第 6 回レーザ先端材料加工国際会議

The 6th International Congress on Laser Advanced Materials Processing
LPM2013 第 14 回レーザ精密微細加工国際シンポジウム
HPL2013 第 6 回高出力レーザ加工国際シンポジウム
2013 年 7 月 23 日（火）～26 日（金）
朱鷺メッセ 新潟コンベンションセンター
http://www.jlps.gr.jp/lamp/lamp2013/

▸**参加登録**　早期参加登録締切日:　5 月 1 日（水）
事前参加登録締切日:　7 月 1 日（月）
(会期初日 7/23 以降オンサイト登録も可能)

▸**会場**　所在地: 〒950-0078 新潟市中央区万代島 6 番 1 号
アクセス: http://www.tokimesse.com/visitor/access/

▸**主催**　一般社団法人レーザ加工学会

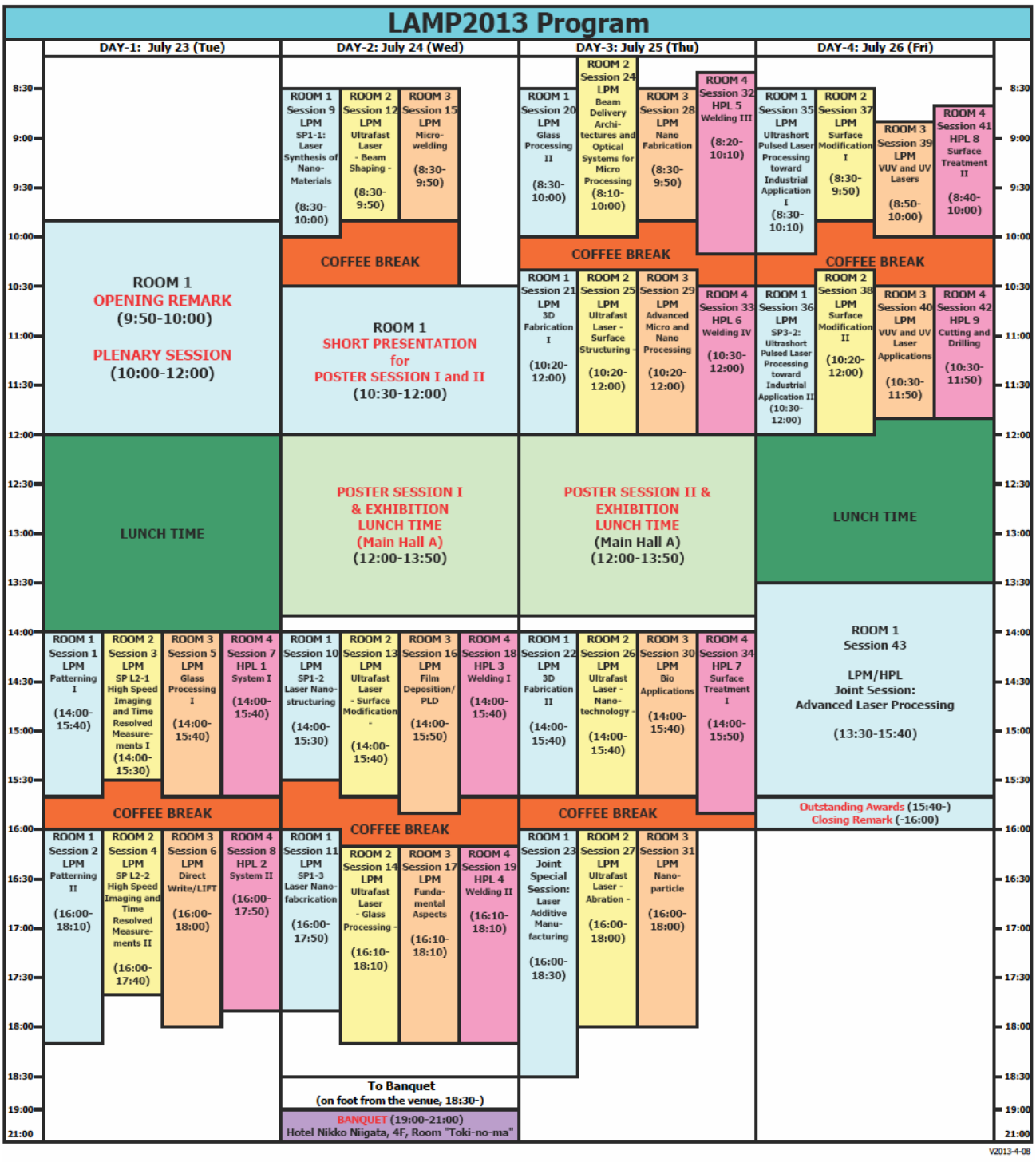
▸会議概要

第 6 回レーザ先端材料加工国際会議（LAMP2013: The 6th International Congress on Laser Advanced Materials Processing）は，第 14 回レーザ精密微細加工国際シンポジウム（LPM2013: The 14th International Symposium on Laser Precision Microfabrication），第 6 回高出力レーザ加工国際シンポジウム（HPL2013: The 6th International Symposium on High Power Laser Processing）より構成され，4 日間の日程で，マイクロ･ナノ加工，マクロ加工における基礎科学から産業応用までを広く議論する国際会議です．当該分野におきまして基礎研究者，エンドユーザー，レーザマニュファクチャーが一堂に会し，レーザと材料の相互作用の基礎科学からレーザ加工技術の現状，次世代のレーザ加工のトピックスまでをカバーします．この会議を通して，レーザ加工を支える科学基盤を確立することはもとより，レーザ加工技術の実用化を制限する要因，それを克服するために必要な科学技術，将来市場の予測などが明確になることを期待します．多くの皆様のご参加ご来場をお待ち申し上げております．

LAMP2013 組織委員長 杉岡 幸次

▸**協賛**　一般社団法人エレクトロニクス実装学会，公益社団法人応用物理学会，光化学協会，一般社団法人スマートプロセス学会，公益社団法人精密工学会 社団法人電気加工学会，一般社団法人日本塑性加工学会，社団法人日本溶接協会 一般社団法人溶接学会，一般社団法人レーザー学会，一般社団法人レーザプラットフォーム協議会

▸セッションチャート



▸研究発表予定数

口頭発表　　209 件（招待 37 件を含む）
ポスター発表　45 件
計 254 件 (日本 82 件+海外 172 件) の研究発表を予定いたしております。
(2013 年 4 月 25 日現在)

▸スペシャルセッション

SP L1）Laser nanofabrication

Session Organizer: Hong Minghui, National University of Singapore
Co-organizer: Craig B. Arnold, Princeton University, USA
The Laser as a versatile tool has been finding extensive applications in advanced manufacturing and will continue to play a major role in the push toward fabrication of nanoscale structures due to its unique ability to produce non-contact, light based processing in air over a large area at a fast speed. To showcase recent research progress on laser nanofabrication, this session covers the research topics related to nanostructures fabrication, including new processing design, light interactions with materials at the nanoscale, laser surface nano-patterning and nano-materials synthesis by laser ablation and laser induced chemical reactions.

