:00-13:30) -----

- 13:30-15:00 LPCC3 :** Room 414+415
Chair: Hirohito Hira, Daido Univ., Japan
- LPCC3-1 (Invited) Experimental investigation of the heat accumulation effect when laser processing CFRP with a picosecond laser system**
- 13:30 C. Freitag^{1,2)}, T. Kononenko³⁾, V. Onuseit²⁾, R. Weber²⁾, and T. Graf²⁾
¹⁾GSaME Graduate School of Excellence advanced Manufacturing Engineering, Germany, ²⁾Institut für Strahlwerkzeuge IFSW, Germany, ³⁾Natural Sciences Center, A.M. Prokhorov General Physics Institute GPI, Germany
- LPCC3-2 Micromachining of CFRP with ultra-short laser pulses**
- 14:15 M. Fujita^{1,2)}, T. Somekawa¹⁾, and N. Miyana²⁾
¹⁾Institute for Laser Technology, Japan, ²⁾Institute of Laser Engineering, Japan
- LPCC3-3 Cutting of CFRP plate with nanosecond laser in air and vacuum**
- 14:30 M. Tsukamoto¹⁾, K. Nakai²⁾, T. Nariyama³⁾, K. Takahashi¹⁾, S. Masuno¹⁾, H. Nakano³⁾, and N. Abe¹⁾
¹⁾Joining and Welding Research Institute, Osaka Univ., Japan, ²⁾Graduate School of Engineering, Osaka Univ., Japan, ³⁾Department of Electric and Electronic Engineering, Kinki Univ., Japan
- LPCC3-4 Improving efficiency of microwave heating by loading CNT in polymer resin**
- 14:45 S. Hatori¹⁾, R. Matsuzaki¹⁾, and A. Todoroki²⁾
¹⁾Tokyo Univ. of Science, Japan, ²⁾Tokyo Institute of Technology, Japan

----- Break (15:00-15:30) -----

- 15:30-16:30 LPCC4 :** Room 414+415
Chair: Yoshihisa Harada, AIST., Japan
- LPCC4-1 Laser-ionization Time-of-Flight mass spectrometric studies on laser ablation of carbon fiber reinforced plastics**
- 15:30 A. Narazaki^{1,2)}, T. Sat^{o1,2)}, Y. Kawaguchi^{1,2)}, R. Kurosaki¹⁾, and H. Niino^{1,2)}
¹⁾National Institute of Advanced Industrial Science and Technology (AIST), Japan, ²⁾Advanced Laser and Process Technology Research Association (ALPROT), Japan
- LPCC4-2 Laser ablation plume from graphite and CFRP under irradiation of nanosecond UV laser pulses in the air**
- 15:45 Y. Kawaguchi^{1,2)}, T. Sato^{1,2)}, A. Narazaki^{1,2)}, R. Kurosaki¹⁾, and H. Niino^{1,2)}
¹⁾National Institute of Advanced Industrial Science and Technology (AIST), Japan, ²⁾Advanced Laser and Process Technology Research Association (ALPROT), Japan

- LPCC4-3 Laser-induced plasma in noble gases enhances temporal and energetic profiles of transversely excited atmospheric CO₂ laser pulses**
- 16:00 T. Gasmi Cherifi
Saint Louis University, Spain

Thursday, April 25

- 10:00-11:30 LPCC5:** Room 414+415
Chair: Masahiro Tsukamoto, Osaka Univ., Japan
- LPCC5-1 (Invited) Single mode fiber laser of its quasi CW operation for cutting of carbon fiber reinforced plastics (CFRP)**
- 10:00 Akira Fujisaki^{1,3)}, Taizo Miyato^{1,3)}, Takashi Kayahara^{1,3)}, Hiroyuki Niino^{2,3)}
¹⁾Furukawa Electric, Japan, ²⁾National institute of Advanced industrial Science and Technology (AIST), Japan, ³⁾Advanced Laser and Process Technology Research Association (ALPROT), Japan
- LPCC5-2 Development of high-speed, sweep type remote processing head**
- 10:30 K. Wakabayashi^{1,2)}, T. Nagashima^{1,2)}, Y. Harada^{1,3)}, and H. Niino^{1,3)}
¹⁾Advanced Laser and Process Technology Research Association (ALPROT), Japan, ²⁾Miyachi Corporation, Japan, ³⁾The National Institute of Advanced Industrial Science and Technology (AIST), Japan
- LPCC5-3 Development of laser processing head for CFRP cutting**
- 10:45 K. Furukawa^{1,2)}, M. Matsushita^{1,2)}, Y. Harada^{1,3)}, T. Nagashima^{1,4)} and H. Niino^{1,3)}
¹⁾Advanced Laser and Process Technology Research Association (ALPROT), Japan, ²⁾Shin Nippon Koki Co. Ltd., Japan, ³⁾The National Institute of Advanced Industrial Science and Technology (AIST), Japan, ⁴⁾Miyachi Corporation, Japan
- LPCC5-4 Laser machining of PAN/PITCH-based carbon fiber reinforced composite materials**
- 11:00 M. Nishino^{1,2)}, Y. Harada^{1,3)}, T. Nagashima^{1,4)}, M. Matsushita^{1,5)}, and H. Niino^{1,3)}
¹⁾Advanced Laser and Process Technology Research Association (ALPROT), Japan, ²⁾Mitsubishi Chemical Corporation, Japan, ³⁾National Institute of Advanced Industrial Science and Technology (AIST), Japan, ⁴⁾Miyachi Corporation, Japan, ⁵⁾Shin Nippon Koki Co. Ltd., Japan
- LPCC5-5 Evaluation of defect in CFRP using infrared thermography and its heat conduction simulation**
- 11:15 M. Muramatsu^{1,2)}, Y. Harada^{1,2)}, T. Suzuki^{1,2)}, Hiroyuki Niino^{1,2)}
¹⁾Advanced Laser and Process Technology Research Association (ALPROT), Japan, ²⁾National Institute of Advanced Industrial Science and Technology (AIST), Japan

----- Lunch Break (11:30-12:30) -----

- 12:30-16:45** Room 414+415

“Workshop for New Frontier of CFRP in Industrial Applications (Japanese presentation)”

On 25th afternoon, “Workshop for New Frontier of CFRP in Industrial Applications (five Japanese presentations)” will be held at Room 414+415. All the participants of LPCC2013 can attend free. For more information, please refer to <http://lpcc.opicon.jp>.

International Conference on Laser Applications in Nuclear Engineering

LANE’13

Tuesday, April 23

9:30-10:00 Opening Remarks Room 301,302
10:00-11:55 Keynote Lectures Room 301,302
(See page7)

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions Room 301,302,303
(See Page7)

----- Break (15:20-15:45) -----

15:45-15:55 Opening Room 416, 417
Opening Remarks
15:45 H. Horiike, Conference Chair of LANE’13
Osaka University, Japan

15:55-17:55 LANE1 : Decommissioning and Processing
Room 416, 417

Chair: H. Daido, Japan Atomic Energy Agency, Japan

LANE1-1 (Invited) The Potential of Laser Cutting in Aspects of Nuclear Decommissioning

15:55 P. Hilton and A. Khan
TWI Ltd., United Kingdom

LANE1-2 (Invited) Thermohydraulic Characteristics of Laser Cutting Processes for Decommissioning

16:25 T. Yamada
Japan Atomic Energy Agency, Japan

LANE1-3 (Invited) LaserSnake – Snake-arm robots for laser cutting in confined spaces

16:55 R. Backingham ¹⁾, P. Hilton ²⁾, and A. Khan ²⁾
¹⁾ OC Robotics, United Kingdom, ²⁾ TWI Ltd., United Kingdom

LANE1-4 (Invited) Evolving Laser Processing Field for Nuclear Engineering in JAEA

17:25 A. Nishimura, H. Daido, and A. Sugiyama
Japan Atomic Energy Agency, Japan

----- Conference Reception (18:30-20:30) -----

Wednesday, April 24

9:00-10:30 LANE2 : Laser Spectroscopy (LIBS) 1
Room 416, 417

Chair: T. Iguchi, Nagoya University, Japan

LANE2-1 (Invited) The Analysis and Spectral

Assignments of Mixed Actinide Oxide Samples Using Laser-Induced Breakdown Spectroscopy (LIBS)

9:00 J.E. Barefield II, E.J. Judge, J.M. Berg, S.P. Willson, L.A. Le, and L.N. Lopez
Los Alamos National Laboratory, USA

LANE2-2 (Invited) Quantitative analysis and chemical speciation of uranium using laser spectroscopic methods

9:30 E.C. Jung, H.-R. Cho, and W. Cha
Korea Atomic Energy Research Institute, Korea

LANE2-3 High sensitive detection of elements in liquid samples by laser-induced breakdown spectroscopy with a liquid jet - Laser remote analysis for next generation nuclear fuel -

10:00 H. Ohba ¹⁾, M. Toshimitsu ¹⁾, M. Saeki ¹⁾, I. Wakaida ¹⁾, R. Tanabe ²⁾, and Y. Ito ²⁾

¹⁾ Japan Atomic Energy Agency, Japan,

²⁾ Nagaoka University of Technology, Japan

LANE2-4 Development of In-vessel Inspection Technology Using Remote Imaging and Spectroscopy

10:15 C. Ito, H. Naito, K. Chatani, A. Nishimura, A. Sugiyama, H. Ohba, and I. Wakaida
Japan Atomic Energy Agency, Japan

----- Break (10:30-10:45) -----

10:45-12:15 LANE3 : Laser Processing
Room 416, 417

Chair: P. Hilton, TWI Ltd., United Kingdom

LANE3-1 (Invited) Recent activities on laser peening and applications in nuclear industry

10:45 Y. Sano
Toshiba Corporation, Japan

LANE3-2 (Invited) Visualization and understanding of melt ejection dynamics during laser fusion cutting

