

The 12th International Symposium on Laser Precision Microfabrication

LPM2011

June 7–10, 2011

Takamatsu, Kagawa, Japan

<http://www.jlps.gr.jp/lpm/lpm2011/>

Program

updated May 20, 2011

<i>General Chair</i>	Koji Sugioka	<i>RIKEN, Japan</i>
<i>Co-Chair/Program Committee Chair</i>	Hiroyuki Niino	<i>AIST, Japan</i>
<i>Co-Chair</i>	Friedrich Dausinger	<i>Dausinger + Giesen GmbH, Germany</i>
<i>Co-Chair</i>	Alberto Piqué	<i>Naval Research Laboratory, USA</i>
<i>Co-Chair</i>	Kazuyoshi Itoh	<i>Osaka University, Japan</i>
<i>Co-Chair</i>	Seiji Katayama	<i>Osaka University, Japan</i>
<i>Honorary Chair</i>	Isamu Miyamoto	<i>Osaka University, Japan</i>
<i>Steering Committee Chair</i>	Toshihiko Ooie	<i>AIST, Japan</i>

Paper Codes on LPM2011 Symposium Program

Oral Presentations

The **1st & 2nd letters** of the codes indicate the day of the week.

- Tu = Tuesday
- We = Wednesday
- Th = Thursday
- Fr = Friday

The **3rd number** indicates the presentation room.

- 1 = Room 1 (Kagawa International Conference Hall, 6F)
- 2 = Room 2 (Room #61, Sunport Hall Takamatsu, 6F)
- 3 = Room 3 (Room #62, Sunport Hall Takamatsu, 6F)

The **4th letter** indicates the presentation type.

- PL = Plenary
- I = Invited
- O = Oral
- UO = ppt with voice narration

The **last number after hyphen** signals the presentation order of the paper in each room.

For example, Tu1-O-4

[Tuesdayday] [Room 1] — [Oral Presentation] — [4th presentation in Room 1]

Poster Presentations

The **1st & 2nd letters** of the codes indicate the day of the week.

- We = Wednesday
- Th = Thursday

The **3rd letter P and UP** means Poster Presentation and Unmanned Poster Presentation, respectively.

The **last number after hyphen** signals the poster order of the paper of the day.

For example, We-P-1

[Wednesday] — [Poster Presentation] — [the 1st presentation on the day]

Important Notes

The poster presenters are requested to give Short Presentations and to be present in front of their poster during 12:20–14:00 of the indicated day.

Program

Oral Session

Day 1
Tuesday
June 7
10:00

Day 1: June 7

Room 1

Opening

10:00 Opening Remark

Room 1

Plenary Session

Chair: H. Niino

10:10 Tu1-PL-1 **Plenary** *Video Presentation*
Quantum cascade lasers: High performance compact light sources from the mid-infrared to the far-infrared, Federico Capasso¹, ¹*School of Engineering and Applied Sciences, Harvard University, USA*

10:50 Tu1-PL-2 **Plenary** *Video Presentation*
Basics and applications of femtosecond laser interaction with transparent materials, Ingolf Volker Hertel¹, Razvan Stoian², Arkadi Rosenfeld¹, ¹*Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Germany*, ²*Laboratoire Hubert Curien, CNRS UMR 5516, Université de Lyon, Université Jean Monnet, Saint Etienne 42000, France*

11:30 Tu1-PL-3 **Plenary**
Technological trends and laser applications for solar panels, Wataru Shinohara¹, Youichirou Aya¹, Mitsuoki Hishida¹, Akinao Kitahara¹, Haruki Yoneda¹, Akira Terakawa¹, Masahiro Iseki¹, ¹*SANYO Electric Co., Ltd. / Solar Division / Solar Energy Research Center / Advanced Photovoltaic Development Center, Japan*

12:10 Lunch Time

Day 1
Tuesday
June 7
14:10

Session 1.
Direct Writing

Chair: A. Piqué

14:10 Tu1-0-4

On-demand preparation of microdot patterns by laser-induced dot transfer, Aiko Narazaki¹, Ryozi Kurosaki¹, Tadatake Sato¹, Yoshizo Kawaguchi¹, Wataru Watanabe¹, Hiroyuki Niino¹, ¹*National Institute of Advanced Industrial Science and Technology (AIST), Japan*

14:30 Tu1-0-5 **Student**

Printing micro-droplets of silver NP inks using LIFT: Parametric analysis, Michael Zenou^{1,2}, Shoshana Winter¹, Amir Saar², Zvi Kotler¹, ¹*Orbotech Ltd., Israel*, ²*Hebrew University, Racah Institute of Physics, Isarel*

14:50 Tu1-0-6

Wet process of Si film by laser direct writing method, Akira Watanabe¹, ¹*Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan*

15:10 Tu1-0-7 **Student**

Microstructuring of glass materials using hybrid laser processing: Micro-optics and microfluidics, Daniel Nieto García^{1,2}, Gerard M. O'Connor², ¹*University of Santiago de Compostela, Spain*, ²*National Center for Laser Applications, Ireland*

15:30 Tu1-I-8

Invited

Laser micro and nanostructuring of surfaces fabricated by direct laser writing, Philippe Delaporte¹, Anne-Patricia Alloncle¹, Laurent Charmasson¹, David Grojo¹, Ludovic Rapp¹, Marc Sentis¹, ¹*LP3 laboratory – CNRS – Mediterranean University, France*

16:00 Coffee Break

Room 2

Session 3. SP1

Interactions of Liquid and Light: Fundamentals of Laser Induced Cavitation and Jetting

Chair: Alan Hunt

14:20 Tu2-U0-1 **Student** PPT**In situ detection of plasmonic enhanced ultrafast laser-induced pressure wave and cavitation bubble formation in water**, Rémi Lachaine¹, Étienne Boulais¹, Michel Meunier¹, ¹*École Polytechnique de Montréal, Canada*14:35 Tu2-U0-2 **Student** PPT**Modeling plasmonic enhanced laser-induced nanocavitation in water**, Étienne Boulais¹, Rémi Lachaine¹, Michel Meunier¹, ¹*École Polytechnique de Montréal, Canada*14:50 Tu2-I-3 **Invited****Protein crystallization controlled by femtosecond laser-induced cavitation bubbles**, Hiroshi Yoshikawa¹, Ryota Murai^{2,3}, Gen Sasaki⁴, Shigeru Sugiyama^{2,3}, Yoshinori Takahashi^{2,3}, Mihoko Maruyama^{2,3}, Hiroaki Adachi^{2,3,5}, Satoshi Murakami^{3,5,6}, Hiroyoshi Matsumura^{2,3,5}, Tsuyoshi Inoue^{2,3,5}, Kazufumi Takano^{2,3,5}, Yusuke Mori^{2,3,5}, ¹*Department of Chemistry, Saitama University, Japan*, ²*Graduate School of Engineering, Osaka University, Japan*, ³*CREST JST, Japan*, ⁴*Phase Transition Dynamics Group, The Institute of Low Temperature Science, Hokkaido University, Japan*, ⁵*SOSHO Inc., Japan*, ⁶*Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Japan*15:20 Tu2-0-4**Experimental and numerical study of laser-induced jetting behavior**, Craig B. Arnold¹, Matthew S. Brown¹, Yiannis Ventikos², ¹*Department of Mechanical and Aerospace Engineering, Princeton University, USA*, ²*Department of Engineering Science, University of Oxford, UK*15:40 Tu2-0-5**Non-contact estimation of intercellular adhesion using femtosecond laser-induced impulsive force**, Yoichiro Hosokawa¹, Takanori Iino¹, Man Hagiyama², Akihiko Ito³, ¹*Graduate School of Materials Science, Nara Institute of Science and Technology, Japan*, ²*Institute of Medical Science, University of Tokyo, Japan*, ³*Department of Pathology, Faculty of Medicine, Kinki University, Japan*

16:00 Coffee Break

Room 3

Session 5.

Lasers and Systems

Chair: K. Washio

14:20 Tu3-0-1**Femtosecond and picosecond lasers for precision micro-machining**, Yoann Zaouter¹, Martin Delaigue¹, Sandrine Ricaud¹, Franck Morin¹, Clemens Hönniger¹, Eric Mottay, ¹*Amplitude Systemes, France*14:40 Tu3-0-2**Ultrafast, optical parametric chirped-pulse amplification system using a block of transparent material for pulse stretching and compression**, Koichi Yamakawa¹, Yutaka Akahane¹, Kanade Ogawa¹, ¹*Japan Atomic Energy Agency, Japan*15:00 Tu3-0-3**Laser plasma EUV source for processing polymers**, Henryk Fiedorowicz¹, Andrzej Bartnik¹, Roman Jarocki¹, Jerzy Kostecki¹, Anna Szczurek¹, Mirosław Szczurek¹, Przemysław Wachulak¹, ¹*Institute of Optoelectronics, Military University of Technology, Poland*15:20 Tu3-0-4**Laser scanner-stage synchronization method for high speed and wide area fabrication**, Kyunghan Kim¹, Kwangho Yoon¹, Jeong Suh¹, Jaehoon Lee¹, ¹*Korea Institute of Machinery and Materials, South Korea*15:40 Tu3-0-5**Additional beam parameters for laser beam characterization covering edge rise, homogeneity, and symmetry of the beam shape**, Otto Märten¹, Harald Schwede¹, Stefan Wolf¹, Volker Brandl¹, Reinhard Kramer¹, ¹*PRIMES GmbH, Germany*

16:00 Coffee Break

Day 1
Tuesday
June 7
16:30

Session 2.

Micromachining and Modification

Chair: M. Schmidt

16:30 Tu1-U0-9 *Student*PPT

New method for nanosecond laser machining, Cinthya Emma Toro¹, Carlos Lasorsa², Carlos Alberto Rinaldi³, ¹*Dept. of Micro and Nanotechnology, National Commission of Atomic Energy, Argentina*, ²*Universidad Tecnológica Nacional, Facultad Regional Haedo, Buenos Aires, Argentina*, ³*National Council of Scientific and Technical Research, Argentina*

16:45 Tu1-0-10 *Student*

Laser-based fabrication of large-area controllable biomimetic microstructures, Si Zhu Wu¹, Dong Wu¹, Qi Dai Chen¹, Hong Bo Sun¹, ¹*Jilin University, China*, ²*Jilin University, China*, ³*Jilin University, China*, ⁴*Jilin University, China*

17:05 Tu1-0-11 *Student*

Micromachining of polymethylmethacrylate and polydimethylsiloxane using laser plasma soft X-rays, Shuichi Torii¹, Testuya Makimura¹, Kouta Okazaki², Daisuke Nakamura², Akihiko Takahashi³, Tatsuo Okada², Hiroyuki Niino⁴, Kouichi Murakami¹, ¹*Institute of Applied Physics, University of Tsukuba, Japan*, ²*Graduate School of Information Sciences and Electrical Engineering, Kyushu University, Japan*, ³*Department of Health Sciences, School of Medicine, Kyushu University, Japan*, ⁴*Photonics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan*

17:25 Tu1-0-12 *Student*

Dopant activation modelling in implanted silicon under multi-pulsed excimer laser irradiation, Giuseppe Fisicaro^{1,2}, Karim Huet³, Markus Italia², Antonino La Magna², Giovanni Piccitto¹, Vittorio Privitera², Julien Venturini³, ¹*Department of Physics and Astronomy, University of Catania, Italy*, ²*CNR IMM, Z.I VIII Strada 5 I -95121 Catania, Italy*, ³*Excico 13-21 Quai des Gresillons, 92239 Gennevilliers, France*

17:45 Tu1-0-13 *Student*

Self organized nano-cone structures on InP/InGaAs/InGaAsP microstructures irradiated by ArF and KrF excimer lasers, Neng Liu¹, Khalid Moumanis¹, Jan J. Dubowski¹, ¹*Department of Electrical and Computer Engineering, Université de Sherbrooke, Canada*

Room 2

Session 4. SP1

**Interactions of Liquid and Light:
Optofluidic Devices and Bio Applications**

Chair: C. B. Arnold

16:30 Tu2-I-6

Invited

Nanomorphing with ultrafast lasers and biomedical applications, Alan J. Hunt¹,
¹*Biomedical Engineering, University of Michigan, USA*

17:00 Tu2-0-7

Concentration analysis of fluids using optofluidics fabricated by femtosecond laser direct writing, Yasutaka Hanada¹, Koji Sugioka¹, Katsumi Midorikawa¹, ¹*RIKEN-Advanced Science Institute, Japan*

17:20 Tu2-0-8

Student

A bacteria-driven micromotor produced by two-photon microstereolithography, Tomoyuki Sawada¹, Yuichi Hiratsuka², Shoji Maruo¹,
¹*Yokohama National University, Japan*, ²*Japan Advanced Institute of Science and Technology, Japan*

17:40 Tu2-0-9

Femtosecond laser direct writing for three-dimensional micro-optical and microfluidic devices, Dong Wu¹, Qi Dai Chen¹, Si Zhu Wu¹, Hong Bo Sun¹, ¹*Jilin University, China*,
²*Jilin University, China*, ³*Jilin University, China*,
⁴*Jilin University, China*

Room 3

Session 6.