SP L2）High speed imaging and time resolved measurements in laser processing

Session Organizer: Scott A. Mathews, The Catholic University of America, USA

The past decade has seen tremendous growth in the number of laser processing techniques being used in both research and industrial production. In addition to entirely new laser processes, the field has seen an expansion in the number of different materials being processed and dramatic advances in laser performance. As a result of this growth, many new processes are not fully understood. In order to fully characterize these processes, many researchers have employed high speed imaging and time resolved measurements to study laser-matter interactions in real time. In many cases, these in situ measurements have revealed important and unexpected information about the physics of the processes. This special session is designed to promote the exchange of ideas and results in the area of high speed imaging and time resolved measurements with the goal of creating a better understanding of the physical mechanisms associated with these novel and ever-expanding laser processes.

SP L3）Ultrashort pulsed laser processing toward industrial application

Session Organizer: Yasuhiro Okamoto, Okayama University, Japan
Co-organizer: Jens Holtkamp, Fraunhofer-Institut fuer Lasertechnik ILT, Germany

Ultrashort pulsed laser has been widely used and its nonlinear process has been attracting the interests for industrial applications. In order to realize industrial applications by ultralshort pulsed laser, not only process understanding but also related technology has been investigated and developed. This session covers research topics of ultrashort pulsed laser processing and related technologies towards industrial applications.