11:15 K. Hirano ¹⁾ and R. Fabbro ²⁾
¹⁾ Nippon Steel & Sumitomo Metal Corporation, Japan, ²⁾ CNRS-Arts et Metiers ParisTech., France

LANE3-3 (Invited) Developmental Works of Laser Cleaners for Nuclear Facility Decontamination -Applicability of Robot-Assisted Laser Decontamination Devices at the 1st Power Reactor of the TEPCO Fukushima 1st Nuclear Power Plant-

11:45 E.J. Minehara, K. Tamura, R. Yamagishi, and M. Murakami
The Wakasa Wan Energy Research Center, Japan

LANE3-4 Cut processing using short pulsed lasers for decommissioning

12:00 S. Yoshihashi, N. Miyata, T. Kumakura, E. Hoashi and H. Horiike
Osaka University, Japan

----- Lunch Break (12:15-13:30) -----

13:30-15:00 LANE4 : Laser Isotope Separation and RIMS 1
Room 416, 417

Chair: C. Lim, Korea Atomic Energy Research Institute,

Korea

LANE4-1 (Invited) Nuclear Proliferation Risk of Laser Technologies - Laser Isotope Separation for Uranium Enrichment-

13:30 M. Suzuki and I. Wakaida

Japan Atomic Energy Agency, Japan

LANE4-2 (Invited) Laser isotope separation for nuclear engineering and neutrino physics

14:00 H. Niki

University of Fukui, Japan

LANE4-3 Molecular laser isotope separation without tunable lasers - Isotope-selective ionization utilizing molecular alignment and angular dependent ionization -

14:30 H. Akagi ¹⁾, T. Kakajima ¹⁾, T. Kumada ¹⁾, R. Itakura ¹⁾, A. Yokoyama ¹⁾, H. Hasegawa ²⁾, and Y. Ohshima ³⁾

¹⁾ Japan Atomic Energy Agency, Japan, ²⁾ The University of Tokyo, Japan, ³⁾ Institute for Molecular Science, Japan

LANE4-4 Transition Probability of the 4s5p¹P₁-4s² 1S₀ transition of the calcium atom

14:45 K.-H. Ko, T.S. Kim, L. Lee, H. Park, G. Lim, J. Han, Y.-H. Kim, and D.-Y. Jeong

Korea Atomic Energy Research Institute, Korea

----- Break (15:00-15:15) -----

15:15-17:00 LANE5 : Lasers and γ rays

Room 416, 417

Chair: T. Fukuda, Osaka Univ., Japan

LANE5-1 (Invited) Advanced high power lasers of KAERI for nuclear engineering

15:15 C. Lim ¹⁾, S.-K. Hong ¹⁾, S.-M. Nam ¹⁾, S.-Y. Oh ¹⁾, J.-M. Han ¹⁾, H.-J. Kim ¹⁾, Y.-H. Cha ¹⁾, H.-M. Park ¹⁾, D.-Y. Jeong ¹⁾, B.-H. Cha ¹⁾, M. Nakatsuka ²⁾, H. Yoshida ²⁾, H. Fujita ²⁾, and N. Miyanaga ²⁾

¹⁾ Korea Atomic Energy Research Institute, Korea,

²⁾ Osaka Univ., Japan

LANE5-2 (Invited) Application of laser Compton scattered gamma-rays to nondestructive measurement of nuclear material

15:45 R. Hajima

Japan Atomic Energy Agency, Japan

LANE5-3 (Invited) Laser Compton Scattering Gamma-ray Source and Nuclear Applications - Photo Nuclear Reaction and Transmutation -

16:15 S. Miyamoto

University of Hyogo, Japan

LANE5-4 Laser-driven dielectric accelerator for radiobiology - Optimization of electron source and dimensions -

16:45 K. Koyama ¹⁾, Y. Matsumura ¹⁾, M. Uesaka ¹⁾, A. Aimidula ²⁾, C.P. Welsch ²⁾, M. Yoshida ³⁾, and T. Natsui ³⁾

¹⁾ The University of Tokyo, Japan, ²⁾ Cockcroft Institute and the University of Liverpool, UK,

³⁾ High Energy Accelerator Organization, Japan

9:00-10:30 LANE6 : Laser Spectroscopy (LIBS) 2

Room 416, 417

Chair: E.C. Jung, Korea Atomic Energy Research Institute, Korea

LANE6-1 (Invited) Development of laser based remote analysis for next generation nuclear fuel - Background and summary of recent results

9:00 I. Wakaida, K. Akaoka, M. Miyabe, M. Tampo, H. Ohoba, M. Oba, Y. Maruyama, H. Otake, and M. Kato

Japan Atomic Energy Agency, Japan

LANE6-2 (Invited) The path of LIBS instrumentation: past, present and future

9:30 M. Sabsabi

National Research Council Canada, Canada

LANE6-3 Standoff detection of cesium aerosol by LIBS using a ns-pulsed laser

10:00 J. Izawa ¹⁾, T. Kurata ¹⁾, T. Yokozawa ²⁾, S. Eto ³⁾, and T. Fujii ³⁾

¹⁾ IHI Corporation, Japan, ²⁾ INC Engineering Co., Ltd., Japan, ³⁾ Central Research Institute of Electric Power Industry, Japan

LANE6-4 Application of remote LIBS deployment for safeguards of nuclear materials within a hot cell environment

10:15 B.-Y. Han ¹⁾, H.-S. Shin ¹⁾, H.-D. Kim ¹⁾, Y.-S. Kim ¹⁾, Y. Lee ²⁾, and A.I. Whitehouse ³⁾

¹⁾ Korea Atomic Energy Research Institute, Korea,

²⁾ Mokpo National University, Korea, ³⁾ Applied Photonics Ltd., UK

----- Break (10:30-10:45) -----

10:45-12:15 LANE7 : Laser Isotope Separation and RIMS 2

Room 416, 417

Chair: Y. Deguchi, The University of Tokushima, Japan

LANE7-1 (Invited) Ultra trace determination of actinides and other radioactive isotopes by Resonance Ionization Mass Spectrometry

10:45 K. Wendt, G. Passler, and N. Trautmann

Johannes Gutenberg-University Mainz, Germany

LANE7-2 (Invited) Trace Analysis of Nb-93m by Resonance Ionization Mass Spectrometry in Gas Jet toward Neutron Dosimetry

11:15 T. Iguchi

Nagoya University, Japan

LANE7-3 Negative Iodine Ion Source by Laser Ablation for ¹²⁹I Accelerator Mass Spectrometry

11:45 H. Tomita ¹⁾, M. Nakayama ¹⁾, T. Takahashi ¹⁾, T. Iguchi ¹⁾, and K. Wendt ²⁾

¹⁾ Nagoya University, Japan, ²⁾ Johannes Gutenberg University Mainz, Germany

LANE7-4 Development of Novel Apparatus for Isotope Analysis with Ion Trap and Laser Cooling Spectrometry