Microwelding and Joining

Chair: W. Pflöging

16:30 Tu3-0-6

Direct joining of copper with polyethylene terephthalate using femtosecond laser pulses, Tomokazu Sano¹, Shogo Iwasaki¹, Yasuyuki Ozeki², Kazuyoshi Itoh², Akio Hirose¹, ¹*Division of Materials and Manufacturing Science, Graduate School of Engineering, Osaka University, Japan*, ²*Division of Advanced Science and Biotechnology, Graduate School of Engineering, Osaka University, Japan*

16:50 Tu3-0-7

In-situ X-ray observation of molten pool's depth during laser micro welding, Tomonori Yamada¹, Takahisa Shobu¹, Yukihiro Yonemoto¹, Susumu Yamashita¹, Akihiko Nishimura¹, Toshiharu Muramatsu¹, ¹*Japan Atomic Energy Agency, Japan*

17:10 Tu3-0-8

Student

Micro-welding of high thermal conductive material aluminum-graphite composite by pulsed Nd:YAG laser, Mohd Idris Shah Ismail¹, Yasuhiro Okamoto¹, Akira Okada¹, Yoshiyuki Uno¹, Muhaizad Mukhtar¹, ¹*Nontraditional Machining Laboratory, Graduate School of Natural Science and Technology, Okayama University, Japan*

17:30 Tu3-0-9

The reduction of postweld shift on butterfly type laser module packaging employing Nd:YAG laser and separated dual clip: Simulation and experiment, Yi-Cheng Hsu¹, Shi-Ping Hong¹, Shang-Chao Hung², ¹*Department of Biomechatronics Engineering, National Pingtung University of Science and Technology, Taiwan*,
²*Department of Information Technology and Communication, Shih Chien University, Taiwan*

17:50 Tu3-0-10

Simulation model of nonlinear absorptivity in internal modification of glass using USPL, Isamu Miyamoto^{1,2}, Kristian Cvecek³, Michael Schmidt^{2,3,4}, ¹*Osaka University, Japan*, ²*Erlangen Graduate School of Advanced Optical Technologies (SAOT), Germany*, ³*Bayerisches Laser Zentrum, Germany*, ⁴*University Erlangen-Nuremberl, Germany*

Day 2
Wednesday
June 8
9:00

Day 2: June 8

Session 7.
Microstructuring I

Chair: F. Dausinger

9:00 We1-U0-1

PPT

Machining performance of laser surface microtextured drilling tools, Milton S. F. Lima¹, Fabricio P. Ladario², Davi Neves¹, Rudimar Riva¹, Anselmo E. Diniz³, ¹*Institute for Advanced Studies, Brazil*, ²*Instituto Tecnológico de Aeronáutica (ITA), Brazil*, ³*Faculdade de Engenharia Mecânica, Universidade Estadual de Campinas (UNICAMP), Brazil*

9:15 We1-0-2 **Student**

Picosecond laser direct patterning of poly(3,4-ethylene dioxythiophene)-poly(styrene sulfonate) (PEDOT-PSS) thin films, Shizhou Xiao¹, Susana Abreu Fernandes¹, Andreas Ostendorf¹, ¹*Laser Application of Technologies, Ruhr University Bochum, Germany*

9:35 We1-0-3

A comparative study of the quantum well intermixing effect in InGaAsP/InGaAs/InP heterostructures induced by irradiation with 248 and 193 nm excimer lasers, Jonathan Genest¹, Romain Béal¹, Neng Liu¹, Khalid Moumanis¹, Vincent Aimez¹, Jan J. Dubowski¹, ¹*Department of Electrical and Computer Engineering, Université de Sherbrooke, Canada*

9:55 We1-0-4

Cutting and thinning vertically aligned carbon nanotube carpets by lateral femtoseconde laser ablation, Pascal Boulanger¹, Olivier Sublemontier¹, Romain Ladret¹, Olivier Gobert¹, Christian Cornaggia¹, Mathieu Pinault, Martine Mayne-l'Hermitte, ¹*Atomic Energy Commission, Francis Perrin Laboratory, France*

10:15 We1-0-5 **Student**

Thin composite optical elements fabricated with laser direct imaging technique, Blaž Kavčič¹, Dušan Babič², Boštjan Podobnik¹, Igor Poberaj², ¹*LPKF Laser & Electronics, Slovenia*, ²*Faculty of Mathematics and Physics, University of Ljubljana, Slovenia*

10:35 We1-0-6

Laser-induced backside wet etching employing green DPSS laser and liquid metallic absorber, Tadataka Sato¹, Yoshizo Kawaguchi¹, Ryozi Kurosaki¹, Aiko Narazaki¹, Wataru Watanabe¹, Hiroyuki Niino¹, ¹*National Institute of Advanced Industrial Science and Technology (AIST), Japan*

10:55 Coffee Break

Poster 1

Chair: Y. Nakata

11:20 Short Presentation 1 for Poster Session 1

Room 1

12:20 Poster Session 1 and Exhibition

Small Hall 2 (5F)

Lunch Time

Room 2

Room 3

Session 10.
Microfabrication for Photonics

Session 13.
Microdrilling

Chair: Y. Bellouard

Chair: S. Katayama

9:00 We2-0-1

UV laser processing and multiphoton absorption processes in optical fibers, Matthieu Lancry¹, Bertrand Poumellec¹, Nathaniel Groothoff², John Canning², ¹University of Paris Sud 11, France, ²Interdisciplinary Photonics Laboratories (iPL), School of Chemistry, University of Sydney, Australia

9:20 We2-0-2 **Student**

Two-photon-induced microfabrication of flexible optical waveguides, Josef Kumpfmüller¹, Klaus Stadlmann², Zhiquan Li¹, Gerhard Schmid³, Juergen Stampfl², Robert Liska¹, ¹Institute of Applied Synthetic Chemistry, Vienna University of Technology, Austria, ²Institute of Material Science and Technology, Vienna University of Technology, Austria, ³Institute of Communications and Radio Frequency Engineering, Vienna University of Technology, Austria

9:40 We2-0-3

System for the fabrication of flexible optical interconnects by two photon polymerization (2PP), Klaus Stadlmann¹, Josef Kumpfmüller², Anne-Laure Calendron³, Robert Copperwhite⁴, Robert Liska², Jürgen Stampfl¹, Aleksandr Ovsianikov, ¹Institute of Material Science and Technology, Vienna University of Technology, Austria, ²Institute of Applied Synthetic Chemistry, Vienna University of Technology, Austria, ³HighQ Laser GmbH Feldgut 9 A-6830 Rankweil, Austria, ⁴Optical Sensors Laboratory (OSL), National Centre for Sensor Research (NCSR), Ireland

10:00 We2-0-4

Fabrication of 3D diffractive photonic crystal collimator by femtosecond direct laser writing in photoresist, Vyngantas Mizeikis¹, Lina Maigyte², Kestutis Staliunas², Saulius Juodkazis³, ¹Division of Global Research Leaders (Research Institute of Electronics), Shizuoka University, Japan, ²Departament de Física i Enginyeria Nuclear, Universitat Politècnica de Catalunya, Spain, ³Centre for Micro-Photonics, Swinburne University of Technology, Australia

10:20 We2-I-5 **Invited**

Harnessing burst trains to control ultrafast laser interactions, Peter R. Herman¹, ¹Dept. Electrical and Computer Engineering, University of Toronto, Canada

10:50 Coffee Break

Poster 1

Chair: Y. Nakata

11:20 Short Presentation 1 for Poster Session 1

Room 1

12:20 Poster Session 1 and Exhibition

Small Hall 2 (5F)

Lunch Time

9:00 We3-I-1 **Invited**

Flexible and precise material processing with femtosecond disk lasers, Steffen Sven Sommer¹, Friedrich Dausinger², ¹Technologiegesellschaft für Strahlwerkzeuge mbH, Germany, ²Dausinger + Giesen GmbH, Germany

9:30 We3-0-2

Modeling of Cu direct laser drilling process, Junichi Okada¹, Yuuji Okamoto¹, Kazumasa Shudo¹, Masafumi Yorozu¹, ¹Sumitomo Heavy Industries, Ltd. Research & Development Center, Japan

9:50 We3-0-3

Impact of laser hole drilling on the fracture strength of metal wrap-through (MWT) solar cells, Kyumin Lee¹, Jong-Keun Lim¹, Sang-Kyun Kim¹, In-Sik Moon¹, Won-jae Lee¹, Eun-Chel Cho¹, ¹Hyundai Electro-Mechanical Research Institute (HEMRI), Hyundai Heavy Industries Co. LTD., South Korea

10:10 We3-0-4

Microdrilling in GFRP sheet using UV solid state laser, Susumu Nakamura¹, ¹Department of Electrical and Electronic Systems Engineering, Nagaoka National College of Technology, Japan

10:30 We3-0-5 **Student**

An accurate ray tracing model for CFD simulation of laser drilling process, Junsu Ahn¹, Suck-Joo Na¹, ¹Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology, Republic of Korea

10:50 Coffee Break

Day 2
Wednesday
June 8
14:10

Session 8.
Microstructuring II

Chair: A. Ostendorf

14:10 We1-0-7

High quality ceramic microfabrication by pulsed fiber laser in different ambients, Minghui Hong^{1,2}, Zhenying Pan², Xiaozhu Xie^{1,3}, ¹*Department of Electrical and Computer Engineering, National University of Singapore, Singapore*, ²*Data Storage Institute, Singapore*, ³*Faculty of Electromechanical Engineering, Guangdong University of Technology, China*

14:30 We1-0-8

Optimisation of laser microprocessing by innovative methods of nanosecond pulselength tuning of disc lasers, Klaus P. Stolberg¹, Susanna Friedel¹, Sven Poggel¹, Tamehide Yamada², ¹*Jenoptik Laser GmbH, Germany*, ²*4666 Ikebe-cho, Tsuzuki-ku, Yokohama, Kanagawa 224-0053, Japan*

14:50 We1-0-9

Selective laser melting: From process fundamentals towards advanced products, Igor Yadroitsev¹, Andrey Gusarov¹, Igor Smurov¹, ¹*Ecole Nationale d'Ingénieurs de Saint-Etienne (ENISE), DIPI Laboratory, France*

15:10 We1-0-10

Femtosecond laser-assisted etching of fluoride crystals, Shigeki Matsuo¹, Kodai Iwasa¹, Takuro Tomita¹, Shuichi Hashimoto¹, ¹*Department of Ecosystem Engineering, The University of Tokushima, Japan*

15:30 We1-I-11 **Invited**

3D structures in battery materials, Wilhelm Pflöging¹, Robert Kohler¹, Michael Bruns¹, Carlos Ziebert¹, Johannes Proell¹, ¹*Karlsruhe Institute of Technology, Germany*

16:00 Coffee Break

Room 2**Room 3**

Session 11. SP2
Laser-Induced Deposition

Chair: B. Huis in 't Veld

14:30 We2-I-6 **Invited**

Characterization of the laser decal transfer process, Scott A. Mathews^{1,2}, Ray Auyeung², Andrew Birnbaum², Heungsoo Kim², Alberto Piqué²,
¹*Materials Science and Technology Division, Code 6364, Naval Research Laboratory, USA*

15:00 We2-0-7

Formation of adhesive metal microstructures inside glass by femtosecond laser direct writing, Jian Xu¹, Szabolcs Beke¹, Koji Sugioka¹, Katsumi Midorikawa¹, ¹*Laser Technology Laboratory, RIKEN – Advanced Science Institute, Japan*

15:20 We2-0-8

High-power excimer lasers for coated conductor upscaling, Ralph Delmdahl¹, Burkhard Fechner¹, ¹*Coherent GmbH, Germany*

15:40 We2-0-9

Synthesis of core/shell nanowires using doped ZnO targets, Daisuke Nakamura¹, Kota Okazaki¹, Akio Kumeda¹, Kazuyuki Toya¹, Kazuki Kubo¹, Koji Tsuta¹, Mitsuhiro Higashihata¹, Tatsuo Okada¹,
¹*Kyushu University, Japan*

16:00 *Coffee Break*

Day 2
Wednesday
June 8
16:30

Session 9.

**Ultrafast Laser Processing:
 Micromachining and Drilling**

Chair: M. H. Hong

16:30 We1-0-12 **Student**

Water-assisted ultrashort laser pulse ablation, Martti Veli Johannes Silvennoinen¹, Jarno Jere, Juhani Kaakkunen¹, Kimmo Päiväsaari¹, Pasi Vahimaa¹, ¹*Department of Physics and Mathematics, University of Eastern Finland, Finland*

16:50 We1-0-13 **Student**

Focus position and polarization effects in ultrafast laser drilling of cemented tungsten carbide, Khai Pham Xuan¹, Rie Tanabe¹, Yoshiro Ito¹, ¹*Department of Mechanical Engineering, Nagaoka University of Technology, Japan*

17:10 We1-0-14

The effect of burst mode on TSV process using a picosecond laser, Dongsig Shin¹, Jeong Suh¹, Yongkwon Cho¹, ¹*Dept. of High Density Energy Beam Processing & System, Korea Institute of Machinery and Materials (KIMM), South Korea*

17:30 We1-0-15

Multi-layer patterning of organic semiconductor thin film layers with ultra short pulsed lasers, Wayne Lewis¹, Tino Petsch², Jens Hänel², Markus Lasch², ¹*Beams Inc., Japan,* ²*3D-Micromac AG, Germany*

17:50 We1-0-16

High power short and ultra short laser pulses for industrial micro machining, Birgit Faisst¹, Simone Russ², Sascha Weiler¹, Severin Massa², Jan Wieduwilt¹, Christof Siebert¹, ¹*TRUMPF Laser- und Systemtechnik GmbH, Germany,* ²*TRUMPF Laser GmbH + Co. KG, Germany*

Room 2

Session 12. SP2
Laser-Induced Deposition

Chair: S. A. Mathews

16:30 We2-I-10 **Invited**

Laser induced forward transfer of functional materials: The European eLIFT Project, Christof Walter Schneider¹, Thomas Lippert¹, Philippe Delaporte², ¹*Paul Scherrer Institut, General Energy Research Department, CH-5232 Villigen PSI, Switzerland*, ²*Laboratoire Lasers, Plasmas et Procédés Photoniques, F-13288 Marseille cedex 9, France*

17:00 We2-0-11

Picosecond laser induced forward transfer of Cu, Bert Huis in 't Veld^{1,2}, G. Oosterhuis², ¹*University of Twente, The Netherlands*, ²*TNO Science and Industry, The Netherlands*

17:20 We2-0-12

Generation of 3-D structures by Laser Origami, Alberto Piqué¹, Scott A. Mathews¹, Andrew Birnbaum¹, Ray Auyeung¹, Nick Charipar¹, Heungsoo Kim¹, Kristin Metkus¹, ¹*Materials Science and Technology Division, Code 6364, Naval Research Laboratory, USA*

Room 3

Session 14.
Biomedical Applications

Chair: Jan J. Dubowski

16:30 We3-0-6

Control of antibody immobilization by laser micro-processing, Yuji Yamachoshi¹, Masato Tanaka¹, Tomonori Nakahara¹, Kaori Abe¹, Masatoshi Kataoka¹, Toshihiko Ooie¹, ¹*AIST, Health Research Institute, Japan*

16:50 We3-0-7

3D photofabrication by femtosecond laser pulses and its applications in biomedicine, Aleksandr Ovsianikov¹, Jan Torgersen¹, Zhiquan Li², Robert Liska², Jürgen Stampfl¹, ¹*Institute of Materials Science and Technology, Vienna University of Technology, Austria*, ²*Institute of Applied Synthetic Chemistry, Vienna University of Technology, Austria*

17:10 We3-0-8 **Student**

Near-net-shape fabrication of three-dimensional bioceramic scaffolds using microstereolithography and ceramic slurry, Takashi Torii¹, Makoto Inada¹, Shoji Maruo¹, ¹*Yokohama National University, Japan*

17:30 We3-I-9 **Invited**

Laser-based micro- and nanofabrication for photonics and biomedicine, Kotaro Obata¹, Boris N. Chichkov¹, ¹*Laser Zentrum Hannover e.V., Nanotechnology Department, Germany*

Day 3
Thursday
June 9
9:00

Session 15.
**Ultrafast Laser Processing:
Internal Micromachining**

Chair: Y. Cheng

9:00 Th1-U0-1

PPT

Multipoint focusing of single ultrafast laser pulses, Cyril Mauclair¹, Alexandre Mermillod-Blondin², Arkadi Rosenfeld², Ingolf V. Hertel², Eric Audouard¹, Isamu Myiamoto³, Razvan Stoian¹, ¹Laboratoire Hubert Curien (UMR 5516 CNRS), Université de Lyon, Université de Saint-Étienne, France, ²Max-Born Institut für Nichtlineare Optik und Kurzzeitspektroskopie, Germany, ³Osaka University, Japan

9:15 Th1-I-2

Invited

The Femtoprint project, Yves Bellouard¹, A. Champion¹, M. Matteucci¹, M. Gevincevicius², C. Corbari², M. Beresna², P. Kazansky², O. Chappuis³, M. Kral³, R. Clavel³, J. -M. Breguet⁴, F. Barrot⁴, Y. Mabillard⁵, S. Bottinelli⁵, M. Hopper⁶, C. Hoenninger⁷, E. Mottay⁷, J. Lopez⁸, ¹Mechanical Engineering Department, Eindhoven University of Technology, The Netherlands, ²Optoelectronics Research Center (ORC), University of Southampton, United Kingdom, ³Ecole Polytechnique Fédérale de Lausanne, Switzerland, ⁴Centre Suisse d'Electronique et Microtechnique (CSEM), Switzerland, ⁵Mecartex, Switzerland, ⁶Quintenz Hybridtechnik, Germany, ⁷Amplitude Systèmes, France, ⁸AlphaNOV, France

9:45 Th1-0-3

Fabrication of microstructure arrays on photosensitive glass by femtosecond laser, P. N. Wan¹, C. W. Cheng², J. S. Chen³, ¹Department of Mechanical Engineering, National Chung Cheng University, Taiwan, R.O.C., ²ITRI South, Industrial Technology Research Institute, Taiwan, R.O.C., ³Department of Mechanical Engineering, National Chung Hsing University, Taiwan, R.O.C.