LPM/HPL JOINT SESSION: Tailored Surfaces by Laser Additive Manufacturing (LAM)

Session Organizer: Paul Denney, Lincoln Electric, USA
Co-organizer: Kunihiko Washio, Paradigm Laser Research Ltd., Japan

Laser Additive Manufacturing (LAM) has recently been described as "the next industrial revolution" and has been the focus of researchers, governments, corporations, and the media. Most of the interest has been focused on the "digital manufacturing" part of this technology where lasers are used to fuse materials into three dimensional models or function components with applications including consumer products, aerospace, medical, automotive, and more. While LAM has been touted as a recent development it actually dates back to 1980's when lasers were first used to alter the surfaces of materials to improve wear and corrosion properties of materials or for simple repairs damaged/worn components. Recently in parallel to the precision digital manufacturing aspect of LAM, there has been major improvements and implementation of laser "surface tailoring" for heavy manufacturing, mining, power generation, oil and gas, and agriculture. These applications as before include the addition of layers for wear and corrosion protection or to selectively add material with low heat input for repairing high value components. These new applications have been justified by material cost reduction, life extension, processing rate, and/or performance improvement but ultimately all of these actually are reduction of the lifecycle costs. Some of this has been made possible/practical due to advances in lasers and optics and/or new processing techniques. This session will focus on past and present applications of this area of LAM and some of the new developments in this area.

▸招待講演（敬称略）

プレナリーセッション

Paul Denney, Lincoln Electric, USA
Laser additive manufacturing (LAM) for tomorrow's economy

Katsumi Midorikawa, RIKEN, Japan
Progress of XUV science by high-order harmonic generation

Dirk Petring, Fraunhofer Institute for Laser Technology ILT, Germany
Mission possible: the next generation of multi-kW laser materials processing

LPM スペシャルセッション

SP L1

Naoto Koshizaki, AIST-National Institute of Advanced Industrial Science and Technology, Japan
Fabrication and application of submicron spherical particles prepared by pulsed laser melting in liquid

Din Ping Tsai, Research Center for Applied Sciences, Taiwan
Laser fabrication of plasmonic nanostructures for 3D light manipulation

SP L2

Pere Serra, Universitat de Barcelona, Spain
Time-resolved imaging of liquid ejection during laser printing

Valdas Sirutkaitis, Vilnius University, Lithuania
Time-resolved digital holography in the investigation of ablation and micro fabrication by femtosecond pulses

Claudia Unger, Laser Zentrum Hannover, Germany
Time-resolved studies of laser-assisted bioprinting

SP L3

Bastian Becker, TRUMPF Corporation KK, Japan
Latest ultra short pulsed laser technology for new materials, applications and industries

Arnold Gillner, Fraunhofer-Institut fuer Lasertechnik ILT, Germany
Prospects and requirements for industrialisation of ultrashort pulse laser technology

Manabu Shiozawa, HITACHI Ltd., Japan
Simultaneous multi-bit recording and driveless reading for permanent storage in fused silica

レギュラーセッション (LPM)

Martin Booth, University of Oxford, UK
Dynamic optics for three-dimensional laser processing

Eric Pei-Yu Chiou, UCLA, USA
Photothermal nanoblade for cell surgery and large cargo delivery

Feng Chen, Shandong University, China
Femtosecond laser micromachined dielectric crystals for photonic applications

Maria Farsari, IESL-FORTH, Greece
Beyond the diffraction limit: Laser fabrication of 3D nanostructures

Nils Hartmann, Universitat Duisburg-Essen, Germany
Laser processing of ultrathin organic coatings: Prospects in nanoscale patterning, Functionalization and Manipulation

Masahito Katto, Miyazaki University, Japan
Development of ultrashort pulsed VUV laser and its applications

Takanobu Kisu, Kyushu University, Japan
Recent advancement in laser processing of long-length high-performance RE-123 superconducting wires

Thomas Lippert, Paul Scherrer Institut, Switzerland
Laser-induced forward transfer (LIFT) of functional materials

Michel Meunier, Ecole Polytechnique de Montreal, Canada
Plasmonic enhanced pulsed laser nanoprocessing and cell nanosurgery

Ludger Overmeyer, Leibniz Universitat Hannover, Institut fuer Transport- und Automatisierungstechnik, Germany
Polymer based planar optronic systems

Kentaro Tatsukoshi, Asahi glass foundation, Japan
Through glass via (TGV) formation technology for 3D integrated packaging

Michael Withford, Macquirie University, Australia
Integrated optics and photonic devices: femtosecond laser direct write technique and laser written waveguides

レギュラーセッション (HPL)

Steffan Bonss, Fraunhofer IWS, Germany
Laser heat treatment technologies for wear protection of steam turbine blades

Kim Young Sik, Korea Institute of Science and Technology Information, Korea
Recent technological tendency of laser/arc hybrid welding