12:00 S. Hasegawa, M. Kitaoka, K. Jung, and Y. Yamamoto

The University of Tokyo, Japan

----- Lunch Break & Poster Session (12:15-15:15) -----

13:00-15:00 LANE8 : Poster Session

Exhibition Hall D

Thursday, April 25

- LANEp8-1 The Study on Application of Laser Technology for the Reactor Core Dismantling**
H. Iwai, Y. Nakamura, and K. Sano
Japan Atomic Energy Agency, Japan
- LANEp8-2 Development of laser cladding device in limited space for wall thinning**
T. Terada and A. Nishimura
Japan Atomic Energy Agency, Japan
- LANEp8-3 Effects of laser peening parameters on plastic deformation of carbon steels which controlled crystal grain**
M. Tsuyama ¹⁾, K. Mizuta ¹⁾, Y. Miyamoto ¹⁾, H. Nakano ¹⁾, T. Shibayanagi ²⁾, and M. Tsukamoto ³⁾
¹⁾ Kinki University, Japan, ²⁾ Toyama University, Japan, ³⁾ Osaka University, Japan
- LANEp8-4 Measurement of chlorine concentration in salt attached on stainless-steel by laser-induced breakdown spectroscopy in collinear geometry**
S. Eto, T. Fujii, and K. Shirai
Central Research Institute of Electric Power Industry, Japan
- LANEp8-5 Development of remote laser-induced breakdown spectroscopy for samples submerged in water**
M. Toshimitsu ¹⁾, M. Saeki ¹⁾, H. Ohba ¹⁾, B. Thornton ²⁾, and T. Sakka ³⁾
¹⁾ Japan Atomic Energy Agency, Japan, ²⁾ The University of Tokyo, Japan, ³⁾ Kyoto University, Japan
- LANEp8-6 Measurement of isotopic samples using laser breakdown time-of-flight mass spectrometry**
Z.Z. Wang ¹⁾, Y. Deguchi ¹⁾, J.J. Yan ²⁾, and J.P. Liu ²⁾
¹⁾ The University of Tokushima, Japan, ²⁾ Xian Jiaotong University, China
- LANEp8-7 Determination of calibration curve for the neodymium contained as impurities in uranium by laser induced breakdown spectroscopy - Laser remote analysis for next generation nuclear fuel -**
K. Akaoka, Y. Maruyama, M. Oba, M. Miyabe, H. Otake, and I. Wakaida
Japan Atomic Energy Agency, Japan
- LANEp8-8 Intensity Enhancement of Microwave Assisted Laser Break Down Spectroscopy – Laser remote analysis for next generation nuclear fuel –**
M. Tampo, K. Akaoka, H. Ohba, M. Oba, Y. Maruyama, M. Miyabe, and I. Wakaida
Japan Atomic Energy Agency, Japan
- LANEp8-9 Plume dynamics by absorption and fluorescence spectroscopy for laser remote isotope analysis - Laser remote analysis for next generation nuclear fuel -**
M. Miyabe, M. Oba, H. Iimura, K. Akaoka, Y. Maruyama, H. Ohba, M. Tampo and I. Wakaida
Japan Atomic Energy Agency, Japan
- LANEp8-10 Studies on accurate and precise identification of the failed fuel assembly using resonance ionization mass spectrometry**
Y. Iwata ¹⁾, C. Ito ¹⁾, and H. Harano ²⁾
¹⁾ Japan Atomic Energy Agency, Japan, ²⁾ National Institute of Advanced Industrial Science and Technology, Japan
- LANEp8-11 Study on Environmental Particle Analysis Containing Nuclear Materials by Resonance Ionization Mass Spectrometry**
T. Noto ¹⁾, H. Tomita ¹⁾, J. Kawarabayashi ¹⁾, T. Iguchi ¹⁾, T. Shimoyama ¹⁾, and K. Wendt ²⁾
¹⁾ Nagoya University, Japan, ²⁾ Johannes Gutenberg University Mainz, Germany
- LANEp8-12 Development of an inspection probing system for the case of reactor melt down accident**
F. Ito, A. Nishimura, K. Tomiyoshi, C. Ito, and A. Sugiyama
Japan Atomic Energy Agency, Japan
- LANEp8-13 Heat resistant fiber Bragg grating sensor by femtosecond laser processing – Fine processing in optical fiber and fabric reinforcement -**
Y. Shimada ¹⁾, A. Nishimura ¹⁾, and H. Suzuki ²⁾
¹⁾ Japan Atomic Energy Agency, Japan, ²⁾ KUMAGAI-GUMI Co., Ltd, Japan
- LANEp8-14 Installation of a heat resistant fiber Bragg grating sensor - Investigation of adhesive rigid strength by tensile strength machine -**
H. Suzuki ¹⁾, A. Nishimura ²⁾, and Y. Shimada ²⁾
¹⁾ KUMAGAI-GUMI, Japan, ²⁾ Japan Atomic Energy Agency, Japan
- LANEp8-15 Observation of Resonance Photoionized Calcium Ions in RF Ion Trap**
Y. Yamamoto, M. Kitaoka, K. Jung, and S. Hasegawa
The University of Tokyo, Japan
- LANEp8-16 Digital Fringe Offset Control System to Laser Isotope Analysis of Calcium Ions**
K. Jung, M. Kitaoka, Y. Yamamoto, and S. Hasegawa
The University of Tokyo, Japan
- LANEp8-17 New diagnostic methods for enhanced thermal transport flows mixed with nanometer particles under the aim of nuclear power plant safety inspection**
K. Kasuya ¹⁾, S. Taniguchi ¹⁾, Y. Izawa ²⁾, and T. Norimatsu ²⁾
¹⁾ Institute for Laser Technology, Japan, ²⁾ Osaka University, Japan
- LANEp8-18 Study on Separation of Platinum-group Metals by Using Laser-induced Particle Formation**
M. Saeki, M. Toshimitsu, and H. Ohba
Japan Atomic Energy Agency, Japan
- LANEp8-19 Development of cesium isotope separation based on the laser photochemical reaction with a self-injection-seeded Ti:sapphire laser**
K. Tamura ¹⁾, E. Minehara ¹⁾, and K. Yokoyama ²⁾
¹⁾ The Wakasa Wan Energy Research Center, Japan, ²⁾ Japan Atomic Energy Agency, Japan
- LANEp8-20 High-power pulsed fiber lasers for calcium isotope separation**
Y.-H. Cha, Y. Kim, G. Lim, K.-H. Lee, H. Park, K.-H. Ko, T.S. Kim, L. Lee, and D.-Y. Jeong
Korea Atomic Energy Research Institute, Korea
- LANEp8-21 Development of Injection Locked Ti:Sapphire Laser System for Trace Isotope Analysis**
Y. Adachi ¹⁾, Y. Furuta ¹⁾, H. Tomita ¹⁾,

T. Takatsuka ¹⁾, C. Sakamoto ¹⁾, T. Noto ¹⁾,
T. Iguch ¹⁾, and K. Wendt ²⁾

¹⁾ Nagoya University, Japan, ²⁾ Johannes
Gutenberg University Mainz, Germany

**LANEp8-22 Dispose of nuclear waste with Laser-Compton
scattering gamma ray**

D. Li ¹⁾, K. Imasaki ¹⁾, Y. Izawa ¹⁾, S. Miyamoto ²⁾,
K. Horikawa ²⁾, and T. Mochizuki ²⁾

¹⁾ Institute for Laser Technology, Japan,

²⁾ University of Hyogo, Japan

**LANEp8-23 Development of advanced radiation sources at
KAERI-WCI center**

K. Lee ¹⁾, Y.U. Jeong ¹⁾, S.H. Park ¹⁾, K.-H. Jang
¹⁾, S.V. Miginsky ^{1,2)}, B.A. Gudkov ^{1,2)}, Y.H. Cha
¹⁾, J. Mun ^{1,3)}, K.N. Kim ^{1,4)}, H.-N. Kim ¹⁾,
P.K. Pandey ¹⁾, S.-Y. Noh ^{1,5)}, S.J. Park ^{1,5)}, S.
Bae ¹⁾, H. Kim ¹⁾, B.-H. Han ^{1,6)}, G.I. Shim ¹⁾, L.
Gupta ¹⁾, N.A. Vinokurov ^{1,2)}, and J. Kim ⁷⁾

¹⁾ Korea Atomic Energy Research Institute, Korea,

²⁾ Budker Institute of Nuclear Physics, Russia, ³⁾

Chugnam National University, Korea, ⁴⁾ Kongju

National University, Korea, ⁵⁾ Kyungpook

National University, Korea, ⁶⁾ Hannam

University, Korea, ⁷⁾ Korea Electrotechnology
Research Institute, Korea

15:15-16:45 LANE9 : Laser Sensing Room 416, 417

Chair: I. Wakaida, Japan Atomic Energy Agency, Japan

**LANE9-1 (Invited) Laser based instrumentation for
IAEA safeguards verifications**

15:15 A. Lebrun

International Atomic Energy Agency, Austria

**LANE9-2 Laser-based sensor for detection of coolant
leakage in a nuclear power plant**

15:45 H. Park, L. Lee, T.S. Kim, K.-H. Ko, D.-Y. Jeong

Korea Atomic Energy Research Institute, Korea

**LANE9-3 Transmission property of Sodium in the
Vacuum Ultra-violet range and its applications**

16:00 H. Daido ¹⁾, Y. Suzuki ¹⁾, T. Kawachi
¹⁾, T. Fukuda ²⁾, T. Nakagiri ¹⁾, M. Kaku ³⁾, and
S. Kubodera ³⁾

¹⁾ Japan Atomic Energy Agency, Japan, ²⁾ Osaka

University, Japan, ³⁾ Miyazaki University, Japan

**LANE9-4 Application of laser diagnostics to
sodium-water chemical reaction field**

16:15 Y. Deguchi ¹⁾, K. Kusano ¹⁾, K. Tamura ¹⁾,
R. Muranaka ¹⁾, S. Kikuchi ²⁾, and A. Kurihara ²⁾

¹⁾ The University of Tokushima, Japan, ²⁾ Japan
Atomic Energy Agency, Japan

**LANE9-5 Development of Plasma Source Sustained by
Semiconductor Microwaves**

16:30 Y. Ikeda and A. Moon

Imagingneering, Inc., Japan

16:45-16:55 Closing Room 416, 417

Closing Remarks

16:45 E. Minehara, Conference Co-Chair of LANE' 13
The Wakasa Wan Energy Research Center, Japan

The 1st. Laser Ignition Conference '13

LIC'13

Tuesday, April 23

9:30-10:00 Opening Remarks

Room 301,302

10:00-11:55 Keynote Lectures

Room 301,302

(See page7)

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions

Room 301,302,303

(See Page7)

----- Break (15:20-15:45) -----

**15:45-18:00 LDC-LIC Joint Session (Laser Display and
Laser Ignition) -Light Sources and Scanning-**

Room 301+302

Co-Chairs: T. Omatsu, Program Committee Co-Chair of
LDC'13, Chiba Univ., Japan, **T. Taira**, General
Chair of LIC'13, Institute for Molecular Science,
Japan

Joint Session Opening Remarks

15:45 T. Omatsu, Chiba Univ., Japan

**LDC/LIC1-1 (Plenary) Nonlinear Optics for Displays and
Combustion Measurements (Tentative)**

15:50 M. Fejer

Stanford Univ.,USA

**LDC/LIC1-2 (Invited) Ultrafast-thin Disk Laser Driven
RGB System**

16:30 T. Sudmeyer

Univ. of Neuch Nbtel, Switzerland

**LDC/LIC1-3 (Invited) High Repetition Rate MW Peak
Power Green Microchip Laser**

17:00 R. Bhandari

Institute for Molecular Science, Japan

**LDC/LIC1-4 (Invited) Optical MEMS Scanners and
Color Filters for Image Display Applications**

17:30 H. Toshiyoshi,

Univ. Tokyo, Japan

-----Conference Reception (18:30-20:30)-----

Wednesday, April 24

**9:00-10:15 LIC2: High brightness lasers for ignition and
diagnostics-1**

Room 302

Chair: T. Taira, General Chair of LIC'13, Institute for
Molecular Science, Japan

**LIC2-1 (Invited) Implications of Ambient
Temperature on a Laser Sparkplug**

9:00 E. Wintner

Vienna University of Technology, Austria

**LIC2-2 Temperature Dependence of the Pump
Absorption Efficiency under Hot-band
Pumping of Nd:YAG**

9:30 Y. Sato and T. Taira

Institute for Molecular Science, Japan

**LIC2-3 Ignition Lasers Operating for Wide
Temperature Range**

9:45 M. Tsunekane and T. Taira
Institute for Molecular Science, Japan
LIC2-4 **Pulse Energy Increase by Emission Cross-section Control in Passively Q-switched Nd:YVO₄/Cr⁴⁺:YAG Laser**
10:00 A. Kausas and T. Taira
Institute for Molecular Science, Japan
----- Break (10:15-10:30) -----