10:05 Th1-I-4

Invited

Micro-explosions triggered by femtosecond laser pulses: New tool of nano-structuring, Saulius Juodkazis¹, Arturas Vaillonis^{2,3}, Eugene G. Gamaly⁴, Vyantas Mizeikis⁵, Wenge Yang⁶, Andrei Rode⁴, ¹Swinburne University of Technology, Australia, ²Stanford University, USA, ³SLAC National Accelerator Laboratory, USA, ⁴The Australian National University, Australia, ⁵Shizuoka Univ, Japan, ⁶Argonne National Laboratory, USA

10:35 Th1-0-5

The origin of femtosecond laser induced form birefringence in silica glass, Matthieu Lancry¹, Bertrand Poumellec¹, Kevin Cook², John Canning², ¹University of Paris Sud 11, France, ²Interdisciplinary Photonics Laboratories (iPL), School of Chemistry, University of Sydney, Australia

10:55 Coffee Break

Poster 2

Chair: M. Okoshi

11:20 Short Presentation 2 for Poster Session 2

Room 1

12:20 Poster Session 2 and Exhibition

Small Hall 2 (5F)

Lunch Time

Room 2**Room 3**

Session 18.
Scribing and Cutting

Chair: S. H. Cho

9:20 Th2-0-1 **Student**

Scribing of thin-film solar cells with picosecond and femtosecond lasers, Paulius Gecys¹, Gediminas Račiukaitis¹, Anja Wehrmann², Klaus Zimmer², Alexander Braun³, Steffen Ragnow³,
¹*Center for Physical Sciences and Technology, Lithuania*, ²*Leibniz-Institute of Surface Modification, Germany*, ³*Solarion AG, Germany*

9:40 Th2-0-2

Progress in picosecond-laser scribing for CIGS solar cells, Gediminas Račiukaitis¹, Paulius Gecys¹, Simonas Grubinskas¹, Mindaugas Gedvilas¹, Alexander Braun², Steffen Ragnow², ¹*Center for Physical Sciences and Technology, Lithuania*, ²*Solarion AG, Germany*

10:00 Th2-0-3 **Student**

Thermal stress analysis considering frequency in laser scribing of glass, Keisuke Yahata¹, Etsuji Ohmura¹, Seiji Shimizu², Masanao Murakami²,
¹*Osaka University, Japan*, ²*Mitsuboshi Diamond Industrial Co., Ltd., Japan*

10:20 Th2-0-4

Laser grooving with line-shaped femtosecond laser pulses, Satoshi Hasegawa¹, Yoshio Hayasaki¹,
¹*Center for Optical Research and Education (CORE), Utsunomiya University, Japan*

10:40 Th2-0-5

Indirect laser glass cutting using a fiber-laser, Joochan Kim¹, Wonseok Choi¹, Chulku Lee¹, ¹*Seoul National University of Science and Technology, Korea*

11:00 *Coffee Break*

Poster 2

Chair: M. Okoshi

11:20 **Short Presentation 2 for Poster Session 2**

Room 1

12:20 **Poster Session 2 and Exhibition**

Small Hall 2 (5F)

Lunch Time

Day 3
Thursday
June 9
14:00

Session 16.

**Ultrafast Laser Processing:
 Micro and Nano Texturing**

Chair: J. Reif

14:00 Th1-U0-6 **Student** *PPT*

Mechanisms of plasmonic enhanced laser nanoablation of silicon, Alexandre Robitaille¹, Étienne Boulais¹, Michel Meunier¹, ¹École Polytechnique de Montréal, Canada

14:15 Th1-0-7

Formation of fine ripples on surfaces of dielectrics and semiconductors, Ričardas Buivydas¹, Vygantas Mizeikis², Lorenzo Rosa¹, Remigijus Šliupas³, Tadas Kudrius³, Gintas Šlekys³, Saulius Juodkazis¹, ¹Swinburne University of Technology, Australia, ²Shizuoka Univ., Japan, ³Altechna Ltd., Lithuania

14:35 Th1-0-8 **Student**

Femtosecond laser induced nanostructures inside the microholes on soda-lime glass surface, Md. Shamim Ahsan^{1,2}, Man Seop Lee¹, ¹Photonics Application Lab, Korea Advanced Institute of Science and Technology (KAIST), South Korea, ²Electronics and Communication Engineering Discipline, Khulna University, Bangladesh

14:55 Th1-0-9

Flexible microstructuring of thin films using multi-beam interference ablation with ultrashort lasers, Bogdan Voisiat¹, Mindaugas Gedvilas¹, Simonas Indrišiūnas¹, Gediminas Račiukaitis¹, ¹Center for Physical Sciences and Technology, Lithuania

15:15 Th1-0-10

Comparison of picosecond and femtosecond laser ablation for surface engraving of metals and semiconductors, Eric Mottay¹, Martin Delaigue¹, Clemens Hönninger¹, John Lopez^{2,3}, Anne Lidolff², ¹Amplitude Systemes, France, ²Alphanov, France, ³Université Bordeaux 1, France

15:35 Th1-0-11 **Student**

Nano band texturing on azobenzene polymer by nanosecond pulse laser exposure, Jintang Huang^{1,2}, Stefan Beckemper², Si Wu³, Qijin Zhang³, Keyi Wang¹, Arnold Gillner², ¹Department of Precision Machinery and Precision Instrumentation, University of Science and Technology of China, China, ²Fraunhofer Institute for Laser Technology ILT / Chair for Laser Technology LLT, RWTH Aachen, Germany, ³Department of Polymer Science and Engineering, University of Science and Technology of China, China

15:55 Coffee Break

Room 2

Session 19.
Surface Modification

Chair: T. Makimura

14:10 Th2-I-6 **Invited**

Laser decontamination of radioactive nuclides polluted metallic surfaces, Vadim P. Veiko¹, Timofey Yu. Mutin¹, Valentin N. Smirnov¹, Andrey A. Samokhvalov¹, ¹*St. Petersburg State University of Information Technologies, Mechanism and Optics, Russia*

14:40 Th2-0-7

Laser microtexturing with positive features for improvement of surface interaction of components in viscous fluids, Pablo M. Romero Romero¹, Nerea Otero Ramudo¹, Alejandro González Solar¹, Alessandra Scano², ¹*AIMEN – Laser Applications Centre, Spain*, ²*AIN – Asociación de la Industria Navarra, Spain*

15:00 Th2-0-8

Surface texturing with laser micro cladding to improve tribological properties, Nerea Otero Ramudo¹, Pablo M. Romero Romero¹, Alejandro González Solar¹, Alessandra Scano², ¹*AIMEN – Laser Applications Centre, Spain*, ²*AIN – Asociación de la Industria Navarra, Spain*

15:20 Th2-0-9

Laser treatment of ITO and ZnO nanoparticles for the production of thin conducting layers on transparent substrates, Marcus Baum¹, Ilya Alexeev^{1,2}, Michael Schmidt^{1,2}, ¹*Chair of Photonic Technologies, University of Erlangen-Nuremberg, Germany*, ²*Erlangen Graduate School in Advanced Optical Technologies, Germany*

15:40 Th2-0-10 **Student**

Laser-assisted periodic diameter modulation of carbon nanotubes through rapid modulation of temperature, Masoud Mahjouri-Samani¹, Yunshen Zhou¹, Wei Xiong¹, Yongfeng Lu¹, ¹*University of Nebraska-Lincoln, USA*

16:00 Coffee Break

Room 3

Session 21.
Fundamentals and Monitoring

Chair: R. F. Haglund, Jr.

14:20 Th3-0-1

Comprehensive optical monitoring of selective laser melting, Maria Doubenskaia¹, Yuri Chivel¹, Mikhail Pavlov¹, Igor Smurov¹, ¹*Ecole Nationale d'Ingénieurs de Saint-Etienne (ENISE), DIPI Laboratory, France*

14:40 Th3-0-2 **Student**

Dynamics of laser induced under liquid ablation studied by photoelasticity technology, Thao Nguyen¹, Rie Tanabe¹, Yoshiro Ito¹, ¹*Department of Mechanical Engineering, Nagaoka University of Technology, Japan*

15:00 Th3-0-3 **Student**

Observation of femtosecond-laser ablation process by using the soft X-ray laser interferometer, Minoru Yamamoto^{1,2}, Noboru Hasegawa², Kota Terakawa³, Yoshifumi Umeda¹, Takuro Tomita¹, Yoshihiro Ochi², Takeshi Kaihori², Tetsuya Kawachi², Yasuo Minami³, Tohru Suemoto³, ¹*Department of Ecosystem Engineering, The University of Tokushima, Japan*, ²*Quantum Beam Science Directorate, Japan Atomic Energy Agency, Japan*, ³*Institute for Solid State Physics, The University of Tokyo, Japan*

15:20 Th3-0-4 **Student**

Non-thermal energetic ion emission from copper by the ablation with a low fluence femtosecond laser pulse, Yasuhiro Miyasaka^{1,2}, Masaki Hashida^{1,2}, Yoshinobu Ikuta^{1,2}, Kazuto Otani^{1,2}, Shigeki Tokita^{1,2}, Shuji Sakabe^{1,2}, ¹*ARBS, Institute for Chemical Research, Kyoto University, Japan*, ²*Department of Physics, Graduate School of Science, Kyoto University, Japan*

15:40 Th3-0-5

Laser removal mechanisms of metallic droplets, Aude Vetry¹, Christian Grisolia², David Grojo¹, Marc Sentis¹, Philippe Delaporte¹, ¹*LP3 laboratory – CNRS – Mediterranean University, France*, ²*Association Euratom/CEA, IRFM, France*

16:00 Coffee Break

Day 3
Thursday
June 9
16:30

Session 17.
**Ultrafast Laser Processing:
LIPS Formation**

Chair: K. Miyazaki

16:30 Th1-U0-12

PPT

Ultrafast laser-induced periodic-surface structure: Formation mechanisms and applications in laser marking, Jean-Philippe Colombier¹, Florence Garrelie¹, Florent Pigeon¹, Razvan Stoian¹, Mourad Bounhalli¹, Stéphanie Reynaud¹, Nicolas Faure¹, Philippe Brunet², Benjamin Dusser¹, Eric Audouard¹,
¹Université de Lyon, F-69003, Université de Saint-Etienne, Laboratoire Hubert Curien (UMR 5516 CNRS), France,
²Laboratoire de Mécanique de Lille, UMR CNRS 8107, Boulevard Paul Langevin, 59655 Villeneuve d'Ascq Cédex, France

16:45 Th1-0-13

Periodic nano-grating structures produced by femtosecond laser pulses for metals with low- and high-melting points, Masaki Hashida^{1,2}, Yasuhiro Miyasaka^{1,2}, Yoshinobu Ikuta^{1,2}, Kazuto Otani^{1,2}, Shigeki Tokita^{1,2}, Shuji Sakabe^{1,2},
¹Advanced Research Center for Beam Science, Institute for Chemical Research, Kyoto University, Japan, ²Department of Physics, Graduate School of Science, Kyoto University, Japan

17:05 Th1-0-14

Femtosecond laser ablation from silicon and ripples formation: Evolution of surface excitation, Mourad Bounhalli^{1,3}, Marco Muth¹, Olga Varlamova^{1,2}, Juergen Reif^{1,2},
¹Brandenburg. Tech. Univ. BTU Cottbus, Germany, ²JointLab Cottbus, Germany, ³Laboratoire Hubert Curien, Université Jean Monnet, St. Etienne, France

17:20 Th1-0-15

The role of anisotropic excitation in self-organized nanostructure formation upon femtosecond laser ablation, Olga Varlamova^{1,2}, Sergej Varlamov¹, Michael Bestehorn¹, Juergen Reif^{1,2},
¹Brandenburg. Tech. Univ. BTU Cottbus, Germany, ²JointLab Cottbus, Germany

17:45 Th1-0-16 **Student**

Formation of nanostructures on the stainless steel surface by femtosecond laser pulses, Md. Shamim Ahsan^{1,2}, Yeong Gyu Kim¹, Man Seop Lee¹,
¹Photonics Application Lab, Korea Advanced Institute of Science and Technology (KAIST), South Korea, ²Electronics and Communication Engineering Discipline, Khulna University, Bangladesh

Banquet

18:30 from the venue to Banquet on foot

19:00 Banquet

ANA Hotel Clement Takamatsu

Room 2

Session 20. SP3

Nanomaterials and Nanostructures:
3D Nano/Microfabrication

Chair: K. Ueno

16:30 Th2-I-11 **Invited****Recent developments in RAPID**

photolithography, John T. Fourkas¹⁻⁴, Michael P. Stocker¹, Linjie Li¹, Rafael R. Gattass¹, ¹*Department of Chemistry & Biochemistry, University of Maryland, USA*, ²*Institute for Physical Science and Technology, University of Maryland, USA*, ³*Center for Nanophysics and Advanced Materials, University of Maryland, USA*, ⁴*Maryland NanoCenter, University of Maryland, College Park, USA*

17:00 Th2-0-12

Two-photon fabrication of three-dimensional metallic nanostructures for plasmonic metamaterials

, Atsushi Ishikawa¹, Takuo Tanaka^{1,2}, ¹*RIKEN, Metamaterials Laboratory, Japan*, ²*Hokkaido University, Research Inst. for Electronic Science, Japan*

17:20 Th2-0-13

3D microfluidic structures directly fabricated in mesoporous glass by water-assisted femtosecond laser direct writing

, Yang Liao¹, Yong Feng Ju¹, Long Zhang¹, Fei He¹, Ya Cheng¹, Zhi Zhan Xu¹, Koji Sugioka², Katsumi Midorikawa², ¹*State Key Laboratory of High Field Laser Physics, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China*, ²*Laser Technology Laboratory, RIKEN – Advanced Science Institute, Japan*

17:40 Th2-0-14 **Student**

A laser-driven microrotor using total internal reflection illumination, Masaki Ikegame¹, Soichiro Murakami¹, Shoji Maruo¹, ¹*Yokohama National University, Japan*

18:00 Th2-0-15 **Student**

Assembling heterogeneous microstructures using holographic optical tweezers, Reza Ghadiri¹, Cemal Esen¹, Andreas Ostendorf¹, ¹*Ruhr-University Bochum, Institute of Laser Applications Technology, Germany*

Room 3

Session 22.