Muneharu Kutsuna, Advanced Laser Technology Research Center Co., Ltd., Japan
Study on mosaic joint of CFRP composite using a Q-switch YAG laser

Kogel Hollacher Markus, Precitec KG, Germany
Latest approaches in process monitoring for high power processing on hybrid welding

Thomas Seefeld, Bremer Institut fuer angewandte Strahltechnik GmbH, Germany
New developments in filler wire assisted laser joining of aluminum

Kenji Shinozaki, Hiroshima University, Japan
Solidification cracking susceptibility of modified 9Cr-1Mo steel weld metal during hot wire laser welding with narrow gap groove

LPM/HPL ジョイントセッション

Eckhard Beyer, Fraunhofer IWS, Technische Universitaet Dresden, Germany
High-rate laser deposition

Jeff Franks, Laserline KK, Japan
Cladding & heat treatment with high power, fibre-coupled, diode lasers

Marco Goebel, Fraunhofer-Institut fur Lasertechnik ILT, Germany
Repair of compressor airfoils by laser metal deposition and process monitoring with a CPC-system

Alexander F. H. Kaplan, Lulea University of Technology, Sweden
Angle- and absorptivity-modulation at inclined wavy processing fronts

Xinbing Liu, Panasonic, USA
Drilling holes with flexible shapes (tentative)

William O'Neil, University of Cambridge, UK
Supersonic laser deposition

Minlin Zhong, Tsinghua University, China
Laser cladding in China: from fundamental research to industrial applications

Steve Yalisove, Michigan University, USA
Shock melting in ultrafast laser machining (tentative)

▸参加登録

早期参加登録締切日: 5 月 1 日（水）
事前参加登録締切日: 7 月 1 日（月）
(会期初日 7/23 以降オンサイト登録も可能)
参加登録サイト: http://www.jlps.gr.jp/lamp/lamp2013/
ホテル予約締切（JTB 西日本）： 7 月 5 日（金）

登 録 種 別	JLPS 会員	非会員	登録費に含まれるもの
早期登録*（フル･レジストレーション）（5 月 1 日締切）	**54,000 円**	**60,000 円**	抄録集"LAMP2013 Congress Program & Technical Digest", "Online Proceedings of LAMP 2013"（会議後発行） 展示会
事前登録*（フル・レジストレーション）（7 月 1 日締切）	**70,000 円**	**76,000 円**	
当日登録*（会期: 7/23-26）（オンサイト･フル･レジストレーション）	**70,000 円**	**76,000 円**	
一日参加登録	**36,000 円**	**39,000 円**	抄録集"LAMP2013 Congress Program & Technical Digest", "Online Proceedings of LAMP 2013"（会議後発行） 展示会
学生登録（学生証 要提示）（社会人ドクターには適用されません）	**12,000 円**		
バンケット（会期 2 日目 7/24 夜）（バンケットチケットは、予めオンライン登録にて、お申込みください）	**フルレジストレーション**		**無料招待**
	招待講演者 同伴者*（お一人目）		**無料招待**
	招待講演者 同伴者*（お二人目）		**6,000 円**
	フルレジストレーションの同伴者*		**6,000 円**
	学 生（学生証 要提示）		**6,000 円**
	一日参加		**12,000 円**
	出 展 者		**12,000 円**

*同伴者はご家族に限ります.

▸エリアマップ

▸助成団体

新潟県，新潟市
公益財団法人 天田財団
一般社団法人 材料科学技術振興財団（MST）
一般財団法人 テレコム先端技術研究支援センター（SCAT）
公益財団法人 日本板硝子材料工学助成会

▸企業スポンサー

プラチナスポンサー（コーヒーブレイク・スポンサー）

株式会社オフィールジャパン

ゴールドスポンサー（プレナリーセッション・スポンサー）

トルンプ株式会社

ゴールドスポンサー（コングレスバッグ・スポンサー）

株式会社メガオプト

ゴールドスポンサー（バンケット・スポンサー）

株式会社片岡製作所

シルバースポンサー（アワード・スポンサー）

IMRA America, Inc.