10:30-12:00 LIC3: High brightness lasers for ignition and diagnostics-2

Room 302

Chair: E. Wintner, Program Committee Vice Chair of LIC'13, Vienna University of Technology, Austria

LIC3-1 **(Invited) World First Laser Ignited Gasoline Engine Vehicle**
10:30 T. Taira ¹⁾, S. Morishima ²⁾, K. Kanehara ²⁾, N. Taguchi ³⁾, A. Sugiura ³⁾, M. Tsunekane ¹⁾
¹⁾Institute for Molecular Science, Japan, ²⁾Nippon Soken, Inc., ³⁾DENSO Co. Japan
LIC3-2 **Composite Ceramic Laser Materials**
11:00 K. Muramatsu, T. Yangitani, H. Yagi
Konoshima Chemical Co. Ltd, Japan
LIC3-3 **New Composite Nd:YAG/Cr:YAG Single Crystal**
11:15 G. Aka
Laboratoire de Chimie de La Matiere Condens, France
LIC3-4 **Rare Earth Ions Doped PTR Glass DBR and DFB Lasers for Combustion Ignition**
11:30 A. Rysanyanskiy ¹⁾, V. Smirnov ¹⁾, L. Glebova ¹⁾, O. Mokhun ¹⁾, Subith Vasu ²⁾, M.J. Soileau ²⁾, A. Glebov ¹⁾ and L. Glebov ^{1,2)}
¹⁾OptiGrate Corp, USA, ²⁾University of Central Florida, USA
LIC3-5 **High-Performance New Generation Single Emitters and Laser Bars Emitting at 8xx - 9xx nm**
11:45 A. Pietrzak, R. Hülsewede, M. Zorn, and J. Sebastian
JENOPTIK Diode Lab GmbH, Germany
----- Lunch break (12:00-13:00) -----

13:00-14:15 LIC4: High brightness lasers for ignition and diagnostics-3

Room 302

Chair: R. Bhandari, Program Committee of LIC'13, Institute for Molecular Science, Japan

LIC4-1 **(Invited) 4kW Coherent Beam Combination Laser using SBS-PCM for Industrial Applications**
13:00 Hong Jin Kong
KAIST, Korea
LIC4-2 **Novel Geometry for Compact, Diode-Pumped Solid-State Lasers**
13:30 N. Pavel, T. Dascalu, G. Salamu and O. Grigore
National Institute for Laser, Plasma and Radiation Physics, Romania
LIC4-3 **Nd:YAG/Cr:GSGG Passively Q-switched Compact DPSS Laser with Flexure Cavity Strucutre**

13:45 H. Yoshida
Dept. of I&E Visionaries, Grad. Sch. of ISEE, Kyushu Univ., Japan
LIC4-4 **Yb:YAG/Cr:YAG Passively Q-switched MicroLaser for Ignition**
14:00 M. Tsunekane and T. Taira
Institute for Molecular Science, Japan

----- Break (14:15-14:30) -----

14:30-16:15 LIC5: High brightness lasers for ignition and diagnostics-4

Room 302

Chair: Y. Oki, Program Committee of LIC'13, Kyushu University, Japan

LIC5-1 **(Invited) Fiber Optic Delivered Laser Ignition Systems**
14:30 A. P. Yalin, S. Joshi and N. Wilvert
Colorado State University, USA
LIC5-2 **Laser Ignition by the Sub-ns Passively Q-switched Laser**
15:00 A. Sone ¹⁾ and H. Furutani ²⁾
¹⁾ Hamamatsu Photonics K.K., Japan, ²⁾AIST, Japan
LIC5-3 **Laser Ignition of a Battleship Cryogenic RCS Thruster using the Miniaturised HiPolas® Laser**
15:15 C. Manfletti ¹⁾ and G. Kroupa ²⁾
¹⁾DLR, Germany, ²⁾CTR AG, Austria,
LIC5-4 **A Highly Robust, Miniaturized Nd:YAG Laser for Spark Ignition**
15:30 G. Kroupa, M. Baumgart and A. Tortschanoff
CTR AG, Austria
LIC5-5 **(Invited) Laser Ignited Engines: Progress, Challenges and Prospects**
15:45 G. Dearden, T. Shenton
University of Liverpool, United Kingdom
16:15 **Panel Discussion**
Paneler: T. Taira, E. Wintner

Thursday, April 25

9:00-10:15 LIC6: Applications of high brightness laser

Room 302

Chair: F. Akamatsu, Steering Committee Chair of LIC'13, Osaka University, Japan

LIC6-1 **Measurement of Equivalence Ratio Using Laser-Induced Breakdown Spectroscopy in Laser Ignited Gas Engine**
9:00 E. Takahashi ¹⁾, T. Honzawa ²⁾, H. Kojima ¹⁾, M. Iga ³⁾, S. Yamaguchi ³⁾, S. Inami ⁴⁾, J. Miyata ⁵⁾ and H. Furutani ¹⁾
¹⁾ AIST, Japan, ²⁾Tokyo Gas Technology Research Institute, Japan, ³⁾University of Tsukuba, Japan
⁴⁾Mitsui Engineering & Shipbuilding Co., Ltd, Japan, ⁵⁾Mitsui Engineering & Shipbuilding Co., Ltd, Tamano Technology Center, Japan
LIC6-2 **Laser-Induced Plasma in Noble Gases Enhances Temporal and Energetic Profiles of**

Transversely Excited Atmospheric CO₂ Laser Pulses
 9:15 T. Gasmi
 Saint Louis University-Madrid Campus, Spain

LIC6-3 Frequency Quadrupled Passively Q-switched Laser for Planetary Exploration by Laser Desorption Mass Spectrometry
 9:30 D. Kracht, C. Kolleck, J. Neumann
 Laser Zentrum Hannover e.V., Germany

LIC6-4 Microchip Laser Enabled Efficient THz Generation from Lithium Niobate
 9:45 Yen-Chieh Huang
 National Tsinghua University, Taiwan

LIC6-5 Basic Study on Pulse Width Dependence of Laser Ablation Induced Fluorescence
 10:00 K. Watanabe ¹⁾, A. Yamazaki ¹⁾, F. Sakai ¹⁾, A. Uritani ¹⁾, T. Inoue ²⁾ and Y Ueno ²⁾
¹⁾ Nagoya University, Japan, ²⁾ Genesis Research Institute Inc, Japan

LIC6-5 Diagnostic of Number Density of Droplets in an Aerosol by Laser-Induced Breakdown Method
 10:15 H. Yashiro and M. Kakehata
 AIST, Japan

----- Break (10:30-10:45) -----

10:45-12:00 LIC7: Laser ignited engines for power -1

Room 302

Chair: N. Kawahara, Program Committee of LIC'13, Okayama Univ., Japan

LIC7-1 (Invited) Ignition with Laser
 10:45 H. Furutani
 AIST, Japan

LIC7-2 Ignition Behavior of Lean Methane/Air Mixture by Close Dual-Point Laser-Induced Sparks
 11:15 K. Horie, S. Sato, S. Nakaya and M. Tsue
 Department of Aeronautics and Astronautics, The University of Tokyo, Japan

LIC7-3 Laser Ignition Controlled by the Combination of Nano- and Femto-second Lasers
 11:30 H. Kojima, E. Takahashi and H. Furutani
 AIST, Japan

LIC7-4 Laser-induced Ignition and Plasma Spectroscopy in a Turbulent Liquid Fueled Combustor
 11:45 L. Zimmer and T. Agarwal
 Laboratoire d'Energétique Moléculaire et Macroscopique, Combustion (EM2C), France
 Ecole Centrale Paris, France

----- Lunch Break (12:00-13:00) -----

13:00-15:00 LIC8: Laser ignited engines for power -2 (Plasma Assisted Combustion)

Room 302

Chair: Y. Ikeda, Imagineering, Inc., Japan,

LIC8-1 (Invited) Application of Plasma-Assisted Combustion to Internal Combustion Engine
 13:00 E. Tomita

Okayama Univ., Japan

LIC8-2 Experimental Study on Characteristics of Laser-Induced Ignition in Ethanol Mist
 13:30 T. Seo, Y. Ishimura, Y. Hisatomi and M. Mikami
 Department of Mechanical Engineering,
 Yamaguchi University, Japan

LIC8-3 Interaction between Laser-Induced Plasma and Fuel Spray
 13:45 N. Kawahara and E. Tomita
 Okayama University, Japan

LIC8-4 Ignition Characteristics of Methane/air Premixed Mixture by Microwave Enhanced Laser-Induced Breakdown Plasma
 14:00 A. Nishiyama ¹⁾, A. Moon ¹⁾, Y. Ikeda ¹⁾, J. Hayashi²⁾, and F. Akamatsu²⁾
¹⁾Imagineering, Inc., Japan, ²⁾Osaka University, Japan

LIC8-5 Characteristics of Laser Ignition in Methane/Air Premixed Gas with Pico-second Pulse Duration Laser
 14:15 J. Hayashi ¹⁾, N. Nakatsuka ¹⁾, K. Furui ¹⁾, T. Okada¹⁾, T. Taira²⁾, F. Akamatsu¹⁾
¹⁾Osaka University, Japan, ²⁾Institute for Molecular Science, Japan

LIC8-6 Effects of Laser Profiles on Laser Ignition of Methane/Air Premixed Gas
 14:30 J. Hayashi, N. Nakatsuka Y. Sawanaka, T. Okada, K. Furui and F. Akamatsu
 Osaka University, Japan