Advanced Material Synthesis

Chair: V. P. Veiko

16:30 Th3-0-6

Fabrication of SALDI substrate using laser

ablation in liquids, Takeshi Tsuji¹, Masato Yasutomo¹, Masaharu Tsuji¹, Hideya Kawasaki², Tetsu Yonezawa³, Fumitaka Mafune⁴, ¹*Institute of Advanced Materials Chemistry and Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan*, ²*Department of Applied Chemistry, Faculty of Engineering, Kansai University, Japan*, ³*Division of Materials Science and Engineering, Faculty of Engineering, Hokkaido University, Japan*, ⁴*Department of Basic Science, Graduate School of Arts and Sciences, The University of Tokyo, Japan*

16:50 Th3-0-7 **Student**

Laser excitations of precursor molecules by different laser powers in laser-assisted growth of diamond films, Zhiqiang Xie¹, Xiangnan He¹, Wei Hu¹, Yang Gao¹, Thomas Guillemet¹, Jongbok Park¹, Yunshen Zhou¹, Yongfeng Lu¹, ¹*University of Nebraska-Lincoln, USA*

17:10 Th3-0-8 **Student**

Using laser microfabrication to generate conductive polymer/SWNTs nanocomposites, Qingchuan Guo¹, Shizhou Xiao¹, Andreas Aumann¹, Matthias Jaeger¹, M'Barek Chakif¹, Reza Ghadiri¹, Andreas Ostendorf¹, ¹*Ruhr-University Bochum, Department of Laser Applications Technology, Germany*

17:30 Th3-0-9

Laser fabrication of nanocomposites in presence of matrix-coupling agents, Anne Hahn¹, Daniel Bartke^{1,2}, Philipp Wagener¹, Stephan Barcikowski², ¹*Laser Zentrum Hannover e. V., Germany*, ²*Particular GmbH, Germany*

17:50 Th3-I-10 **Invited**

Laser processing and diagnostic explorations of non-equilibrium nanomaterial growth, David B. Geohagan¹, A. A. Puretzky¹, J. D. Readle¹, M. Regmi², J. J. Jackson², C. M. Rouleau¹, N. Thonard¹, G. Eres², M. Yoon², K. Xiao¹, G. J. M. Duscher^{2,3}, M. F. Chisholm², K. L. More², ¹*Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, USA*, ²*Materials Science and Technology Division, Oak Ridge National Laboratory, USA*, ³*Materials Science and Engineering Dept., Univeristy of Tennessee, USA*

Banquet

18:30 from the venue to Banquet on foot

19:00 Banquet

ANA Hotel Clement Takamatsu

Day 4
Friday
June 10
9:00

Session 23.

**Ultrafast Laser Processing:
Creation of New Functions**

Chair: Y. F. Lu

9:00 Fr1-0-1 *Student*

Quenching non-equilibrium high-pressure phases of Si using femtosecond laser-driven ultrashort shock, Masashi Tsujino¹, Tomokazu Sano¹, Norimasa Ozaki¹, Osami Sakata², Kazuto Arakawa³, Masayuki Okoshi⁴, Narumi Inoue⁴, Hirotarō F. Mori³, Kojiro F. Kobayashi⁵, Ryosuke Kodama¹, Akio Hirose¹, ¹*Graduate School of Engineering, Osaka University, Japan*, ²*Japan Synchrotron Radiation Research Institute / SPring-8, Japan*, ³*Research Center for Ultra-High Voltage Electron Microscopy, Osaka University, Japan*, ⁴*Department of Electrical and Electronic Engineering, National Defense Academy, Japan*, ⁵*The Wakasa Wan Energy Research Center, Japan*

9:20 Fr1-0-2 *Student*

Variation of electric resistance of functional ceramics by shortpulse and CW laser irradiation, Togo Shinonaga¹, Masahiro Tsukamoto², Masataka Takahashi³, Masayuki Fujita⁴, Nobuyuki Abe², ¹*Graduate School of Engineering, Osaka University, Osaka, Japan*, ²*Joining and Welding Research Institute, Osaka University, Osaka, Japan*, ³*Osaka Municipal Technical Research Institute, Osaka, Japan*, ⁴*Institute for Laser Technology, Osaka, Japan*

9:40 Fr1-0-3

Magnetic and optical properties of Fe³⁺-doped transparent glasses irradiated with femtosecond laser, Seisuke Nakashima¹, Koji Sugioka¹, Katsumi Midorikawa¹, ¹*Riken – Advanced Science Institute, Japan*

10:00 Fr1-0-4

Femtosecond laser activation of photoluminescence in the bulk of Bi-doped glasses, Vitali Kononenko¹, Vladimir Pashinin¹, Boris Galagan¹, Sergey Sverchkov¹, Boris Denker¹, Vitali Konov¹, Evgeniy Dianov², ¹*General Physics Institute, Russia*, ²*Fiber Optics Research Center at General Physics Institute, Russia*

10:20 Fr1-0-5

Laser micro-machining of hydrophobic-hydrophilic patterns for fluid driven self-alignment in micro-assembly, G. R. B. E. Römer¹, M. M. J. Jorritsma¹, A.J. Huis in 't Veld², ¹*University of Twente, Faculty of Engineering Technology, Chair of Applied Laser Technology, The Netherlands*, ²*University of Twente, Faculty of Engineering Technology, Chair of Applied Laser Technology and TNO Science & Industry, Department Materials Technology, The Netherlands*

10:40 Coffee Break

Room 2

Session 25. SP3
**Nanomaterials and Nanostructures:
 Nanophotonics and Plasmonics**

Chair: John T. Fourkas

9:20 Fr2-I-1 **Invited**

Nanophotonic etching of glass substrate for Å-scale surface roughness, Takashi Yatsui¹, Wataru Nomura¹, Motoichi Ohtsu¹, ¹*The University of Tokyo, Japan*

9:50 Fr2-0-2 **Student**

Application of Gaussian optical tweezers for ultrafast laser assisted direct-write nanostructuring, Ulf Quentin^{1,2}, Karl-Heinz Leitz^{1,2}, Ilya Alexeev^{1,2}, Michael Schmidt^{1,2}, ¹*Chair of Photonic Technologies, University of Erlangen-Nuremberg, Germany*, ²*Erlangen Graduate School in Advanced Optical Technologies, Germany*

10:10 Fr2-0-3 **Student**

Nano porous processing of polymer films based on resonant excitation of localized surface plasmon of Au nanoparticles, Keita Muraoka¹, Tatsuya Shoji, Noboru Kitamura, Yasuyuki Tsuboi, ¹*School of Science, Hokkaido Univ., Japan*

10:30 *Coffee Break*

Room 3

Session 27.
Fundamentals and Photochemistry

Chair: Y. Ito

9:00 Fr3-0-1

Measurement of light-induced refractive index change in photopolymer with digital holographic microscopy, Wataru Watanabe¹, Hidenobu Arimoto¹, Kazuyoshi Masaki², Takashi Fukuda¹, ¹*Photonics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan*, ²*Nippon Steel Chemical Co. Ltd., Japan*

9:20 Fr3-0-2

Electronic coupling of silicon nanocrystals with engineered surface by nanosecond laser processing in liquid media, Vladimir Švrček¹, Davide Mariotti², Michio Kondo¹, ¹*National Institute of Advanced Industrial Science and Technology (AIST), Japan*, ²*Nanotechnology & Advanced Materials Research Institute, University of Ulster, UK*

9:40 Fr3-0-3 **Student**

Lasing and motion of zinc oxide nano-crystals by ultraviolet laser irradiation, Kota Okazaki¹, Daisuke Nakamura¹, Mitsuhiro Higashihata¹, Tatsuo Okada¹, ¹*Graduate School of Information Science and Electrical Engineering, Kyushu University, Japan*

10:00 Fr3-0-4

Interaction of nanosecond pulse laser with colloidal nanoparticles, Alexander Pyatenko¹, Hongqiang Wang¹, Naoto Koshizaki¹, ¹*AIST, Japan*

10:20 Fr3-0-5

Photoluminescence dynamics in exciton-plasmon coupling observed in a novel multilayer heterostructure, Richard F. Haglund^{1,2}, Benjamin J. Lawrie², Richard Mu³, Kyeong Won Kim⁴, David P. Norton⁴, ¹*Vanderbilt University, Department of Physics and Astronomy, USA*, ²*Vanderbilt University, Interdisciplinary Graduate Program in Materials Science, USA*, ³*Fisk University, Department of Physics, USA*, ⁴*University of Florida, Department of Materials Science and Engineering, USA*

10:40 *Coffee Break*

**Day 4
Friday
June 10
11:00**

Session 24.

**Ultrafast Laser Processing:
Advanced Processing**

Chair: S. Juodkazis

11:00 Fr1-0-6

Generation of sharp and periodic structure by interfering femtosecond laser processing, Yoshiki Nakata¹, Kazuma Momoo¹, Noriaki Miyanaga¹, Takuya Hiromoto², ¹*Institute of Laser Engineering, Osaka Univ., Japan,* ²*Furukawa Electric, Japan*

11:20 Fr1-0-7

Ultra-fast writing of self-organized bubble networks using femtosecond laser exposure in the cumulative regime, Yves Bellouard¹, Max-Olivier Hongler², ¹*Eindhoven University of Technology (TU/e), Netherlands,* ²*Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland*

11:40 Fr1-I-8

Invited

Fs laser cleaning using filamentation, Sung-Hak Cho¹, Jung-Kyu Park¹, Jae-Yong Yu¹, Won-Seok Chang¹, Jae-Goo Kim¹, Ji-Yeon Choi¹, Kyung-Hyun Whang¹, ¹*Nano Machining Lab. KIMM (Korea Institute of Machinery and Materials), Korea*

12:10 Lunch Time

Room 2

Session 26. SP3

Nanomaterials and Nanostructures:
Synthesis of Nanomaterials

Chair: S. Maruo

11:00 Fr2-U0-4 **Student** *PPT*

New method for micro and nanoparticles fabrication, Cinthyia Emma Toro¹, Carlos Alberto Rinaldi², Edgardo Domingo Cabanillas³, ¹*Dept. of Micro and Nanotechnology, National Commission of Atomic Energy, Argentina*, ²*National Council of Scientific and Technical Research, Argentina*, ³*CONICET and Dept. of Nuclear Combustible, CNEA, Buenos Aires, Argentina*

11:15 Fr2-0-5

Carbon-assisted fabrication of sub micrometer spheres for low optical absorbance materials by laser selective heating in liquid, Xiangyou Li¹, Hongqiang Wang¹, Alexander Pyatenko¹, Naoto Koshizaki¹, ¹*National Institute of Advanced Industrial Science and Technology (AIST), Japan*

11:35 Fr2-0-6

Fabrication of submicrometer spherical particles by pulsed laser melting in liquid under low fluence conditions, Naoto Koshizaki¹, Hongqiang Wang¹, Yoshie Ishikawa², ¹*National Institute of Advanced Industrial Science and Technology (AIST), Japan*, ²*Kagawa University, Japan*

11:55 Fr2-0-7 **Student**

Femtosecond laser-induced size reduction of aqueous gold nanoparticles: In situ- and pump-probe spectroscopy investigation to reveal Coulomb explosion, Daniel Werner¹, Akihiro Furube², Shuichi Hashimoto¹, ¹*Department of Ecosystem Engineering, The University of Tokushima, Japan*, ²*National Institute of Advanced Industrial Science and Technology (AIST), Japan*, ³*Department of Ecosystem Engineering, The University of Tokushima, Japan*

12:15 Lunch Time

Room 3

Session 28.

Glass Welding

Chair: W. Watanabe

11:00 Fr3-0-6

Efficient microwelding of glass by double pulse irradiation of ultrafast laser beam, Koji Sugioka¹, Makoto Iida¹, Hiroshi Takai², Katsumi Midorikawa¹, ¹*RIKEN - ASI, Japan*, ²*Tokyo Denki University, Japan*

11:20 Fr3-0-7

Shear measurements of joining seams in glass welded by ultra-fast lasers depending on focus height, Kristian Cvecek¹, Isamu Miyamoto², Matthias Rascher¹, Thomas Frick¹, Michael Schmidt³, ¹*Bayerisches Laserzentrum, Germany*, ²*Osaka University, Japan*, ³*Chair of Photonics Technologies, University Erlangen-Nuremberg, Germany*

11:40 Fr3-0-8

Fusion welding characteristics of FOTURAN glass using ultrashort laser pulses, Isamu Miyamoto^{1,2}, Kristian Cvecek³, Yashuhiro Okamoto⁴, Michael Schmidt^{2,3,5}, Henry Helvajian⁶, ¹*Osaka University, Japan*, ²*Erlangen Graduate School of Advanced Optical Technologies (SAOT), Germany*, ³*Bayerisches Laser Zentrum, Germany*, ⁴*Okayama University, Japan*, ⁵*University Erlangen-Nuremberg, Germany*, ⁶*The Aero Space Corporation, US*

12:00 Fr3-0-9 **Student**

Energy-dependence of temperature dynamics in femtosecond laser microprocessing investigated by time-resolved micro-Raman spectroscopy, Tomoki Yoshino¹, Masato Matsumoto¹, Yasuyuki Ozeki¹, Kazuyoshi Itoh¹, ¹*Graduate School of Engineering, Osaka University, Japan*

12:20 Lunch Time

Room 1

Session 29.
Industrial Applications

Chair: K. Itoh

14:00 Fr1-I-9 **Invited**

Technology innovation of thin film transistors (TFTs) by laser crystallization processing,
Yoshitaka Yamamoto, ¹*Sharp Corporation*

14:30 Fr1-I-10 **Invited**

Stealth dicing technology and the trend, Junji Okuma¹, ¹*Hamamatsu Photonics K.K., Japan*

Room 1

Closing

15:00 Outstanding Awards

Closing Remark

15:30 close

**Day 4
Friday
June 10
14:00**

Day 4: June 10

Poster Session

Poster 1

Wednesday, June 8

11:20 Short Presentation 1 for Poster Session 1 Room 1

12:20 Poster Session 1 and Exhibition Small Hall 2 (5F)

Fundamentals and Photochemistry

We-P-1

Plasma emission from glass/liquid interface for real-time monitoring of LIBWE process, Ji-Yen Cheng^{1,2,3}, Seyedehmansoureh Zarei Mousavi^{1,4,5}, Chun-Ying Wu^{1,2}, Hsieh-Fu Tsai^{1,3}, ¹Research Center for Applied Sciences, Academia Sinica Taiwan, Taiwan, ²Department of Mechanical and Mechatronic Engineering, National Taiwan Ocean University, Taiwan, ³Institute of Biophotonics, National Yang-Ming University, Taiwan, ⁴Department of Chemistry, National Taiwan University, Taiwan, ⁵Nano Science and Technology Program, Taiwan International Graduate Program, Academia Sinica Taiwan, Taiwan

We-P-2

Decrease in minority carrier lifetime caused by rapid laser heating, Toshiyuki Sameshima¹, Wataru Kato¹, Yasu Kanda¹, Shinya Yoshidomi¹, Masahiko Hasumi¹, Naoki Sano², ¹Tokyo University of Agriculture and Technology, Japan, ²Aurea Works Corporation, Japan