ブロンズスポンサー

株式会社レーザーシステム

ブロンズスポンサー

コヒレント・ジャパン株式会社

ブロンズスポンサー

Amplitude Systemes, France

▶カタログ展示

（順不同）

ソーラボジャパン株式会社

スペクトラ・フィジックス

株式会社 ICS コンベンションデザイン

▶広告スポンサー

ライテック株式会社

▸出展（テーブルトップ展示）

（順不同）

サンインスツルメント株式会社

フォトテクニカ株式会社

株式会社東京インスツルメンツ

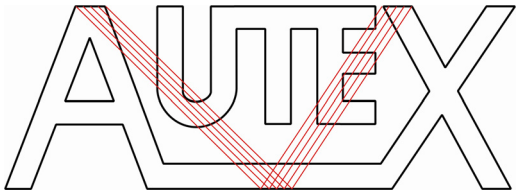
株式会社ノビテック

イエナオプティックジャパン株式会社

サーボロボ・ジャパン株式会社

株式会社 日本レーザー

オーテックス株式会社



IMRA America, Inc.

▸チェア･コチェア

ジェネラルチェア: 杉岡 幸次（理化学研究所）
コチェア/LPM2013 プログラム委員長: 新納 弘之（産業技術総合研究所）
コチェア/HPL2013 プログラム委員長: 片山 聖二（大阪大学接合科学研究所）
コチェア: 伊東 一良（大阪大学）
コチェア: Yongfeng Lu (University of Nebrasska-Lincoln, USA)
コチェア: Michael Schmidt (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)
名誉委員長: 宮本 勇（大阪大学名誉教授）

▸国際顧問委員会

Alan Arai (IMRA America, Inc., USA), Ralf Eckhard Beyer (Fraunhofer IWS, Germany), Chung-Wei Cheng (Industrial Technology Research Institute, Taiwan), Remy Fabbro (CLFA-Cooperation Laser Franco-Allemande, France), Burkhard Fechner (Coherent GmbH, Germany), Costas Fotakis (F.O.R.T.H.-Foundation for Research and Technology-Hellas, Greece), Kenshi Fukumitsu (Hamamatsu Photonics K.K., Japan), Costas Grigoropoulos (University of California Berkeley, USA), Takashi Ishide (Mitsubishi Heavy Industries, Ltd ., Japan), Takahisa Jitsuno (Osaka University, Japan), Teruyoshi Kadoya (Precitec, Japan), Jeong-Han Kim (KITECH-Korea Institute of Industrial Technology, South Korea), Akikazu Kitagawa (Hitachi Zosen Corporation, Japan), Vitali Konov (GPI- General Physics Institute, Russia), Dietmar Kracht (LZH- Laser Zentrum Hannover, Germany), Masao Kubo (Panasonic Electric Works, Ltd ., Japan), Sylvain Lazare (Universite de Bordeaux 1, France), Jyoti Mazumder (The University of Michigan, USA), Kiyokazu Mori (NISSAN, Japan), Sumio Nakahara (Kansai University, Japan), Hitoshi Nishimura (Panasonic Welding Systems Co ., Ltd ., Japan), Tatsuo Okada (Kyushu University, Japan), Moriaki Ono （JFE Techno-Research Corporation, Japan), Rajesh S. Patel (Spectra Physics, USA), Reinhart Poprawe (Fraunhofer ILT, Germany), Stan Ream (EWI, USA), Shozui Takeno (Mitsubishi Electric Corporation, Japan), Frank Vollertsen (BIAS- Bremer Institut fuer angewandte Strahltechnik, Germany), Ken Watkins (University of Liverpool, UK), Xianfan Xu (Purdue University, USA), Kozo Yasuda (Konan University, Japan)　（敬称略・順不同）