LIC8-7 Effects of Initial Molar Density of Methane/Air Pre-mixture on Ignition Using Laser-Induced Breakdown
 14:45 N. Nakatsuka¹⁾, J. Hayashi¹⁾ and F. Akamatsu¹⁾
 Osaka University, Japan

----- Break (15:00-15:15) -----

15:15-17:00 LIC9: Laser ignited engines for power -3

Room 302

Chair: H. Furutani, Program Committee Chair of LIC'13, AIST, Japan

LIC9-1 (Invited) Laser Ignition in Natural Gas Engines
 15:15 S. B. Gupta, B. Bihari, M. Biruduganti and R. Sekar
 Argonne National Laboratory, USA

LIC9-2 Quantification of Perturbation Effects on a Laser Ignition System for Natural Gas Engine Applications
 15:45 Greg.S. Yoder
 West Virginia University, USA

LIC9-3 Extension of a Stable Lean Burn Limit for Gas Engines Using Laser Ignition
 16:00 S. Yamaguchi ¹⁾, E. Takahashi²⁾, H. Furutani²⁾, T. Kawano²⁾, H. Kojima²⁾, O. Shinozaki²⁾, S. Inami³⁾, J. Miyata⁴⁾, M. Iga¹⁾, M. Nishioka¹⁾
¹⁾University of Tsukuba, Japan, ²⁾AIST, Japan, ³⁾Mitsui Engineering & Shipbuilding Co.,Ltd, Japan, ⁴⁾Mitsui Engineering & Shipbuilding Co.,Ltd, Tamano Technology Center, Japan

LIC9-4 Gasoline Engine Performance with Laser-induced Breakdown Ignition under

EGR Condition
16:15 T. Saito ¹⁾, K. Yanagisawa ¹⁾ and H. Furutani ²⁾
¹⁾Meisei University, Japan, ²⁾AIST, Japan

16:30-17:00 Closing Room 302
Closing Remarks

16:30 T. Taira, General Chair of LIC'13, Institute for Molecular Science, Japan

Conference on LED and Its Industrial Application '13

LEDIA '13

Tuesday, April 23

9:30-10:00 Opening Remarks Room 301,302

10:00-11:55 Keynote Lectures Room 301,302
 (See page7)

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions Room 301,302,303
 (See Page7)

----- Break (15:20-15:45) -----

15:45-16:00 Opening Room 411&412
Opening Remarks

15:45 H. Amano, Conference Chair of LEDIA'13
 Nagoya Univ., Japan

16:00-17:45 LED1 :InN, InGaN Room 411&412
Chair: H. Fujioka, The Univ. of Tokyo, Japan

LED1-1 (Invited) Recent Progress on InN and InGaN Growth for Future Optoelectronic Devices

16:00 Y. Nanishi ^{1,2)}, T. Yamaguchi ³⁾, K. Wang ¹⁾, T. Araki ¹⁾, and E. Yoon ²⁾

¹⁾ Ritsumeikan Univ. Japan, ²⁾ Seoul National Univ., Korea, ³⁾ Kogakuin Univ., Japan

LED1-2 (Invited) Impact of Crystal Orientation on InGaN-Based Efficient Visible Light Emitters

16:30 M. Funato and Y. Kawakami
 Kyoto Univ., Japan

Chair: Y. Nanishi, Ritsumeikan Univ. Japan, Seoul National Univ., Korea

LED1-3 Angle-Resolved Analysis of Surface Band Bending in In_xGa_{1-x}N Films by Hard X-ray Photoemission Spectroscopy

17:00 M. Sumiya ^{1,2)}, M. Lozac'h ¹⁾, L. Sang ¹⁾, S. Ueda ¹⁾, S. Liu ³⁾, H. Yoshikawa ¹⁾, B. Shen ³⁾, and X. Wang ³⁾

¹⁾ NIMS, Japan, ²⁾ ALCA, JST, Japan, ³⁾ Peking Univ., China

LED1-4 Growth of Semi-polar InN Layers on GaAs(311)A and (311)B by MOVPE

17:15 H. Murakami, Y. Kumagai, and A. Koukitu
 Tokyo Univ. of Agri. & Tech., Japan

LED1-5 Continuous In-Situ X-ray Reflectance on In_xGa_{1-x}N Single Quantum Well by MOVPE

17:30 G. Ju ¹⁾, Y. Honda ¹⁾, S. Fuchi ¹⁾, M. Tabuchi ¹⁾, Y. Takeda ²⁾, and H. Amano ¹⁾

¹⁾ Nagoya Univ., Japan, ²⁾ Aichi Science and Technology Foundation

----- Conference Reception (18:30-20:30) -----

Wednesday, April 24

9:30-11:30 LED2: InGaN LEDs Room 411&412

Chair: T. Yamaguchi, Program Committee Member, Kogakuin Univ., Japan

LED2-1 (Invited) GaInN-Based Quantum Dot and Its Application to LEDs (tentative)

9:30 D. Hommel

Univ. of Bremen, Germany, EIT +, Poland

LED2-2 (Invited) MOCVD Technology for Deployment of LEDs to Various Applications

10:00 K. Matsumoto ¹⁾, K. Ikenaga ²⁾, G. Piao ¹⁾, H. Tokunaga ²⁾, Y. Yano ²⁾, Y. Yamaoka ²⁾, H. Shimamura ¹⁾, A. Mishima ¹⁾, A. Ubukata ²⁾, T. Satou ²⁾, A. Yamaguchi ²⁾, T. Arimura ²⁾, T. Tabuchi ²⁾, K. Uchiyama ¹⁾

¹⁾ TAIYO NIPPON SANSO EMC Ltd., Japan, ²⁾ TAIYO NIPPON SANSO Corp., Japan

Chair: D. Hommel, Univ. of Bremen, Germany, EIT +, Poland

LED2-3 Strategies to Achieve InGaN LED Displays

10:30 H. Fujioka ^{1,2)}, H.-R. Kim ¹⁾, E. Nakamura ¹⁾, K. Ueno ¹⁾, S. Inoue ¹⁾, J. Ohta ¹⁾, and M. Oshima ^{1,2)}

¹⁾ The Univ. of Tokyo, Japan, ²⁾ CREST, JST, Japan

LED2-4 Direct Evidence of Electron Overflow by Monitoring Emissions from Second Active Region in Nitride-Based Blue LEDs

10:45 K. Hayashi ¹⁾, K. Matsui ¹⁾, T. Morita ¹⁾, T. Suzuki ¹⁾, T. Takeuchi ¹⁾, S. Kamiyama ¹⁾, M. Iwaya ¹⁾, and I. Akasaki ^{1,2)}

¹⁾ Meijo Univ., Japan, ²⁾ Akasaki Research Center, Japan

LED2-5 Reduction of Efficiency Droop in Ultraviolet InGaN Light-Emitting Diode Grown on Freestanding GaN Substrates

11:00 C. H. Chiu ^{1,2)}, P. M. Tu ^{1,2)}, Y. W. Lin ¹⁾, S. C. Huang ¹⁾, C. P. Hsu ¹⁾, H. C. Kuo ²⁾, and C. Y. Chang ²⁾

¹⁾ Advanced Optoelectronic Technology Inc., Taiwan, ²⁾ National Chiao Tung Univ., Taiwan

LED2-6 Nitride-Based p-Side Down LEDs on Tunnel Junction

11:15 T. Morita ¹⁾, M. Kaga ¹⁾, Y. Kuwano ¹⁾, K. Matsui ¹⁾, M. Watanabe ¹⁾, T. Takeuchi ¹⁾, S. Kamiyama ¹⁾, M. Iwaya ¹⁾, and I. Akasaki ^{1,2)}

¹⁾ Meijo Univ., Japan, ²⁾ Akasaki Research Center, Japan

----- Break (11:30-11:45) -----

11:45-12:33 LED3 : Short Presentation for Poster Session

Room 411&412

Chair: H. Murakami, Program Committee Member, Tokyo Univ. of Agri. & Tech., Japan