We-P-3

Laser induced formation of buried void layer in silicon, Toshiyuki Sameshima¹, Yasu Kanda¹, Masahiko Hasumi¹, Junichi Tatemichi², Yutaka Inouchi², Masao Naito², ¹Tokyo University of Agriculture and Technology, Japan, ²Nissin Ion Equipment Co.,Ltd, Japan

We-P-4 *Student*

Surface modification of silicone-coated polycarbonate by F₂ laser for lightweight window, Yoshihiko Nojima^{1,2}, Masayuki Okoshi¹, Hidetoshi Nojiri², Narumi Inoue¹, ¹National Defense Academy, Japan, ²RENIAS Co.,Ltd., Japan

We-UP-5 *Student*

No Attendant

Detecting plasma produced by laser in a micromachining system as in-process control, Cinthya Emma Toro¹, Carlos Lasorsa², Carlos Alberto Rinaldi³, ¹Dept. of Micro and Nanotechnology, National Commission of Atomic Energy, Argentina, ²Universidad Tecnológica Nacional, Facultad Regional Haedo, Buenos Aires, Argentina, ³National Council of Scientific and Technical Research, Argentina

Direct Writing

We-P-6

Driving cholesteric liquid crystal display by pulsed laser, Hsuan-Kai Lin¹, Heng-Yin Chen¹, Chao-Chiun Liang¹, Ju-Yuen Su¹, Da-Long Cheng², Yu-Chen Chang³, ¹Industrial Technology Research Institute, Taiwan, ²Department of Computer and Communication, SHU-TE University, Taiwan, ³Department of Materials and Optoelectronic Science; Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University, Taiwan

We-P-7

Reversible writing of photorefractive structures in lithium niobate by laser lithography, Vygantas Mizeikis¹, Vytautas Purlys², Domas Paipulas², Saulius Juodkazis³, ¹Division of Global Research Leaders (Research Institute of Electronics), Shizuoka University, Japan, ²Laser Research Center, Department of Quantum Electronics, Vilnius University, Lithuania, ³Centre for Micro-Photonics, Swinburne University of Technology, Australia

We-P-8

Study on the mechanism of creating electroless plating seed on polymer by laser, Byoung Man Paik¹, Jae Hoon Lee¹, Dong Sig Shin¹, Kun Sang Lee², ¹*Korea Institute of Machinery & Materials, Korea*, ²*Kookmin University, Korea*

We-P-9

Laser induced graphite oxide/graphene transformation, Romualdas Trusovas¹, Gediminas Račiukaitis¹, Jurgis Barkauskas², Regina Mazeikiene³, ¹*Center for Physical Sciences and Technology, Lithuania*, ²*Faculty of Chemistry, Vilnius University, Lithuania*, ³*Institute of Chemistry, Center for Physical Sciences and Technology, Lithuania*

We-P-10

Position restricted growth of carbon nanotube and carbon nanofiber with laser processed catalytic metal by thermal decomposition in ethanol, Satoshi Kurumi¹, Daisuke Miura¹, Hiroaki Iwato¹, Kazuhiro Namiki¹, Kaoru Suzuki¹, ¹*Nihon University, Japan*

Ultrafast Laser Processing

We-P-11

Comparison between plasma properties and damage thresholds in doped silica exposed to IR femtosecond laser, Matthieu Lancry¹, Bertrand Poumellec¹, Stéphane Guizard², Nikita Fedorov², ¹*University of Paris Sud 11, France*, ²*Laboratoire des Solides Irradiés/CEA IRAMIS, Ecole Polytechnique, Palaiseau, France*

We-P-12 *Student*

Grain size dependence of surface hardness in femtosecond laser-peened steels, Miho Tsuyama¹, Satoshi Yamatani¹, Shota Fujii¹, Toshiya Shibayanagi², Masahiro Tsukamoto², Nobuyuki Abe², Hitoshi Nakano¹, ¹*Program in Electronic Engineering, Interdisciplinary Graduate School of Science and Engineering, Kinki University, Japan*, ²*Joining and Welding Research Institute, Osaka University, Japan*

We-P-13 *Student*

Electrical conduction properties of SiC modified by femtosecond laser, Takuto Ito¹, Manato Deki¹, Takuro Tomita¹, Shigeki Matsuo¹, Shuichi Hashimoto¹, Takahiro Kitada², Toshiro Isu², Shinobu Onoda³, Takeshi Ohshima³, ¹*Department of Ecosystem Engineering, The University of Tokushima, Japan*, ²*Center of Frontier Research of Engineering, The University of Tokushima, Japan*, ³*Japan Atomic Energy Agency, Japan*

We-P-14 *Student*

Exact evaluation of joint force in ultrafast microwelding without the influence of contacting area, Yuto Oki¹, Yasuyuki Ozeki¹, Kazuyoshi Itoh¹, ¹*Department of Material and Life Science, Graduate School of Engineering, Osaka University, Japan*

We-P-15 *Student*

Time-resolved quantitative observation of phenomena induced by tightly-focused femtosecond laser pulse in glass, Keisuke Iwata¹, Akihiro Takita¹, Yoshio Hayasaki¹, ¹*Center for Optical Science and Education (CORE), Utsunomiya University, Japan*

We-P-16

Fabrication of nanostructures on SKD11 metal by femtosecond laser, C. Y. Lin¹, K. P. Chang¹, P. H. Wu¹, C. W. Cheng¹, S. M. Huang², ¹*ITRI South, Industrial Technology Research Institute, Taiwan, R.O.C.*, ²*Central Mint, Taiwan, R.O.C.*

We-P-17

Development of structural health monitoring sensors by optical fiber Bragg grating, Yukihiro Shimada¹, Akihiko Nishimura¹, ¹*Applied Laser Technology Institute at Tsuruga Head Office, Japan Atomic Energy Agency, Japan*

We-P-18 *Student*

Fabrication of micro-fluidic channel and waveguide in fused silica using femtosecond laser, Dae-Young Lee¹, A-Young Moon¹, Woon-Young Lee¹, Ki-Soo Lim¹, ¹*Chungbuk National University, R. O. Korea*

We-P-19 *Student*

Surface control of transparent materials for hydrophobicity using femtosecond laser micro-fabrication, Woon-Young Lee¹, Dae-Young Lee¹, A-Young Moon¹, Ki-Soo Lim¹, ¹*Chungbuk National University, R. O. Korea*

We-P-20

Nanostructuring of silicon surface with femtosecond-laser-induced near-field, Godai Miyaji¹, Kaifeng Zhang¹, Junji Fujita¹, Kenzo Miyazaki¹, ¹*Kyoto University, Institute of Advanced Energy, Japan*

We-P-21

Non-linear absorption of 1.3 μm wavelength femtosecond laser pulses focused inside semiconductors: FDTD-TTM joint computational study, Ilya Bogatyrev¹, David Grojo¹, Tatiana Itina², Philippe Delaporte¹, Marc Sentis¹, Wladimir Marin³, ¹*Lasers, Plasmas et Procédés Photoniques UMR 6182 CNRS, France*, ²*Laboratoire Hubert Curien UMR 5516 CNRS, France*, ³*Centre Interdisciplinaire de Nanoscience de Marseille, France*

We-P-22

Fabrication of diffractive optical elements in polymers by 400-nm femtosecond laser pulses, Wataru Watanabe¹, Katsumi Matsuda², Satoshi Hirono², Hiroyuki Mochizuki¹, ¹*Photonics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan*, ²*Production Method Development Group, Omron Corporation, Japan*

We-P-23

Writing speed dependency of femtosecond laser refractive index modification in poly(dimethylsiloxane), Wataru Watanabe¹, Katsumi Matsuda², Satoshi Hirono², Hiroyuki Mochizuki¹, ¹*Photonics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan*, ²*Production Method Development Group, Omron Corporation, Japan*

We-P-24

Femtosecond laser-driven shock hardening of aluminum, Tomokazu Sano^{1,2}, Yutaro Isshiki¹, Tomo Ogura¹, Masayuki Okoshi³, Narumi Inoue³, Kojiro F. Kobayashi⁴, Akio Hirose¹, ¹*Division of Materials and Manufacturing Science, Graduate School of Engineering, Osaka University, Japan*, ²*JST, CREST, Japan*, ³*National Defense Academy of Japan, Japan*, ⁴*The Wakasa Wan Energy Research Center, Japan*

We-P-25 *Student*

Hardening of iron using femtosecond and sub-nanosecond laser pulses, Tomoki Matsuda¹, Tomokazu Sano^{1,2}, Tomo Ogura¹, Kojiro F Kobayashi³, Akio Hirose¹, ¹*Division of Materials and Manufacturing Science, Graduate School of Engineering, Osaka University, Japan*, ²*JST, CREST, Japan*, ³*The Wakasa Wan Energy Research Center, Japan*

Advanced Laser Processing

We-P-26

Numerical simulation of the melt pool character in high power fiber laser welding, Ruihua Zhang¹, Zhipen Cai¹, Jiluan Pan¹, Seiji Katayama², Yan Zhang³, Fang Zhao³, Xiao Wang³, ¹*Tsinghua University, China*, ²*Joining and Welding Research Institute, Osaka University, Japan*, ³*China Iron & Steel Research Institute Group, China*

We-P-27

High-power fibre laser cleaning for green shipbuilding, Guoxin Chen¹, Tiao Joo Kwee¹, Kim Pong Tan¹, Yoo Sang Choo², Minghui Hong², ¹*Centre of Innovation (Marine & Offshore Technology), Ngee Ann Polytechnic, Singapore*, ²*Faculty of Engineering, National University of Singapore, Singapore*

We-P-28

Surface modifications of metals induced by soft X-ray laser pulse irradiations, Masahiko Ishino¹, Anatoly Faenov¹, Momoko Tanaka¹, Noboru Hasegawa¹, Masaharu Nishikino¹, Satoshi Tamotsu², Tatiana Pikuz¹, Toshiyuki Ohba¹, Takeshi Kaihori¹, Tetsuya Kawachi¹, ¹*Quantum Beam Directorate, Japan Atomic Energy Agency, Japan*, ²*Graduate School of Humanities and Science, Nara Women's University, Japan*

We-P-29

Laser joining of plastic and different plastic with elastomer sheet, Yutaka Mitooka¹, Makoto Hino¹, Teruto Kanadani², ¹*Industrial Technology Research Institute of Okayama Prefectural Government, Japan*, ²*Okayama University of Science, Japan*

We-P-30

Application of photo-stimulated desorption and decomposition process induced by VUV radiations to surface analysis, Masahito Katto¹, Masanori Kaku², Shoichi Kubodera², Atsushi Yokotani², Nobuyoshi Miyabayashi³, Wataru Sasaki⁴, ¹*CRCC and Photon Science Project, University of Miyazaki, Japan*, ²*Dept. of EEE and Photon Science Project, University of Miyazaki, Japan*, ³*ESCO, Ltd, Japan*, ⁴*NTP, Inc., Japan*

We-P-31 *Student*

Preparation of size-controlled nanoparticles with narrow size distribution by thin film laser ablation in water, Motishi Fukudome¹, Naoya Fujimoto², Hiroshi Ikenoue^{1,2},
¹*Advance course of Mechanical and Electrical Engineering, Kochi National College of Technology, Japan*, ²*Department of Electrical Engineering, Kochi National College of Technology, Japan*

Poster 2

Thursday, June 9

11:20 Short Presentation 2 for Poster Session 2 Room 1

12:20 Poster Session 2 and Exhibition Small Hall 2 (5F)

Micro-patterning and Micro-machining

Th-P-1 *Student*

UV laser drilling of glassy carbon die for microneedle array, Wataru Okazaki¹, Yoshikazu Yoshida^{1,2}, Takashi Uchida², ¹*Graduate school of Engineering, Toyo University, Japan*, ²*Bio-Nano Electronics Research Centre, Toyo University, Japan*

Th-P-2 *Student*

Laser cutting of flexible printed circuit boards in liquid, Teakgu Kim¹, Wooram Lee¹, Chulku Lee¹, Joochan Kim¹, ¹*Seoul National University of Science and Technology, Korea*

Th-P-3

Laser micromachining in Mg-Cu-Gd bulk metallic glass by pulsed lasers, Hsuan-Kai Lin¹, Ching-Jen Lee², Ting-Ting Hu², Chun-Han Li¹, Chih-Ching Jacob Huang²,
¹*Industrial Technology Research Institute, Taiwan*, ²*Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Taiwan*

Th-P-4 *Student*

The effect of a laser beam wavelength on micro grooving of aluminum nitride, Tatsuhiko Mori¹, Takuhito Otofujii¹, Shinri Nonaka¹, Yasuyuki Takata¹, Masamichi Kohno¹,
¹*Kyushu University, Japan*

Th-P-5

Laser drilling of Ni film on silicon for μ -SOFC, Mindaugas Maciulevičius¹, Mindaugas Gedvilas¹, Brigita Abakevičienė², Sigita Tamulevičius², Gediminas Račiukaitis¹, ¹*Center for Physical Sciences and Technology, Lithuania*, ²*Institute of Material science, Kaunas University of Technology, Lithuania*

Th-UP-6 *Student*

No Attendant

A new combined method to make microcavities in Si(100), Cinthya Emma Toro¹, Betiana Lerner¹, Maximiliano Perez¹, Carlos Lasorsa², Carlos Alberto Rinaldi³, Alfredo Boselli¹, Carlos Lamagna¹, ¹*Dept. of Micro and Nanotechnology, National Commission of Atomic Energy, Argentina*, ²*Universidad Tecnológica Nacional, Facultad Regional Haedo, Buenos Aires, Argentina*, ³*National Council of Scientific and Technical Research, Argentina*

Th-P-7 *Student*

An application and effects of aligned ultrasonic vibration for high precision in nanosecond laser machining, Gun Woo Kim¹, Bong Chul Kang¹, Sung Hak Cho², Jong Kweon Park², Min Yang Yang¹, ¹*Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea*, ²*Division of Nano-Mechanical Systems, Korea Institute of Machinery and Materials (KIMM), Republic of Korea*

Th-P-8 *Student*

Micro-channel formation for solid oxide fuel cells using laser beam interference ablation, Bogdan Voisiat¹, Mindaugas Gedvilas¹, Brigita Abakevičienė², Sigita Tamulevičius², Gediminas Račiukaitis¹, ¹*Center for Physical Sciences and Technology, Lithuania*, ²*Institute of Material science, Kaunas University of Technology, Lithuania*

Th-P-9

Variation in the etch rate of LIBWE fabricating deep microtrenches, Tadatake Sato¹, Yoshizo Kawaguchi¹, Ryoza Kurosaki¹, Aiko Narazaki¹, Wataru Watanabe¹, Hiroyuki Niino¹, ¹*National Institute of Advanced Industrial Science and Technology (AIST), Japan*

Th-UP-10

No Attendant

Magnetic assisted laser micromachining for highly reflective metals, Chia-Lung Kuo¹, Yuan-Jen Chang¹, Nai-Yu Wang¹, ¹*National Yunlin University of Science and Technology, Taiwan*