▸LPM プログラム委員会

委員長: 新納弘之（産業技術総合研究所）
委員: Craig B. Arnold (Princeton University, USA), Ya Cheng (Shanghai Institute of Optics and Fine Mechanics, CAS, China), Sung-Hak Cho (Korea Institute of Machinery & Materials, South Korea), Friedrich H. Dausinger (University of Stuttgart, Institut fur Strahlwerkzeuge, IFSW, Germany), Jan J. Dubowski (Universite de Sherbrooke, Canada), Arnold Gillner (Fraunhofer ILT, Germany), Henry Helvajian (The Aerospace Corporation, USA), Guido Hennig (Daetwyler Graphics AG, Switzerland), Peter R. Herman (University of Toronto, Canada), Minghui Hong (Data Storage Institute, Singapore), Jurgen Ihlemann (Laser Laboratory Goettingen, Germany), Yoshiro Ito (Nagaoka University of Technology, Japan), Saulius Juodkazis (Swinburne University of Technology, Australia), Tetsuya Makimura (University of Tsukuba, Japan), Shoji Maruo (Yokohama National University, Japan), Scott A. Mathews (The Catholic University of America, USA), Michel Meunier (Ecole Polytechnique de Montreal, Canada)Yoshiki Nakata (Osaka University, Japan), Etsuji Ohmura (Osaka University, Japan), Yasuhiro Okamoto (Okayama University, Japan), Masayuki Okoshi (National Defense Academy, Japan), Toshihiko Ooie (METI, AIST, Japan), Andreas Ostendorf (Ruhr-University Bochum, Germany), Alberto Pique (US Naval Research Laboratory, USA), Juergen Reif (Brandenburg University of Technology, Germany), Pere Serra (Universitat de Barcelona, Spain), Javier Solis (Instituto de Optica, Spain), Jurgen Stampfl (TU Wien (University of Vienna), Austria), Razvan Stoian (Universite Jean Monnet, France), Stelios Tzortzakis (F.O.R.T.H.-Foundation for Research and Technology-Hellas, Greece), Vadim P. Veiko (St. Petersburg State University of Information Technologies, Russia), Bert Huis in 't Veld (University of Twente, The Netherlands), Kunihiko Washio (Paradigm Laser Research Ltd., Japan), Wataru Watanabe (Ritsumeikan University, Japan)
（敬称略･順不同）

▶HPL プログラム委員会

委員長: 片山聖二（大阪大学接合科学研究所）
委員: Akio Hirose (Osaka University, Japan), Berndt Brenner (Fraunhofer Institute Material and Beam Technology, Germany), Francis Briand (AIR LIQUIDE / CTAS, France), Alexander Kaplan (Lulea University of Technology, Sweden), Aravinda Kar (University of Central Florida, USA), Jong Do Kim (Korea Maritime University, South Korea), Veli P. Kujanpaa (VTT Technical Research Centre of Finland, Finland), Muneharu Kutsuna (ALTREC Co., Ltd., Japan), Kazuhisa Mikame (Maeda Industry Co.,Ltd., Japan), Wang Jingbo (Panasonic Welding Systems Co ., Ltd., Japan), Yixiong Wu (Shanghai Jiaotong University, China), Hiroto Yamaoka (IHI Corporation, Japan), Masanori Yasuyama (Sumitomo Metal Industries, Ltd., Japan)　（敬称略・順不同）

▸LAMP2013 実行委員会

委員長: 伊藤 義郎（長岡技術科学大学）
委員: Yasutaka Hanada (Hirosaki University, Japan), Yoshio Hayasaki (Utsunomiya University, Japan), Hitoshi Hiraga (Tsubame Sanjo Regional Industries Promotion Center, Japan), Yoichiro Hosokawa (Nara Institute of Science and Technology, Japan), Masahito Katto (University of Miyazaki, Japan), Yousuke Kawahito (Osaka University, Japan) Tetsuya Makimura (University of Tsukuba, Japan), Shigeki Matsuo (The University of Tokushima, Japan), Yukio Miyashita (Nagaoka University of Technology, Japan), Masami Mizutani (Osaka University, Japan), Yasuaki Naito (Nippon Steel & Sumitomo Metal Corporation, Japan), Susumu Nakamura (Nagaoka College of Technology, Japan), Yoshiki Nakata (Osaka University, Japan), Aiko Narazaki (AIST, Japan), Hiroaki Nishiyama (Hokkaido University, Japan), Etsuji Ohmura (Osaka University, Japan), Yasuhiro Okamoto (Okayama University, Japan), Masayuki Okoshi (National Defense Academy, Japan Toshihiko Ooie（AIST, Japan), Yasuyuki Ozeki (Osaka University, Japan), Rie Tanabe (Nagaoka University of Technology, Japan), Motomichi Yamamoto (Hiroshima University, Japan), Yosuke Yamazaki (Osaka University, Japan)（敬称略・順不同）

▸お問合せ先

参加登録に関するお問合せ

株式会社 ICS コンベンションデザイン気付
LAMP2013 事務局
E-mail: lpm-reg@jlps.gr.jp

上記以外に関するお問合せ

〒567-0047 大阪府茨木市美穂ヶ丘 11 番 1 号
大阪大学接合科学研究所内 片山研究室気付
一般社団法人レーザ加工学会 LAMP2013 国際シンポジウム事務局
E-mail: lamp2013@jlps.gr.jp
TEL & FAX: (06) 6879-8642

JLPS