----- Lunch Break (12:33-14:00) -----

14:00-16:00 LED3 : Poster Session Exhibition Hall D

- LEDp3-1 Study of the Effect of Contact Patterning on the Light Extraction in LEDs**
I. Khmyrova ¹⁾, S.Tomioka ¹⁾, T. Hasegawa ¹⁾, A. Konishi ¹⁾, Ju. Kholopova ²⁾, E. Polushkin ²⁾, A. Kovalchuk ²⁾, V. Zemlyakov ³⁾, and S. Shapoval ²⁾
¹⁾ Univ. of Aizu, Japan, ²⁾ IMT RAS, Russia, ³⁾ R&D Corporation "Istok", Russia
- LEDp3-2 Nonlinear Plasmonic Property of Ag-Nanoparticles/TiO₂ Composite Thin Films Having High Ag Contents**
L. S. Daniel, H. Nagai, N. Yoshida, and M. Sato
Kogakuin Univ., Japan
- LEDp3-3 Improved Performance of Vertical Type Chip 365nm Ultraviolet Light Emitting Diodes Using Carbon Nano Tube Technique**
Y. W. Lin, C. H. Chiu, P. M. Tu, S. C. Huang, and C. P. Hsu
Advanced Optoelectronic Technology Inc., Taiwan
- LEDp3-4 Lift-Off Mechanism in Growing Free-Standing GaN Wafers**
S. Okano, T. Sato, T. Goto, and T. Yao
Tohoku Univ., Japan
- LEDp3-5 Cathodoluminescence Spectra of β -gallium Oxide Thin Film Fabricated by Molecular Precursor Method**
S. Takano ¹⁾, H. Nagai ¹⁾, H. Hara ¹⁾, C. Mochizuki ¹⁾, I. Takano ¹⁾, T. Onuma ²⁾, T. Honda ¹⁾, M. Sato ¹⁾
¹⁾ Kogakuin Univ., Japan, ²⁾ Tokyo National College of Technology, Japan
- LEDp3-6 Effect of Growth Temperature on Crystalline of GaN Layers by Vapor Phase Epitaxy Using Ga₂O as a Ga Source**
Y. Bu ¹⁾, J. Takino ¹⁾, T. Sumi ¹⁾, A. Kitamoto ¹⁾, M. Imade ¹⁾, M. Yoshimura ¹⁾, M. Isemura ²⁾, and Y. Mori ¹⁾
¹⁾ Osaka Univ., Japan, ²⁾ Itochu Plastics Inc., Japan
- LEDp3-7 Selective-Area Growth of GaN on the Patterned AlN on Si Substrates**
T. Mitsunari ¹⁾, K. Nawa ¹⁾, T. Yamada ¹⁾, Y. Honda ¹⁾, M. Yamaguchi ¹⁾, and H. Amano ^{1,2)}
¹⁾ Nagoya Univ., Japan, ²⁾ Akasaki Research Center, Japan
- LEDp3-8 Growth of GaN on α -Ga₂O₃/Sapphire Template by RF-MBE**
T. Hatakeyama, T. Yamaguchi, D. Tajimi, Y. Sugiura, T. Honda
Kogakuin Univ., Japan
- LEDp3-9 Fabrication of Ga-In-O Films by Molecular Precursor Method**
T. Yasuno, T. Oda, H. Nagai, H. Hara, Y. Sugiura, T. Yamaguchi, M. Sato, and T. Honda
Kogakuin Univ., Japan
- LEDp3-10 Surface Modification of GaN Crystals and Its Effects on Optical Properties**
S. Fujioka ¹⁾, R. Amiya ¹⁾, T. Onuma ^{1,2)}, T. Yamaguchi ¹⁾, and T. Honda ¹⁾
¹⁾ Kogakuin Univ., Japan, ²⁾ Tokyo National College of Technology, Japan
- LEDp3-11 Formation of Aluminum Templates Grown on (0001)4H-SiC for the GaN Growth by RF-MBE**

- S. Osawa, D. Tajimi, T. Yamaguchi, T. Honda
Kogakuin Univ., Japan
- LEDp3-12 Observation of GaInN/GaN Superlattice Structures by In Situ X-ray Diffraction Monitoring during Metalorganic Vapor-Phase Epitaxial Growth**
T. Yamamoto ¹⁾, D. Iida ¹⁾, Y. Kondo ¹⁾, M. Sowa ¹⁾, S. Umeda ¹⁾, T. Kato ¹⁾, M. Iwaya ¹⁾, T. Takeuchi ¹⁾, S. Kamiyama ¹⁾, and I. Akasaki ^{1,2)}
¹⁾ Meijo Univ., Japan, ²⁾ Akasaki Research Center, Japan
- LEDp3-13 Surface Treatments of the Seed Substrate for GaN Growth by the Na Flux Method**
M. Honjo, T. Fujimori, H. Takazawa, Y. Todoroki, H. Imabayashi, D. Matsuo, K. Murakami, M. Maruyama, M. Imade, M. Yoshimura, Y. Mori
Osaka Univ., Japan
- LEDp3-14 Influence of the GaN Layer Thickness on the Crystallinity in the Vapor Phase Epitaxy Growth of GaN Using Ga₂O**
T. Sumi ¹⁾, M. Juta ¹⁾, J. Takino ¹⁾, Y. Bu ¹⁾, A. Kitamoto ¹⁾, M. Imade ¹⁾, M. Yoshimura ¹⁾, M. Isemura ²⁾, M. Hata ³⁾, and Y. Mori ¹⁾
¹⁾ Osaka Univ., Japan, ²⁾ Itochu Plastics Inc., Japan, ³⁾ Sumitomo Chemical Co. Ltd., Japan
- LEDp3-15 High-Speed Growth of In- and N-polarity InN Using a Two-Stage Source Generation Hydride Vapor Phase Epitaxy System**
R. Togashi, N. Fujita, R. Imai, H. Murakami, Y. Kumagai, and A. Koukitu
Tokyo Univ. of Agri. & Tech., Japan
- LEDp3-16 High-Speed Growth of InN over 10 μ m/h by a Novel HVPE System**
N. Fujita, R. Imai, H. Saito, R. Togashi, H. Murakami, Y. Kumagai, and A. Koukitu
Tokyo Univ. of Agri. & Tech., Japan

Thursday, April 25

- 9:30-12:00 LED4: GaN, UV Devices** Room 411&412
Chair: Y. Kumagai, Program Committee Chair, Tokyo Univ. of Agri. & Tech., Japan
- LED4-1 Coalescence Growth of GaN Crystals for Fabrication of Large-Diameter GaN Wafers Using the Na Flux Method**
9:30 M. Imanishi, K. Murakami, H. Imabayashi, H. Takazawa, Y. Todoroki, D. Matsuo, M. Maruyama, M. Imade, M. Yoshimura, and Y. Mori
Osaka Univ., Japan
- LED4-2 Improvement of Surface Morphology in (000-1) GaN/Sapphire Grown by Metalorganic Vapor Phase Epitaxy with Indium Surfactant**
9:45 T. Tanikawa ^{1,2)}, T. Aisaka ¹⁾, T. Kimura ^{1,2)}, T. Iwabuchi ¹⁾, K. Shojiku ¹⁾, T. Hanada ^{1,2)}, R. Katayama ^{1,2)}, and T. Matsuoka ^{1,2)}
¹⁾ Tohoku Univ., Japan, ²⁾ CREST, JST, Japan
- LED4-3 Temperature Dependent Cathodo-Luminescence Spectra of β -Ga₂O₃ Crystals**
10:00 T. Onuma ¹⁻³⁾, S. Fujioka ²⁾, T. Yamaguchi ²⁾, M. Higashiwaki ^{3,4)}, K. Sasaki ^{3,5)}, T. Masui ⁶⁾, and T. Honda ²⁾

¹⁾ Tokyo National College of Technology, Japan,
²⁾ Kogakuin Univ., Japan, ³⁾ NICT, Japan, ⁴⁾
 PRESTO, JST, Japan, ⁵⁾ Tamura Corporation,
 Japan, ⁶⁾ Koha Co., Ltd., Japan

LED4-4 Deep-UV Transparent AlN Substrates Prepared by HVPE for UV-C LED Applications

10:15 T. Nukaga ¹⁾, R. Sakamaki ¹⁾, Y. Kubota ²⁾, T. Nagashima ²⁾, T. Kinoshita ²⁾, B. Moody ³⁾, J. Xie ³⁾, H. Murakami ¹⁾, Y. Kumagai ¹⁾, A. Koukitu ¹⁾, and Z. Sitar ^{3,4)}

¹⁾ Tokyo Univ. of Agri. & Tech., Japan, ²⁾ Tokuyama Corporation, Japan, ³⁾ HexaTech Inc., USA, ⁴⁾ North Carolina State Univ., USA

LED4-5 Threshold Power Density Reduction in AlGaIn/AlN Multiquantum Wells DUV (288 nm) Optical Pumped Laser

10:30 T. Yamada ¹⁾, Y. Matsubara ¹⁾, H. Shinzato ¹⁾, K. Takeda ¹⁾, M. Iwaya ¹⁾, T. Takeuchi ¹⁾, S. Kamiyama ¹⁾, I. Akasaki ^{1,2)}, and H. Amano ^{2,3)}

¹⁾ Meijo Univ., Japan, ²⁾ Akasaki Research Center, Japan, ³⁾ Nagoya Univ., Japan

----- Break (10:45-11:00) -----

Chair: T. Honda, Steering Committee Chair, Kogakuin Univ., Japan

LED4-6 (Invited) Transparent Conducting Oxides for GaN-based UV LEDs

11:00 J.-S. Jang
 Yeungnam Univ., Korea

LED4-7 (Invited) Fabrication of DUV-LEDs on AlN Substrates

11:30 T. Kinoshita ^{1,2)}, T. Obata ¹⁾, T. Nagashima ^{1,3)}, H. Yanagi ¹⁾, J. Xie ⁴⁾, R. Collazo ⁵⁾, S. Inoue ^{2,6)}, Y. Kumagai ³⁾, A. Koukitu ³⁾, and Z. Sitar ^{4,5)}

¹⁾ Tokuyama Corporation, Japan, ²⁾ Kobe Univ., Japan, ³⁾ Tokyo Univ. of Agri. & Tech., Japan, ⁴⁾ HexaTech Inc., USA, ⁵⁾ North Carolina State Univ., USA, ⁶⁾ NICT, Japan

12:00-12:10 Closing

Room 411&412

Closing Remarks

International Conference on Sensing Technologies for Biomaterial, Food, and Agriculture '13

SeTBio'13

Tuesday, April 23

9:30-10:00 Opening Remarks

Room 301,302

10:00-11:55 Keynote Lectures

Room 301,302

(See page7)

----- Lunch Break (11:55-13:20) -----

13:20-15:20 Joint Plenary Sessions

Room 301,302,303

(See Page7)

----- Break (15:20-15:40) -----

15:40-15:45 Opening

Room 311+312

Opening Remarks

15:40 N. Kondo, Conference Chair of SeTBio'13
 Professor, Graduate School of Agriculture, Kyoto University, Japan

15:45-18:00 SeTB1 : Light and Plant Factory

Room 311+312

Chair: I. Farkas, Program Committee Member, Szent István University, Hungary (Tentative)

Co-Chair: H. Shimizu, Vice Chair of Program Committee, Kyoto University, Japan (Tentative)

SeTB1-1 (Invited) Advanced Technologies for Plant Factory

15:45 Haruhiko Murase
 Osaka Prefecture University, Japan

SeTB1-2 Development of a Monitoring System Technology Suitable for Production Process Monitoring in Small Scale Protected Horticulture

16:15 Y. Nakanishi, and R. Kudo
 Shikoku Research Institute Inc, Japan

SeTB1-3 Efficient Plant Growth Using Automatic Position-Feedback Laser Light Irradiation

16:30 Y. Kakinoki, Y. Kato, K. Ogawa, A. Nakao, Z. Okai, and T. Katsuyama
 Graduate School of Engineering, University of Fukui, Japan

SeTB1-4 Effect of Photoperiod on Flowering of Cypress Vine (Ipomea quamoclit L.)