Manufacture of Micro Devices and Systems

Th-P-11

Fabrication of transparent and conductive microchips, Szabolcs Beke¹, Jian Xu¹, László Kőrösi², Koji Sugioka¹, Katsumi Midorikawa¹, ¹*Laser Technology Laboratory, RIKEN — Advanced Science Institute, Japan*, ²*Supramolecular and Nanostructured Materials Research Group of the Hungarian Academy of Sciences, University of Szeged, Hungary*

Th-P-12

The effect of sensing area and fiber lens on sensitivity for the side-polished plastic optical fiber sensor, Yi-Cheng Hsu¹, Hung-Chung Liu¹, Chih-De Hu¹, Jhih-Lin Chen¹, ¹*Department of Biomechatronics Engineering National Pingtung University of Science and Technology, Taiwan*

Th-P-13

The detection of raw milk doping constituted milk employing side-polished plastic fiber sensor, Yi-Cheng Hsu¹, Hung-Chung Liu¹, Jhih-Lin Chen¹, Mei-Jen Lin², Guai-Yu Chen², ¹*Department of Biomechatronics Engineering National Pingtung University of Science and Technology, Taiwan*, ²*Department of Animal Science National Pingtung University of Science and Technology, Taiwan*

Th-P-14

Laser irradiation on tin electroplating and whisker suppressibility, Makoto Hino¹, Yutaka Mitooka¹, Koji Murakami¹, Masao Takamizawa², Teruto Kanadani³, ¹*Industrial Technology Research Institute of Okayama Prefecture, Japan*, ²*OM Sangyo Co. LTD., Japan*, ³*Okayama University of Science, Japan*

Th-P-15

Continuous laser fabrication method using an adaptive cell decomposition, Kwangho Yoon¹, Kyunghan Kim¹, Jaehoon Lee¹, ¹*Korea Institute of Machinery and Materials (KIMM), Korea*

Th-P-16 *Student*

Guide mode resonance sensor realized by femtosecond laser machining, Chien-Hsing Chen¹, Ting-Chou Chang², Chai-Yu Lee², Jaw-Luen Tang¹, Shau-Chun Wang², Lai-Kwan Chau², Wei-Te Wu³, ¹*Department of Physics, National Chung Cheng University, Taiwan*, ²*Department of Chemistry and Biochemistry, National Chun Cheng University, Taiwan*, ³*Department of Biomechatronics Engineering, National Pingtung University of Science and Technology, Taiwan*

Film Deposition

Th-P-17

Development of a laser-assisted chemical vapour deposition system for the growth of carbon nanotubes, Takashi Uchida^{1,2}, Yoshikazu Yoshida^{1,2}, ¹*Faculty of Science and Engineering, Toyo University, Japan*, ²*Bio-Nano Electronics Research Centre, Toyo University, Japan*

Th-P-18 *Student*

Fabrication of TiO₂ films by electrophoretic deposition, C. Y. Lin¹, D. L. Cheng¹, K. S. Kao¹, C. H. Liang², H. K. Lin³, ¹*Department of Computer and Communication, Shu-Te University, Taiwan*, ²*Department of Cosmetic Science, Chia Nan University of Pharmacy and Science, Taiwan*, ³*Laser Application Technology Center/ Industrial Technology Research Institute South (ITRI South), Taiwan*

Lasers, Optics, and Systems

Th-P-19 *Student*

A new approach to characterizing surface texturing of crystalline silicon wafers for high efficiency solar cells application, Chil-Chyuan Kuo¹, Yi-Ruei Chen¹, ¹*Ming Chi University of Technology, Taiwan*

Th-P-20

Large-area UV microprocessing, Ralph Delmdahl¹, Rainer Paetzel¹, ¹*Coherent GmbH, Germany*

Th-P-21

Fabrication of anti-reflective structures using hot embossing with a stainless steel template fabricated by femtosecond laser, Tsung-Fu Yao¹, Ping-Han Wu², Chung-Wei Cheng², Tzong-Ming Wu², Cheng-Huan Yang¹, Sen-Yen Yang¹, ¹*Department of Mechanical Engineering, National Taiwan University, Taiwan, R.O.C.*, ²*ITRI South, Industrial Technology Research Institute, Taiwan, R.O.C.*

Th-P-22

Fringe analysis by envelope detection for measuring ultra-small displacement, Hui-Kang Teng¹, Kuo-Chen Lang¹, ¹*Department of Computer and Communication Engineering, Nan Kai University of Technology, Taiwan, ROC*

Th-P-23

Balanced detection with single photoreceiver, Kuo-Chen Lang¹, Hui-Kang Teng¹, ¹*Department of Computer and Communication Engineering, Nan Kai University of Technology, Taiwan, ROC*

Th-P-24

Characterization of CsLiB₆O₁₀ crystals grown in dry atmosphere, Yoshinori Takahashi^{1,2}, Masashi Yoshimura^{1,2}, Yusuke Mizobe^{1,2}, Yohei Shimizu^{1,2}, Takahiro Kawamura^{1,2}, Zhiming Lu^{1,2}, Yuji Fukushima^{1,2}, Takashi Moritani^{1,2}, Kazuto Matsuki³, Susumu Iida^{2,3}, Shinichi Imai^{2,3}, Y. Kaneda^{1,2,5}, Y. Mori^{1,2}, T. Sasaki^{1,2}, ¹*Graduate School of Engineering, Osaka University, Japan*, ²*JST-CREST, Japan*, ³*Advanced Mask Inspection Technology, Japan*, ⁴*Oxide Corporation, Japan*, ⁵*College of Optical Sciences, The University of Arizona, USA*

Th-P-25 *Student*

High performance UV laser drilling using digital scanner, Hyung-Suk Kuh¹, Kwang-Ryul Kim¹, Byoungdeog Choi¹, Hong-Jin Park², Won-Ha Heo³, Sung-Hak Cho⁴, ¹*School of Information and Communication Engineering, SungKyunKwan University, Korea*, ²*LTS, 38-13, Ojeon-dong, Uiwang-si, Gyeonggi-do, Korea*, ³*Duckyu, 159-12, Gunja-Dong, Siheung-Si, Gyeonggi-do, Korea*, ⁴*Korea Institute of Machinery and Materials, Korea*

Th-P-26 *Student*

High-efficiency second harmonic generation of a mode-locked picosecond Ti:sapphire laser with an external enhancement cavity, Yuma Takida¹, Tatsuya Ohira¹, Shingo Maeda¹, Hiroshi Kumagai¹, ¹*Graduate school of Engineering, Osaka City University, Japan*

Th-P-27 *Student*

Parametric oscillation of terahertz wave pumped by picosecond Ti:sapphire laser with MgO-doped LiNbO₃ installed in external enhancement cavity, Yuma Takida¹, Tatsuya Ohira¹, Shingo Maeda¹, Hiroshi Kumagai¹, Shigeki Nashima¹, ¹*Graduate school of Engineering, Osaka City University, Japan*

Th-P-28 *Student*

TiO₂/sapphire beam splitter for high-order harmonics, Yasutaka Sanjo¹, Masaki Murata¹, Yuji Tanaka¹, Horoshi Kumagai¹, Masaya Chigane², ¹*Graduate School of Engineering, Osaka City University, Japan*, ²*Osaka Municipal Technical Research Institute, Japan*

Nanomaterials and Nanostructures

Th-P-29 *Student*

Morphologic phase change of silver nano particle ink obtain by laser sintering, Michael Zenou^{1,2}, Amir Saar², Zvi Kotler¹, ¹*Orbotech Ltd., Israel*, ²*Hebrew University, Racah Institute Of Physics, Isarel*

Th-P-30 *Student*

Spherical titanium oxide particle fabrication by laser melting in liquid, Masayuki Ohira¹, Yoshie Ishikawa¹, Naoto Koshizaki², Qi Feng¹, ¹*Department of Advanced Materials Science, Faculty of Engineering, Kagawa University, Japan*, ²*Nanosystem Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan*

Th-P-31

Large quantity synthesis of boron carbide particles by laser melting in liquid for novel BNCT agent, Yoshie Ishikawa¹, Naoto Koshizaki², Qi Feng¹, ¹*Department of Advanced Materials Science, Faculty of Engineering, Kagawa University, Japan*, ²*Nanosystem Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan*

Th-P-32 **Student**

Three-dimensional carbon microstructures produced by a soft molding process based on two-photon microfabrication, Yuya Daicho^{1,2}, Terumasa Murakami¹, Tsuneo Hagiwara³, Shoji Maruo¹, ¹*Yokohama National University, Japan*, ²*CMET Inc., Japan*, ³*Tokyo Institute of Technology, Japan*

Others

Th-P-33

Inhibitory effect of Ov-16 (4-(3,4-dihydroxybenzoyloxymethyl) phenyl-O- β -D-glucopyranoside) on melanin synthesis: Potential role for tyrosinase signaling, Leong-Perng Chan¹, Shih-Hao Wang², Jing-Yao Liang^{3,4,5}, Da-Long Cheng⁶, Chia-Hua Liang³, ¹*Department of Otolaryngology-Head and Neck Surgery, Kaohsiung Medical University, Chung-Ho Memorial Hospital, Kaohsiung Medical University, Taiwan*, ²*Graduate Institute of Pharmaceutical Chemistry, China Medical University, Taiwan*, ³*Department of Cosmetic Science, Chia Nan University of Pharmacy and Science, Taiwan*, ⁴*Department of Urology, Kuo General Hospital, Taiwan*, ⁵*Institute of Biomedical Engineering, National Cheng Kung University, Taiwan*, ⁶*Department of Computer and Communication, SHU-TE University, Taiwan*

Author Index

—A—

Abakevičianė, Brigita Th-P-8
 Abakevičienė, Brigita Th-P-5
 Abe, Kaori We3-0-6
 Abe, Nobuyuki Fr1-0-2, We-P-12
 Adachi, Hiroaki Tu2-I-3
 Ahn, Junsu We3-0-5
 Ahsan, Md. Shamim Th1-0-8,
 Th1-0-16
 Aimez, Vincent We1-0-3
 Akahane, Yutaka Tu3-0-2
 Alexeev, Ilya Th2-0-9, Fr2-0-2
 Alloncle, Anne-Patricia Tu1-I-8
 Arakawa, Kazuto Fr1-0-1
 Arimoto, Hidenobu Fr3-0-1
 Arnold, Craig B. Tu2-0-4
 Audouard, Eric Th1-U0-1,
 Th1-U0-12
 Aumann, Andreas Th3-0-8
 Auyeung, Ray We2-I-6, We2-0-12
 Aya, Youichirou Tu1-PL-3

—B—

Babić, Dušan We1-0-5
 Barcikowski, Stephan Th3-0-9
 Barkauskas, Jurgis We-P-9
 Barrot, F. Th1-I-2
 Bartke, Daniel Th3-0-9
 Bartnik, Andrzej Tu3-0-3
 Baum, Marcus Th2-0-9
 Béal, Romain We1-0-3
 Beckemper, Stefan Th1-0-11
 Beke, Szabolcs We2-0-7, Th-P-11
 Bellouard, Yves Th1-I-2, Fr1-0-7
 Beresna, M. Th1-I-2
 Bestehorn, Michael Th1-0-15
 Birnbaum, Andrew We2-I-6,
 We2-0-12
 Bogatyrev, Ilya We-P-21
 Boselli, Alfredo Th-UP-6
 Bottinelli, S. Th1-I-2
 Boulais, Étienne Tu2-U0-1,
 Tu2-U0-2, Th1-U0-6
 Boulanger, Pascal We1-0-4
 Bounhalli, Mourad Th1-0-14,
 Th1-U0-12
 Brandl, Volker Tu3-0-5
 Braun, Alexander Th2-0-1,
 Th2-0-2
 Breguet, J. -M. Th1-I-2
 Brown, Matthew S. Tu2-0-4
 Brunet, Philippe Th1-U0-12
 Bruns, Michael We1-I-11
 Buivydas, Ričardas Th1-0-7

—C—

C. W. Cheng Th1-0-3, We-P-16
 C. Y. Lin We-P-16
 Cabanillas, Edgardo Domingo Fr2-U0-4
 Cai, Zhipen We-P-26
 Calendron, Anne-Laure We2-0-3
 Canning, John We2-0-1, Th1-0-5

Capasso, Federico Tu1-PL-1
 Chakif, M'Barek Th3-0-8
 Champion, A. Th1-I-2
 Chan, Leong-Perng Th-P-33
 Chang, Ting-Chou Th-P-16
 Chang, Won-Seok Fr1-I-8
 Chang, Yu-Chen We-P-6
 Chang, Yuan-Jen Th-UP-10
 Chappuis, O. Th1-I-2
 Charipar, Nick We2-0-12
 Charmasson, Laurent Tu1-I-8
 Chau, Lai-Kwan Th-P-16
 Chen, Chien-Hsing Th-P-16
 Chen, Guai-Yu Th-P-13
 Chen, Guoxin We-P-27
 Chen, Heng-Yin We-P-6
 Chen, Jhih-Lin Th-P-12, Th-P-13
 Chen, Qi Dai Tu1-0-10, Tu2-0-9
 Chen, Yi-Ruei Th-P-19
 Cheng, Chung-Wei Th-P-21
 Cheng, D. L. Th-P-18
 Cheng, Da-Long We-P-6, Th-P-33
 Cheng, Ji-Yen We-P-1
 Cheng, Ya Th2-0-13
 Chichkov, Boris N. We3-I-9
 Chigane, Masaya Th-P-28
 Chisholm, M. F. Th3-I-10
 Chivel, Yuri Th3-0-1
 Cho, Eun-Chel We3-0-3
 Cho, Sung Hak Th-P-7
 Cho, Sung-Hak Fr1-I-8, Th-P-25
 Cho, Yongkwon We1-0-14
 Choi, Byoungdeog Th-P-25
 Choi, Ji-Yeon Fr1-I-8
 Choi, Wonseok Th2-0-5
 Choo, Yoo Sang We-P-27
 Clavel, R. Th1-I-2
 Colombier, Jean-Philippe Th1-U0-12
 Cook, Kevin Th1-0-5
 Copperwhite, Robert We2-0-3
 Corbari, C. Th1-I-2
 Cornaggia, Christian We1-0-4
 Cvecek, Kristian Tu3-0-10,
 Fr3-0-7, Fr3-0-8

—D—

Daicho, Yuya Th-P-32
 Dausinger, Friedrich We3-I-1
 Deki, Manato We-P-13
 Delaigue, Martin Tu3-0-1,
 Th1-0-10
 Delaporte, Philippe Tu1-I-8,
 We2-I-10, Th3-0-5, We-P-21
 Delmdahl, Ralph We2-0-8,
 Th-P-20
 Denker, Boris Fr1-0-4
 Dianov, Evgeniy Fr1-0-4
 Diniz, Anselmo E. We1-U0-1
 Doubenskaia, Maria Th3-0-1
 Dubowski, Jan J. Tu1-0-13,
 We1-0-3
 Duscher, G. J. M. Th3-I-10