16:45 Y. Koike
 Faculty of Agriculture, Tokyo University of Agriculture, Japan

SeTB1-5 (Invited) Current State and Research Trend in Light Environment for Plant Factory

17:00 Hiroshi Shimizu
 Kyoto University, Japan

SeTB1-6 Comparison on Machine Vision System for Sorting Melon Seedling on Grafting Robot

17:30 S.Tian, S. Dong, J. Yang, and T. Li
 Key Laboratory of Protected Horticulture, Shenyang Agricultural University, China

SeTB1-7 Computer Vision Methods for Greenhouse Irrigation Control

17:45 I. Farkas
 Department of Physics and Process Control, Szent István University, Hungary

----- Conference Reception (18:30-20:30) -----

Wednesday, April 24

9:00-11:45 SeTB2: Light and Precision Agriculture

Room 311+312

Chair: S. Shibusawa, Vice Chair of Program Committee, Tokyo University of Agriculture and Technology, Japan (Tentative)

----- Conference Reception (18:30-20:30) -----

SeTB2-1	(Invited) Multi-scale Photonics for Precision Agriculture	Agricultural Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia
9:00	Josse De Baerdemaeker Division of Mechatronics, Biostatistics and Sensors, MeBioS - KU Leuven, Belgium	SeTB2-9
SeTB2-2	Mapping Wetland Cover Types Using Remote Sensing and GIS in Can Gio Mangrove Biosphere Reserve, Vietnam	Fusion of Image and Laser-Scanning Data in a Large-Scale 3D Virtual Environment
9:30	P. Tien Dat ¹⁾ , and K. Yoshino ²⁾ ¹⁾ Center for Agricultural Research and Ecological Studies (CARES), Hanoi University of Agriculture (HUA), Vietnam, ²⁾ Faculty of Engineering, Information and Systems, University of Tsukuba, Ibaraki, Japan	11:30
SeTB2-3	Spectral Imaging Analysis for Silkworm Gender Classification	J.S. Shih, T.T. Lin Dept. of Bio-Industrial Mechatronics Engineering, National Taiwan University, Taiwan
9:45	S. Sumriddetchkajorn ¹⁾ , C. Kamtongdee ²⁾ , and C. Sa-NgiamSak ²⁾ ¹⁾ Intelligent Devices and Systems Research Unit, National Electronics and Computer Technology Center, Thailand, ²⁾ Department of Electrical Engineering, Khon Kaen University, Thailand	----- Lunch Break (11:45-13:15) -----
SeTB2-4	The Potential of Visible-Near Infrared Spectroscopy for Mapping of Multiple Soil Properties Using Real-Time Soil Sensor	<u>13:15-15:00 SeTB2: Light and Precision Agriculture</u>
10:00	B. S. N. Aliah ¹⁾ , M. Kodaira ²⁾ , and S. Shibusawa ²⁾ ¹⁾ United Graduate School of Agricultural Science, Tokyo University of Agriculture and Technology, Japan, ²⁾ Institute of Agriculture, Tokyo University of Agriculture and Technology, Japan	Room 311+312
	----- Break (10:15-10:30) -----	Chair: J. De Baerdemaeker , Division of Mechatronics, Biostatistics and Sensors, MeBioS - KU Leuven, Belgium (Tentative)
	Chair: F. Giametta , University of Molise, Italy (Tentative)	SeTB2-10
SeTB2-5	Vibration Analysis Using a Contactless Acquisition System	(Invited) Precision Agriculture Thanks Optical Technology
10:30	P. Catalano ¹⁾ , F. Fucci ¹⁾ , F. Giametta ¹⁾ , G. La Fianza ¹⁾ , and B. Bianchi ²⁾ ¹⁾ University of Molise, Italy, ²⁾ University of Bari, Italy	13:15
SeTB2-6	Proposal of Optical Farming -Development of Several Optical Sensing Instruments for Agricultural Use-	Sakae Shibusawa Tokyo University of Agriculture and Technology, Japan
10:45	Y. Saito ¹⁾ , and K. Kobayashi ²⁾ ¹⁾ Faculty of Engineering, Shinshu University, Japan, ²⁾ Graduate School of Science and Technology, Shinshu University, Japan	SeTB2-11
SeTB2-7	Monitoring System for Yield Qualities of Paddy	Low Altitude Aerial Remote Sensing and Mobile Ground Measurement
11:00	M. Jahari ¹⁾ , K. Yamamoto ¹⁾ , M. Miyamoto ²⁾ , N. Kondo ¹⁾ , and Y. Ogawa ¹⁾ ¹⁾ Graduate School of Agriculture, Kyoto University, Japan, ²⁾ Yanmar Co., Ltd, Japan	13:45
SeTB2-8	Application of Visible-Shortwave Near Infrared Spectrometer to Predict Sugarcane Quality Based on Different Sample Forms	R. Pudelko, J. Kozyra, and M. B. Walker Department of Agrometeorology and Applied Informatics, Institute of Soil Science and Plant Cultivation, State Research Institute, Poland
11:15	N. M. Nawi ^{1,3)} , G. Chen ^{1,2)} , and T. Jensen ^{1,2)} ¹⁾ Faculty of Engineering and Surveying, University of Southern Queensland, Australia, ²⁾ National Centre for Engineering in Agriculture (NCEA), University of Southern Queensland, Australia, ³⁾ Department of Biological and	SeTB2-12
		Daily Cycle of Spectral Reflectance Characteristics of Different Crops-Case Study of Poland-
		14:00
		J. Kozyra, R. Pudelko, and M. B. Walker Department of Agrometeorology and Applied Informatics, Institute of Soil Science and Plant Cultivation, State Research Institute, Poland
		SeTB2-13
		Effects of Microwave on <i>Spinacia Oleracea</i> Growth — Survey of Germination and Long-Term Exposure —
		14:15
		J. Miyasaka ¹⁾ , H. Iguchi ¹⁾ , R. Yamamoto ¹⁾ , Y. Ogawa ¹⁾ , H. Shimizu ¹⁾ , H. Nakashima ¹⁾ , K. Ohdoi ¹⁾ , N. Shinohara ²⁾ , and T. Mitani ²⁾ ¹⁾ Graduate School of Agriculture, Kyoto University, Japan, ²⁾ Research Institute for Sustainable Humanosphere, Kyoto University, Japan
		<u>14:30-15:00 Sponsor Presentation</u>
		Room 311+312
		SeTB-SP-1
		NEC Corporation, Japan
		14:30
		SeTB-SP-2
		Murata Manufacturing Co., Ltd., Japan
		14:45
		----- Break (15:00-15:15) -----
		<u>15:15-17:00 SeTB3: Light and Bio-sensing</u>
		Room 311+312
		Chair: S. Chen , Program Committee Member, Department of Bio-Industrial Mechatronics Engineering, National Taiwan University, Taiwan (Tentative)
		SeTB3-1
		(Invited) Foodborne Pathogenic Bacteria Identification with Hyperspectral Microscope Imaging
		15:15
		Bosoon Park

- United States Department of Agriculture (USDA), USA
- SeTB3-2 Mobile Device-Based Optical Instruments for Agriculture**
15:45 S. Sumriddetchkajorn
 Intelligent Devices and Systems Research Unit, National Electronics and Computer Technology Center, Thailand
- SeTB3-3 Multiple Leaf Tracking Using Computer Vision Methods with Shape Constraints**
16:00 J. De Vylder ¹⁾, W. Philips ¹⁾, and D. Van Der Straeten ²⁾
¹⁾ Department of Telecommunication and Information Processing, Ghent University, Belgium, ²⁾ Department of Physiology, Ghent University, Belgium
- SeTB3-4 Early Detection of Basal Stem Rot in Oil Palm Plantations Using Gamma-Ray Computed Tomography**
16:15 J. Abdullah ¹⁾, S. Mohd ¹⁾, H. Hassan ¹⁾, M. R. Shari ¹⁾, M. Mustapha ¹⁾, A. A. Mahmood ¹⁾, M. R. Ngah ²⁾, and N. H. Hamid ²⁾
¹⁾ Centre for Computed Tomography and Industrial Imaging (CCTII), Malaysian Nuclear Agency, Malaysia, ²⁾ FELDA Agriculture Services Sdn Bhd, Malaysia
- SeTB3-5 Non-Destructive Prediction of Degreening Rate of Broccoli by Hyperspectral Imaging**
16:30 Y. Makino, Y. Kosaka, A. Hosaka, and S. Oshita
 Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan
- SeTB3-6 Determination of L-Ascorbic Acid (L-AA) in Terahertz Region Using Back Propagation Artificial Neural Networks (BP-ANN) Method**
16:45 D. Suhandy, M. Yulia, S. Widodo, Y. Ogawa, and N. Kondo
 Graduate School of Agriculture, Kyoto University, Japan