Dusser, Benjamin Th1-U0-12

—E—

Eres, G. Th3-I-10
 Esen, Cemal Th2-0-15

—F—

Faenov, Anatoly We-P-28
 Faisst, Birgit We1-0-16
 Faure, Nicolas Th1-U0-12
 Fechner, Burkhard We2-0-8
 Fedorov, Nikita We-P-11
 Feng, Qi Th-P-30, Th-P-31
 Fernandes, Susana Abreu We1-0-2
 Fiedorowicz, Henryk Tu3-0-3
 Fisicaro, Giuseppe Tu1-0-12
 Fourkas, John T. Th2-I-11
 Frick, Thomas Fr3-0-7
 Friedel, Susanna We1-0-8
 Fujii, Shota We-P-12
 Fujimoto, Naoya We-P-31
 Fujita, Junji We-P-20
 Fujita, Masayuki Fr1-0-2
 Fukuda, Takashi Fr3-0-1
 Fukudome, Motishi We-P-31
 Fukushima, Yuji Th-P-24
 Furube, Akihiro Fr2-0-7

—G—

Galagan, Boris Fr1-0-4
 Gamaly, Eugene G. Th1-I-4
 Gao, Yang Th3-0-7
 García, Daniel Nieto Tu1-0-7
 Garrelie, Florence Th1-U0-12
 Gattass, Rafael R. Th2-I-11
 Gecys, Paulius Th2-0-1, Th2-0-2
 Gedvilas, Mindaugas Th2-0-2,
 Th1-0-9, Th-P-5, Th-P-8
 Genest, Jonathan We1-0-3
 Geohagan, David B. Th3-I-10
 Gevincevicius, M. Th1-I-2
 Ghadiri, Reza Th2-0-15, Th3-0-8
 Gillner, Arnold Th1-0-11
 Gobert, Olivier We1-0-4
 González Solar, Alejandro Th2-0-7, Th2-0-8
 Grisolia, Christian Th3-0-5
 Grojo, David Tu1-I-8, Th3-0-5,
 We-P-21
 Grothoff, Nathaniel We2-0-1
 Grubinskas, Simonas Th2-0-2
 Guillemet, Thomas Th3-0-7
 Guizard, Stéphane We-P-11
 Guo, Qingchuan Th3-0-8
 Gusarov, Andrey We1-0-9

—H—

Hänel, Jens We1-0-15
 Hönninger, Clemens Th1-0-10
 Hagiwara, Tsuneo Th-P-32
 Hagiwara, Man Tu2-0-5
 Haglund, Richard F. Fr3-0-5
 Hahn, Anne Th3-0-9
 Hanada, Yasutaka Tu2-0-7

- Hasegawa, Noboru Th3-0-3, We-P-28
Hasegawa, Satoshi Th2-0-4
Hashida, Masaki Th3-0-4, Th1-0-13
Hashimoto, Shuichi We1-0-10, Fr2-0-7, We-P-13
Hasumi, Masahiko We-P-2, We-P-3
Hayasaki, Yoshio Th2-0-4, We-P-15
He, Fei Th2-0-13
He, Xiangnan Th3-0-7
Helvajian, Henry Fr3-0-8
Heo, Won-Ha Th-P-25
Herman, Peter R. We2-I-5
Hertel, Ingolf V. Th1-U0-1
Hertel, Ingolf Volker Tu1-PL-2
Higashihata, Mitsuhiro We2-0-9, Fr3-0-3
Hino, Makoto We-P-29, Th-P-14
Hiratsuka, Yuichi Tu2-0-8
Hiramoto, Takuya Fr1-0-6
Hirono, Satoshi We-P-22, We-P-23
Hirose, Akio Tu3-0-6, Fr1-0-1, We-P-24, We-P-25
Hishida, Mitsuoki Tu1-PL-3
Hoenninger, C. Th1-I-2
Hong, Minghui We1-0-7, We-P-27
Hong, Shi-Ping Tu3-0-9
Hongler, Max-Olivier Fr1-0-7
Hönninger, Clemens Tu3-0-1
Hopper, M. Th1-I-2
Hosokawa, Yoichiroh Tu2-0-5
Hsu, Yi-Cheng Tu3-0-9, Th-P-12, Th-P-13
Hu, Chih-De Th-P-12
Hu, Ting-Ting Th-P-3
Hu, Wei Th3-0-7
Huang, Chih-Ching Jacob Th-P-3
Huang, Jintang Th1-0-11
Huet, Karim Tu1-0-12
Huis in 't Veld, A.J. Fr1-0-5
Huis in 't Veld, Bert We2-0-11
Hung, Shang-Chao Tu3-0-9
Hunt, Alan J. Tu2-I-6
- I—
- Iida, Makoto Fr3-0-6
Iida, Susumu Th-P-24
Iino, Takanori Tu2-0-5
Ikegame, Masaki Th2-0-14
Ikenoue, Hiroshi We-P-31
Ikuta, Yoshinobu Th3-0-4, Th1-0-13
Imai, Shinichi Th-P-24
Inada, Makoto We3-0-8
Indrišiūnas, Simonas Th1-0-9
Inouchi, Yutaka We-P-3
Inoue, Narumi Fr1-0-1, We-P-4, We-P-24
Inoue, Tsuyoshi Tu2-I-3
Iseki, Masahiro Tu1-PL-3
Ishikawa, Atsushi Th2-0-12
Ishikawa, Yoshie Fr2-0-6, Th-P-30, Th-P-31
Ishino, Masahiko We-P-28
Ismail, Mohd Idris Shah Tu3-0-8
- Isshiki, Yutaro We-P-24
Isu, Toshiro We-P-13
Italia, Markus Tu1-0-12
Itina, Tatiana We-P-21
Ito, Akihiko Tu2-0-5
Ito, Takuto We-P-13
Ito, Yoshiro We1-0-13, Th3-0-2
Itoh, Kazuyoshi Tu3-0-6, Fr3-0-9, We-P-14
Iwasa, Kodai We1-0-10
Iwasaki, Shogo Tu3-0-6
Iwata, Keisuke We-P-15
Iwato, Hiroaki We-P-10
- J—
- J. S. Chen Th1-0-3
Jackson, J. J. Th3-I-10
Jaeger, Matthias Th3-0-8
Jarocki, Roman Tu3-0-3
Jorritsma, M. M. J. Fr1-0-5
Ju, Yong Feng Th2-0-13
Juodkasis, Saulius We2-0-4, Th1-I-4, Th1-0-7, We-P-7
- K—
- K. P. Chang We-P-16
Kaakkunen, Jarno Jere, Juhani We1-0-12
Kaihorii, Takeshi Th3-0-3, We-P-28
Kaku, Masanori We-P-30
Kanadani, Teruto We-P-29, Th-P-14
Kanda, Yasu We-P-2, We-P-3
Kaneda, Y. Th-P-24
Kang, Bong Chul Th-P-7
Kao, K. S. Th-P-18
Kataoka, Masatoshi We3-0-6
Katayama, Seiji We-P-26
Kato, Wataru We-P-2
Katto, Masahito We-P-30
Kavčič, Blaž We1-0-5
Kawachi, Tetsuya Th3-0-3, We-P-28
Kawaguchi, Yoshizo Tu1-0-4, We1-0-6, Th-P-9
Kawamura, Takahiro Th-P-24
Kawasaki, Hideya Th3-0-6
Kazansky, P. Th1-I-2
Kim, Gun Woo Th-P-7
Kim, Heungsoo We2-I-6, We2-0-12
Kim, Jae-Goo Fr1-I-8
Kim, Joochan Th2-0-5, Th-P-2
Kim, Kwang-Ryul Th-P-25
Kim, Kyeong Won Fr3-0-5
Kim, Kyunghan Tu3-0-4, Th-P-15
Kim, Sang-Kyun We3-0-3
Kim, Teakgu Th-P-2
Kim, Yeong Gyu Th1-0-16
Kitada, Takahiro We-P-13
Kitahara, Akinao Tu1-PL-3
Kitamura, Noboru Fr2-0-3
Kobayashi, Kojiro F We-P-25
Kobayashi, Kojiro F. Fr1-0-1, We-P-24
Kodama, Ryosuke Fr1-0-1
- Kohler, Robert We1-I-11
Kohno, Masamichi Th-P-4
Kondo, Michio Fr3-0-2
Kononenko, Vitali Fr1-0-4
Konov, Vitali Fr1-0-4
Körösi, László Th-P-11
Koshizaki, Naoto Fr3-0-4, Fr2-0-5, Fr2-0-6, Th-P-30, Th-P-31
Kostecki, Jerzy Tu3-0-3
Kotler, Zvi Tu1-0-5, Th-P-29
Kral, M. Th1-I-2
Kramer, Reinhard Tu3-0-5
Kubo, Kazuki We2-0-9
Kubodera, Shoichi We-P-30
Kudrius, Tadas Th1-0-7
Kuh, Hyung-Suk Th-P-25
Kumagai, Hiroshi Th-P-26, Th-P-27
Kumagai, Horoshi Th-P-28
Kumeda, Akio We2-0-9
Kumpfmüller, Josef We2-0-2
Kumpfmüller, Josef We2-0-3
Kuo, Chia-Lung Th-UP-10
Kuo, Chil-Chyuan Th-P-19
Kurosaki, Ryoza Tu1-0-4, We1-0-6, Th-P-9
Kurumi, Satoshi We-P-10
Kwee, Tiao Joo We-P-27
- L—
- La Magna, Antonino Tu1-0-12
Lachaine, Rémi Tu2-U0-1, Tu2-U0-2
Ladario, Fabricio P. We1-U0-1
Ladret, Romain We1-0-4
Lamagna, Carlos Th-UP-6
Lancry, Matthieu We2-0-1, Th1-0-5, We-P-11
Lang, Kuo-Chen Th-P-22, Th-P-23
Lasch, Markus We1-0-15
Lasorsa, Carlos Tu1-U0-9, We-UP-5, Th-UP-6
Lawrie, Benjamin J. Fr3-0-5
Lee, Chai-Yu Th-P-16
Lee, Ching-Jen Th-P-3
Lee, Chulku Th2-0-5, Th-P-2
Lee, Dae-Young We-P-18, We-P-19
Lee, Jae Hoon We-P-8
Lee, Jaehoon Tu3-0-4, Th-P-15
Lee, Kun Sang We-P-8
Lee, Kyumin We3-0-3
Lee, Man Seop Th1-0-8, Th1-0-16
Lee, Won-jae We3-0-3
Lee, Woon-Young We-P-18, We-P-19
Lee, Wooram Th-P-2
Leitz, Karl-Heinz Fr2-0-2
Lerner, Betiana Th-UP-6
Lewis, Wayne We1-0-15
Li, Chun-Han Th-P-3
Li, Linjie Th2-I-11
Li, Xiangyou Fr2-0-5
Li, Zhiquan We2-0-2, We3-0-7
Liang, C. H. Th-P-18
Liang, Chao-Chiun We-P-6

- Liang, Chia-Hua Th-P-33
 Liang, Jing-Yao Th-P-33
 Liao, Yang Th2-0-13
 Lidolff, Anne Th1-0-10
 Lim, Jong-Keun We3-0-3
 Lim, Ki-Soo We-P-18, We-P-19
 Lima, Milton S. F. We1-U0-1
 Lin, C. Y. Th-P-18
 Lin, H. K. Th-P-18
 Lin, Hsuan-Kai We-P-6, Th-P-3
 Lin, Mei-Jen Th-P-13
 Lippert, Thomas We2-I-10
 Liska, Robert We2-0-2, We2-0-3,
 We3-0-7
 Liu, Hung-Chung Th-P-12,
 Th-P-13
 Liu, Neng Tu1-0-13, We1-0-3
 Lopez, J. Th1-I-2
 Lopez, John Th1-0-10
 Lu, Yongfeng Th2-0-10, Th3-0-7
 Lu, Zhiming Th-P-24
- M—
- Mabillard, Y. Th1-I-2
 Maciulevičius, Mindaugas Th-P-5
 Maeda, Shingo Th-P-26, Th-P-27
 Mafune, Fumitaka Th3-0-6
 Mahjouri-Samani, Masoud
 Th2-0-10
 Maigyte, Lina We2-0-4
 Makimura, Testuya Tu1-0-11
 Marin, Wladimir We-P-21
 Mariotti, Davide Fr3-0-2
 Märten, Otto Tu3-0-5
 Maruo, Shoji Tu2-0-8, We3-0-8,
 Th2-0-14, Th-P-32
 Maruyama, Mihoko Tu2-I-3
 Masaki, Kazuyoshi Fr3-0-1
 Massa, Severin We1-0-16
 Mathews, Scott A. We2-I-6,
 We2-0-12
 Matsuda, Katsumi We-P-22,
 We-P-23
 Matsuda, Tomoki We-P-25
 Matsuki, Kazuto Th-P-24
 Matsumoto, Masato Fr3-0-9
 Matsumura, Hiroyoshi Tu2-I-3
 Matsuo, Shigeki We1-0-10,
 We-P-13
 Matteucci, M. Th1-I-2
 Mauclair, Cyril Th1-U0-1
 Mayne-l'Hermitte, Martine
 We1-0-4
 Mazeikiene, Regina We-P-9
 Mermillod-Blondin, Alexandre
 Th1-U0-1
 Metkus, Kristin We2-0-12
 Meunier, Michel Tu2-U0-1,
 Tu2-U0-2, Th1-U0-6
 Midorikawa, Katsumi Tu2-0-7,
 We2-0-7, Th2-0-13,
 Fr1-0-3, Fr3-0-6, Th-P-11
 Minami, Yasuo Th3-0-3
 Mitooka, Yutaka We-P-29,
 Th-P-14
 Miura, Daisuke We-P-10
 Miyabayashi, Nobuyoshi We-P-30
- Miyaji, Godai We-P-20
 Miyamoto, Isamu Tu3-0-10,
 Fr3-0-7, Fr3-0-8
 Miyanaga, Noriaki Fr1-0-6
 Miyasaka, Yasuhiro Th3-0-4,
 Th1-0-13
 Miyazaki, Kenzo We-P-20
 Mizeikis, Vygantas We2-0-4,
 Th1-I-4, Th1-0-7, We-P-7
 Mizobe, Yusuke Th-P-24
 Mochizuki, Hiroyuki We-P-22,
 We-P-23
 Momoo, Kazuma Fr1-0-6
 Moon, A-Young We-P-18, We-P-19
 Moon, In-Sik We3-0-3
 More, K. L. Th3-I-10
 Mori, Hirotaro F. Fr1-0-1
 Mori, Tatsuhiko Th-P-4
 Mori, Y. Th-P-24
 Mori, Yusuke Tu2-I-3
 Morin, Franck Tu3-0-1
 Moritani, Takashi Th-P-24
 Mottay, E. Th1-I-2
 Mottay, Eric Tu3-0-1, Th1-0-10
 Moumanis, Khalid Tu1-0-13,
 We1-0-3
 Mousavi, Seyedehmansoureh Zarei
 We-P-1
 Mu, Richard Fr3-0-5
 Mukhtar, Muhaizad Tu3-0-8
 Murai, Ryota Tu2-I-3
 Murakami, Koji Th-P-14
 Murakami, Kouichi Tu1-0-11
 Murakami, Masanao Th2-0-3
 Murakami, Satoshi Tu2-I-3
 Murakami, Soichiro Th2-0-14
 Murakami, Terumasa Th-P-32
 Muramatsu, Toshiharu Tu3-0-7
 Muraoka, Keita Fr2-0-3
 Murata, Masaki Th-P-28
 Muth, Marco Th1-0-14
 Mutin, Timofey Yu. Th2-I-6
 Myamoto, Isamu Th1-U0-1
- N—
- Na, Suck-Joo We3-0-5
 Naito, Masao We-P-3
 Nakahara, Tomonori We3-0-6
 Nakamura, Daisuke Tu1-0-11,
 We2-0-9, Fr3-0-3
 Nakamura, Susumu We3-0-4
 Nakano, Hitoshi We-P-12
 Nakashima, Seisuke Fr1-0-3
 Nakata, Yoshiki Fr1-0-6
 Namiki, Kazuhiro We-P-10
 Narazaki, Aiko Tu1-0-4, We1-0-6,
 Th-P-9
 Nashima, Shigeki Th-P-27
 Neves, Davi We1-U0-1
 Nguyen, Thao Th3-0-2
 Niino, Hiroyuki Tu1-0-4,
 Tu1-0-11, We1-0-6, Th-P-9
 Nishikino, Masaharu We-P-28
 Nishimura, Akihiko Tu3-0-7,
 We-P-17
 Nojima, Yoshihiko We-P-4
 Nojiri, Hidetoshi We-P-4
- Nomura, Wataru Fr2-I-1
 Nonaka, Shinri Th-P-4
 Norton, David P. Fr3-0-5
- O—
- O'Connor, Gerard M. Tu1-0-7
 Obata, Kotaro We3-I-9
 Ochi, Yoshihiro Th3-0-3
 Ogawa, Kanade Th3-0-2
 Ogura, Tomo We-P-24, We-P-25
 Ohba, Toshiyuki We-P-28
 Ohira, Masayuki Th-P-30
 Ohira, Tatsuya Th-P-26, Th-P-27
 Ohmura, Etsuji Th2-0-3
 Ohshima, Takeshi We-P-13
 Ohtsu, Motoichi Fr2-I-1
 Okada, Akira Tu3-0-8
 Okada, Junichi We3-0-2
 Okada, Tatsuo Tu1-0-11,
 We2-0-9, Fr3-0-3
 Okamoto, Yasuhiro Fr3-0-8
 Okamoto, Yasuhiro Tu3-0-8
 Okamoto, Yuuji We3-0-2
 Okazaki, Kota We2-0-9, Fr3-0-3
 Okazaki, Kouta Tu1-0-11
 Okazaki, Wataru Th-P-1
 Oki, Yuto We-P-14
 Okoshi, Masayuki Fr1-0-1,
 We-P-4, We-P-24
 Okuma, Junji Fr1-I-10
 Onoda, Shinobu We-P-13
 Ooie, Toshihiko We3-0-6
 Oosterhuis, G. We2-0-11
 Ostendorf, Andreas We1-0-2,
 Th2-0-15, Th3-0-8
 Otani, Kazuto Th3-0-4, Th1-0-13
 Otero Ramudo, Nerea Th2-0-7,
 Th2-0-8
 Otofujii, Takuhito Th-P-4
 Ovsianikov, Aleksandr We2-0-3,
 We3-0-7
 Ozaki, Norimasa Fr1-0-1
 Ozeki, Yasuyuki Tu3-0-6,
 Fr3-0-9, We-P-14
- P—
- P. H. Wu We-P-16
 P. N. Wan Th1-0-3
 Paetzel, Rainer Th-P-20
 Paik, Byoung Man We-P-8
 Paipulas, Domas We-P-7
 Päiväsäari, Kimmo We1-0-12
 Pan, Jiluan We-P-26
 Pan, Zhenying We1-0-7
 Park, Hong-Jin Th-P-25
 Park, Jong Kweon Th-P-7
 Park, Jongbok Th3-0-7
 Park, Jung-Kyu Fr1-I-8
 Pashinin, Vladimir Fr1-0-4
 Pavlov, Mikhail Th3-0-1
 Perez, Maximiliano Th-UP-6
 Petsch, Tino We1-0-15
 Pfleging, Wilhelm We1-I-11
 Pham Xuan, Khai We1-0-13
 Piccitto, Giovanni Tu1-0-12
 Pigeon, Florent Th1-U0-12
 Pikuz, Tatiana We-P-28