Thursday, April 25

9:00-16:00 SeTB3: Light and Bio-sensing

Room 311+312

- Chair: T. T. Lin**, Dept. of Bio-Industrial Mechatronics Engineering, National Taiwan University (Tentative)
- SeTB3-7 (Invited) Monitoring of ATP and/or Viable Cells on Meat Surface by Excitation – Emission Matrix Fluorescence Spectroscopy**
9:00 Seiichi Oshita
 The University of Tokyo, Japan
- SeTB3-8 Estimation of the Dielectric Changes of Detaching Adherent Cells by Terahertz Split-Ring Resonator**
9:30 K. Hattori, K. Shiraga, T. Suzuki, Y. Ogawa, and N. Kondo
 Graduate School of Agriculture, Kyoto University, Japan
- SeTB3-9 Determination of Chlorogenic Acid (CGA) in Different Roast Degree Coffee by Near Infrared (NIR) Spectroscopy**
9:45 J. Shan, T. Suzuki, D. Suhandy, Y. Ogawa, and N. Kondo

- Graduate School of Agriculture, Kyoto University, Japan
- SeTB3-10 Evaluation of the Hydration Effect of Monosaccharides in the Terahertz Region**
10:00 K. Shiraga ¹⁾, Y. Ogawa ¹⁾, N. Kondo ¹⁾, A. Irisawa ²⁾, and M. Imamura ²⁾
¹⁾ Graduate School of Agriculture, Kyoto University, Japan ²⁾ ADVANTEST Corporation, Japan

----- Break (10:15-10:30) -----

Chair: H. Hwang, Program Committee Member, Sungkyunkwan University, Korea (Tentative)

- SeTB3-11 Inspection of Fecal Contamination on Strawberries Using Fluorescence Imaging**
10:30 Y. K. Chuang ¹⁾, S. Chen ¹⁾, C. C. Yang ²⁾, M. S. Kim ²⁾, D. E. Chan ²⁾, S. R. Delwiche ³⁾, and Y. M. Lo ⁴⁾
¹⁾Department of Bio-Industrial Mechatronics Engineering, National Taiwan University, Taiwan, ²⁾USDA-ARS, Beltsville Agricultural Research Center, Environmental Microbial & Food Safety Laboratory, USA, ³⁾USDA-ARS, Beltsville Agricultural Research Center, Food Quality Laboratory USA, ⁴⁾Department of Nutrition and Food Science, University of Maryland, USA
- SeTB3-12 Evaluation of Phalaenopsis Flowering Quality Using Near Infrared Spectroscopy**
10:45 S. Chen ¹⁾, Y.K Chuang ¹⁾, Y.H. Chang ¹⁾, C.C Tai ¹⁾, Y.C. A. Chang ²⁾, J.Y. Hou ²⁾, C.Y Tsai ³⁾, and I.C. Yang ⁴⁾
¹⁾Department of Bio-Industrial Mechatronics Engineering, National Taiwan University, Taiwan, ²⁾Department of Horticulture and Landscape Architecture, National Taiwan University, Taiwan, ³⁾Bioenergy Research Center, National Taiwan University, Taiwan, ⁴⁾Taiwan Agricultural Mechanization Research and Development Center, Taiwan
- SeTB3-13 Attenuated Total Reflection Terahertz Spectra of Raw Milk for Measuring Somatic Cell Count**
11:00 H. Naito ¹⁾, Y. Ogawa ¹⁾, N. Kondo ¹⁾, and A. Kubota ²⁾
¹⁾ Graduate School of Agriculture, Kyoto University, Japan ²⁾ Hokkaido Research Organization Agricultural Research Department, Japan
- SeTB3-14 An Approach for Identification of Vitamin A Deficient Cattle by Pupillary Light Reflex Analysis in Japanese Black Cattle**
11:15 S. Han ¹⁾, N. Kondo ¹⁾, T. Fujiura ¹⁾, Y. Ogawa ¹⁾, S. Tanigawa ¹⁾, M. Fukushima ²⁾, O. Watanabe ²⁾, and N. Kohama ²⁾
¹⁾ Graduate School of Agriculture, Kyoto University, Japan ²⁾ Department of Beef Cattle Production, Hyogo Prefectural Hokubu Agricultural Institute, Japan
- SeTB3-15 Monitoring Chicken Embryo Development by VIS Transmission Spectroscopy**
11:30 Md. H. Islam ¹⁾, N. Kondo ¹⁾, Y. Ogawa ¹⁾, T.

Fujiura ¹⁾, S. Nakajima ¹⁾, S. Fujitani ²⁾, and T. Tahara ²⁾

¹⁾ Graduate School of Agriculture, Kyoto University, Japan ²⁾ NABEL Co. Ltd., Kyoto, Japan

----- Lunch Break (11:45-13:00) -----

Chair: S. Oshita, Vice Chair of Program Committee, The University of Tokyo, Japan (Tentative)

SeTB3-16 Optical Coherence Tomography Biospeckle Imaging for Fast Monitoring Varying Surface Responses of A Plant Leaf Under Ozone Stress

13:00 L. K. T. Simal ¹⁾, H. Kadono ¹⁾, and U. M. Rajagopalan ²⁾

¹⁾ Graduate School of Science and Engineering, Saitama University, Japan, ²⁾ Laboratory for Integrative Neural Systems, RIKEN Brain Science Institute, Japan

SeTB3-17 Glass Beads Counting by Using Metallic Mesh Sensor in Terahertz Region for Pollen Counting Application

13:15 Y. Wang, T. Suzuki, K. Shiraga, K. Hattori, Y. Ogawa, and N. Kondo

Graduate School of Agriculture, Kyoto University, Japan

SeTB3-18 Hyperspectral Spectroscopy for Monitoring Fungal Contamination in Cereal Grains

13:30 U. Siripatrawan ¹⁾, Y. Makino ²⁾, and S. Oshita ²⁾

¹⁾ Department of Food Technology, Faculty of Science, Chulalongkorn University, Thailand, ²⁾ Graduate School of Agricultural and Life Science, The University of Tokyo, Japan

SeTB3-19 In Situ Nondestructive Imaging of Functional Pigments in Micro-Tom Tomato Fruits by Multi Spectral Imaging Based on Wiener Estimation Method

13:45 I. Nishidate ¹⁾, S. Ooe ¹⁾, S. Todoroki ¹⁾, and E. Asamizu ²⁾

¹⁾ Graduate School of Bio-Applications & Systems Engineering (BASE), Tokyo University of Agriculture and Technology, Japan, ²⁾ Graduate School of Life and Environmental Sciences, Gene Research Center, University of Tsukuba, Japan

SeTB3-20 Development of Noncontact Integrated Egg Quality Measurement System

14:00 D.G. Lee ¹⁾, S.H Cho ¹⁾, H. Hwang ¹⁾, and W.B. Yoon ²⁾

¹⁾ Department of Biomechatronics, Sungkyunkwan University, Korea, ²⁾ Department of Food Science and Biotechnology, Kangwon National University, Korea

----- Break (14:15-14:30) -----

Chair: B. Park, Program Committee member, United States Department of Agriculture (USDA), USA (Tentative)

SeTB3-21 Multichannel Microfluidic Chip for Rapid and Reliable Trapping and Imaging Plant-Parasitic Nematodes

14:30 R. Amrit ¹⁾, S. Porntheeraphat ¹⁾, W. Sripumkhai ²⁾, W. Jeamsaksiri ²⁾, N. Tangchitsomkit ³⁾, and B. Sutapun ⁴⁾

¹⁾ Photonics Technology Laboratory, National Electronics and Computer Technology, Thailand,

²⁾ Thai Microelectronic Center, National Electronics and Computer Technology, Thailand,

³⁾ Plant Protection Research and Development Office, Department of Agriculture, Thailand,

⁴⁾ Electronic Engineering Program, School of Telecommunication Engineering, Suranaree University of Technology, Thailand

SeTB3-22 Measuring the Key Shape Features of Onion Bulbs Using 2-D and 3-D Images

14:45 W. Wang, and C. Li

College of Engineering, University of Georgia, USA

SeTB3-23 Detection of Escherichia Coli Deposited on a Filter Using Metallic Mesh Sensor

15:00 T. Suzuki ¹⁾, Y. Ogawa ¹⁾, N. Kondo ¹⁾, T. Kondo ²⁾, and S. Kamba ²⁾

¹⁾ Graduate School of Agriculture, Kyoto University, Japan ²⁾ Murata Manufacturing Company, Japan

SeTB3-24 Apple Ripeness Detection Using Hyperspectral Laser Scatter Imaging

15:15 R. Van Beers, B. Aernouts, J. De Baerdemaeker, and W. Saeys

Division of Mechatronics, Biostatistics and Sensors, MeBioS - KU Leuven, Belgium

SeTB3-25 Spatially Resolved Spectroscopy for Nondestructive Quality Measurements of Braeburn Apples

15:30 N. Nguyen Do Trong ¹⁾, C. Erkinbaev ¹⁾, B. Nicolai ¹⁾, W. Saeys ¹⁾, M. Tsuta ^{1,2)}, and J. De Baerdemaeker ^{1,3)}

¹⁾ Division of Mechatronics, Biostatistics and Sensors, MeBioS - KU Leuven, Belgium, ²⁾ National Food Research Institute, Tsukuba, Ibaraki, Japan, ³⁾ Graduate School of Agriculture, Kyoto University, Japan

SeTB3-26 Broadband Photon Time of Flight Spectrometer for Characterization of Food and Pharmaceutical Products

15:45 D. Khoptyar ¹⁾, A. A. Subash ¹⁾, O. H. A. Nielsen ²⁾, S. Johansson ¹⁾, and S. Andersson-Engels ¹⁾

¹⁾ Department of Physics, Lund University, Sweden, ²⁾ DTU Informatics, Department of Informatics and Mathematical Modeling, Technical University of Denmark, Denmark

16:00-16:05 Closing

Room 311+312

Closing Remarks

16:00 Y. Ogawa, Program Committee Chair of SeTBio'13

Professor, Graduate School of Agriculture, Kyoto University, Japan