- Pinault, Mathieu We1-0-4
Piqué, Alberto We2-I-6, We2-0-12
Poberaj, Igor We1-0-5
Podobnik, Boštjan We1-0-5
Poggel, Sven We1-0-8
Poumellec, Bertrand We2-0-1, Th1-0-5, We-P-11
Privitera, Vittorio Tu1-0-12
Proell, Johannes We1-I-11
Puretzy, A. A. Th3-I-10
Purlys, Vytautas We-P-7
Pyatenko, Alexander Fr3-0-4, Fr2-0-5
- Q—
- Quentin, Ulf Fr2-0-2
- R—
- Römer, G. R. B. E. Fr1-0-5
Račiukaitis, Gediminas Th2-0-1, Th2-0-2, Th1-0-9, We-P-9, Th-P-5, Th-P-8
Ragnow, Steffen Th2-0-1, Th2-0-2
Rapp, Ludovic Tu1-I-8
Rascher, Matthias Fr3-0-7
Readle, J. D. Th3-I-10
Regmi, M. Th3-I-10
Reif, Juergen Th1-0-14, Th1-0-15
Reynaud, Stéphanie Th1-U0-12
Ricaud, Sandrine Tu3-0-1
Rinaldi, Carlos Alberto Tu1-U0-9, Fr2-U0-4, We-UP-5, Th-UP-6
Riva, Rudimar We1-U0-1
Robitaille, Alexandre Th1-U0-6
Rode, Andrei Th1-I-4
Romero Romero, Pablo M. Th2-0-7, Th2-0-8
Rosa, Lorenzo Th1-0-7
Rosenfeld, Arkadi Tu1-PL-2, Th1-U0-1
Rouleau, C. M. Th3-I-10
Russ, Simone We1-0-16
- S—
- S. M. Huang We-P-16
Saar, Amir Tu1-0-5, Th-P-29
Sakabe, Shuji Th3-0-4, Th1-0-13
Sakata, Osami Fr1-0-1
Sameshima, Toshiyuki We-P-2, We-P-3
Samokhvalov, Andrey A. Th2-I-6
Sanjo, Yasutaka Th-P-28
Sano, Naoki We-P-2
Sano, Tomokazu Tu3-0-6, Fr1-0-1, We-P-24, We-P-25
Sasaki, T. Th-P-24
Sasaki, Wataru We-P-30
Sato, Tadatake Tu1-0-4, We1-0-6, Th-P-9
Sawada, Tomoyuki Tu2-0-8
Sazaki, Gen Tu2-I-3
Scano, Alessandra Th2-0-7, Th2-0-8
Schmid, Gerhard We2-0-2
Schmidt, Michael Tu3-0-10, Th2-0-9, Fr2-0-2, Fr3-0-7, Fr3-0-8
- Schneider, Christof Walter We2-I-10
Schwede, Harald Tu3-0-5
Sentis, Marc Tu1-I-8, Th3-0-5, We-P-21
Shibayanagi, Toshiya We-P-12
Shimada, Yukihiro We-P-17
Shimizu, Seiji Th2-0-3
Shimizu, Yohei Th-P-24
Shin, Dong Sig We-P-8
Shin, Dongsig We1-0-14
Shinohara, Wataru Tu1-PL-3
Shinonaga, Togo Fr1-0-2
Shobu, Takahisa Tu3-0-7
Shoji, Tatsuya Fr2-0-3
Shudo, Kazumasa We3-0-2
Siebert, Christof We1-0-16
Silvennoinen, Martti Veli Johannes We1-0-12
Šlekys, Gintas Th1-0-7
Šliupas, Remigijus Th1-0-7
Smirnov, Valentin N. Th2-I-6
Smurov, Igor We1-0-9, Th3-0-1
Sommer, Steffen Sven We3-I-1
Stadlmann, Klaus We2-0-2, We2-0-3
Staliunas, Kestutis We2-0-4
Stampfl, Juergen We2-0-2
Stampfl, Jürgen We2-0-3, We3-0-7
Stocker, Michael P. Th2-I-11
Stoian, Razvan Tu1-PL-2, Th1-U0-1, Th1-U0-12
Stolberg, Klaus P. We1-0-8
Su, Ju-Yuen We-P-6
Sublemontier, Olivier We1-0-4
Suemoto, Tohru Th3-0-3
Sugioka, Koji Tu2-0-7, We2-0-7, Th2-0-13, Fr1-0-3, Fr3-0-6, Th-P-11
Sugiyama, Shigeru Tu2-I-3
Suh, Jeong Tu3-0-4, We1-0-14
Sun, Hong Bo Tu1-0-10, Tu2-0-9
Suzuki, Kaoru We-P-10
Sverchkov, Sergey Fr1-0-4
Švrček, Vladimír Fr3-0-2
Szczurek, Anna Tu3-0-3
Szczurek, Mirosław Tu3-0-3
- T—
- Takahashi, Akihiko Tu1-0-11
Takahashi, Masataka Fr1-0-2
Takahashi, Yoshinori Tu2-I-3, Th-P-24
Takai, Hiroshi Fr3-0-6
Takamizawa, Masao Th-P-14
Takano, Kazufumi Tu2-I-3
Takata, Yasuyuki Th-P-4
Takida, Yuma Th-P-26, Th-P-27
Takita, Akihiro We-P-15
Tamotsu, Satoshi We-P-28
Tamulevičius, Sigitas Th-P-5, Th-P-8
Tan, Kim Pong We-P-27
Tanabe, Rie We1-0-13, Th3-0-2
Tanaka, Masato We3-0-6
Tanaka, Momoko We-P-28
Tanaka, Takuo Th2-0-12
- Tanaka, Yuji Th-P-28
Tang, Jaw-Luen Th-P-16
Tatemichi, Junichi We-P-3
Teng, Hui-Kang Th-P-22, Th-P-23
Terakawa, Akira Tu1-PL-3
Terakawa, Kota Th3-0-3
Thonnard, N. Th3-I-10
Tokita, Shigeki Th3-0-4, Th1-0-13
Tomita, Takuro We1-0-10, Th3-0-3, We-P-13
Torgersen, Jan We3-0-7
Torii, Shuichi Tu1-0-11
Torii, Takashi We3-0-8
Toro, Cinthya Emma Tu1-U0-9, Fr2-U0-4, We-UP-5, Th-UP-6
Toya, Kazuyuki We2-0-9
Trusovas, Romualdas We-P-9
Tsai, Hsieh-Fu We-P-1
Tsuboi, Yasuyuki Fr2-0-3
Tsuji, Masaharu Th3-0-6
Tsuji, Takeshi Th3-0-6
Tsujino, Masashi Fr1-0-1
Tsukamoto, Masahiro Fr1-0-2, We-P-12
Tsuta, Koji We2-0-9
Tsuyama, Miho We-P-12
- U—
- Uchida, Takashi Th-P-1, Th-P-17
Umeda, Yoshifumi Th3-0-3
Uno, Yoshiyuki Tu3-0-8
- V—
- Vahimaa, Pasi We1-0-12
Vailionis, Arturas Th1-I-4
Varlamov, Sergej Th1-0-15
Varlamova, Olga Th1-0-14, Th1-0-15
Vatry, Aude Th3-0-5
Veiko, Vadim P. Th2-I-6
Ventikos, Yiannis Tu2-0-4
Venturini, Julien Tu1-0-12
Voisiat, Bogdan Th1-0-9, Th-P-8
- W—
- Wachulak, Przemysław Tu3-0-3
Wagener, Philipp Th3-0-9
Wang, Hongqiang Fr3-0-4, Fr2-0-5, Fr2-0-6
Wang, Keyi Th1-0-11
Wang, Nai-Yu Th-UP-10
Wang, Shau-Chun Th-P-16
Wang, Shih-Hao Th-P-33
Wang, Xiao We-P-26
Watanabe, Akira Tu1-0-6
Watanabe, Wataru Tu1-0-4, We1-0-6, Fr3-0-1, We-P-22, We-P-23, Th-P-9
Wehrmann, Anja Th2-0-1
Weiler, Sascha We1-0-16
Werner, Daniel Fr2-0-7
Whang, Kyung-Hyun Fr1-I-8
Wieduwilt, Jan We1-0-16
Winter, Shoshana Tu1-0-5
Wolf, Stefan Tu3-0-5
Wu, Chun-Ying We-P-1

Wu, Dong	Tu1-0-10, Tu2-0-9	Yamada, Tomonori	Tu3-0-7	Yoshida, Yoshikazu	Th-P-1,
Wu, Ping-Han	Th-P-21	Yamakawa, Koichi	Tu3-0-2		Th-P-17
Wu, Si	Th1-0-11	Yamamoto, Minoru	Th3-0-3	Yoshidomi, Shinya	We-P-2
Wu, Si Zhu	Tu1-0-10, Tu2-0-9	Yamamoto, Yoshitaka	Fr1-I-9	Yoshikawa, Hiroshi	Tu2-I-3
Wu, Tzong-Ming	Th-P-21	Yamashita, Susumu	Tu3-0-7	Yoshimura, Masashi	Th-P-24
Wu, Wei-Te	Th-P-16	Yamatani, Satoshi	We-P-12	Yoshino, Tomoki	Fr3-0-9
	—X—	Yang, Cheng-Huan	Th-P-21	Yu, Jae-Yong	Fr1-I-8
Xiao, K.	Th3-I-10	Yang, Min Yang	Th-P-7		
Xiao, Shizhou	We1-0-2, Th3-0-8	Yang, Sen-Yen	Th-P-21		—Z—
Xie, Xiaozhu	We1-0-7	Yang, Wenge	Th1-I-4	Zaouter, Yoann	Tu3-0-1
Xie, Zhiqiang	Th3-0-7	Yao, Tsung-Fu	Th-P-21	Zenou, Michael	Tu1-0-5, Th-P-29
Xiong, Wei	Th2-0-10	Yasutomo, Masato	Th3-0-6	Zhang, Kaifeng	We-P-20
Xu, Jian	We2-0-7, Th-P-11	Yatsui, Takashi	Fr2-I-1	Zhang, Long	Th2-0-13
Xu, Zhi Zhan	Th2-0-13	Yokotani, Atsushi	We-P-30	Zhang, Qijin	Th1-0-11
	—Y—	Yoneda, Haruki	Tu1-PL-3	Zhang, Ruihua	We-P-26
Yadroitsev, Igor	We1-0-9	Yonemoto, Yukihiro	Tu3-0-7	Zhang, Yan	We-P-26
Yahata, Keisuke	Th2-0-3	Yonezawa, Tetsu	Th3-0-6	Zhao, Fang	We-P-26
Yamachoshi, Yuji	We3-0-6	Yoon, Kwangho	Tu3-0-4, Th-P-15	Zhou, Yunshen	Th2-0-10, Th3-0-7
Yamada, Tamehide	We1-0-8	Yoon, M.	Th3-I-10	Ziebert, Carlos	We1-I-11
		Yorozu, Masafumi	We3-0-2	Zimmer, Klaus	Th2-0-1