Laser 3D Manufacturing

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Contents

v Conference Committee

vii Introduction

Photonics21 and the perspectives from the European photonics industry (Plenary Paper, Presentation Video) [8970-201]
M. Mertin, Jenoptik AG (Germany)
View the presentation on the SPIE Digital Library: http://dx.doi.org/10.1117/12.2063589

Femtosecond laser 3D micromachining and its applications to biochip fabrication (Plenary Paper, Presentation Video) [8970-202]
K. Sugioka, RIKEN (Japan)
View the presentation on the SPIE Digital Library: http://dx.doi.org/10.1117/12.2063586

OPPORTUNITIES AND CHALLENGES IN LASER 3D MANUFACTURING

8970 02 A synopsis of the Defense Advanced Research Projects Agency (DARPA) investment in additive manufacture and what challenges remain (Invited Paper) [8970-1]
M. Maher, Defense Advanced Research Projects Agency (United States); A. Smith, J. Margiotta, Strategic Analysis, Inc. (United States)

8970 03 Laser-based additive manufacturing: where it has been, where it needs to go (Invited Paper) [8970-2]
K. P. Cooper, U.S. Naval Research Lab. (United States)

8970 04 Laser embedding electronics on 3D printed objects [8970-3]

8970 05 Fabricating specialised orthopaedic implants using additive manufacturing (Invited Paper) [8970-4]
P. Unwin, Stanmore Implants Worldwide Ltd. (United Kingdom)

MULTI-PHOTON POLYMERIZATION OF 3D MICRO- AND NANOSTRUCTURES I

8970 08 Three-dimensional two-photon lithography: an enabling technology for photonic wire bonding and multi-chip integration (Invited Paper) [8970-5]
C. Koos, W. Freude, N. Lindenmann, S. Koeber, T. Hoose, M. R. Billah, Karlsruhe Institute of Technology (Germany)

8970 0C Laser nanolithography and chemical metalization for the manufacturing of 3D metallic interconnects [8970-9]
T. Jonavičius, S. Rekštytė, A. Žukauskas, M. Malinauskas, Vilnius Univ. (Lithuania)
Three-dimensional ceramic molding process based on microstereolithography for the production of piezoelectric energy harvesters [8970-14]
S. Maruo, K. Sugiyama, Yokohama National Univ. (Japan); Y. Daicho, C-MET Inc. (Japan); K. Monri, Yokohama National Univ. (Japan)

Multifunctional and multimaterial 3D fabrication

Creation of multimaterial micro- and nanostructures through aqueous-based fabrication, manipulation, and immobilization (Invited Paper) [8970-19]
J. T. Fourkas, F. Dawood, S. Qin, L. Li, S. Nah, C. Ropp, Z. Cummins, B. Shapiro, E. Waks, Univ. of Maryland, College Park (United States)

Gas-mediated charged particle beam processing of nanostructured materials (Invited Paper) [8970-21]
C. J. Lobo, A. A. Martin, C. Elbadawi, J. Bishop, I. Aharonovich, M. Toth, Univ. of Technology, Sydney (Australia)

LASER ADDITIVE MANUFACTURING OF METAL STRUCTURES: JOINT SESSION WITH CONFERENCES 8963 AND 8970

Real-time laser cladding control with variable spot size [8970-23]
J. L. Arias, M. A. Montealegre, F. Vidal, J. Rodriguez, AIMEN Technology Ctr. (Spain); S. Mann, P. Abels, Fraunhofer-Institut für Lasertechnik (Germany); F. Motmans, VITO NV (Belgium)

Post-processing of 3D-printed parts using femtosecond and picosecond laser radiation [8970-24]
I. Mingareev, N. Gehlich, T. Bonhoff, CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States) and Fraunhofer-Institut für Lasertechnik (Germany); W. Meiners, I. Kelbassa, Fraunhofer-Institut für Lasertechnik (Germany); T. Biermann, Fraunhofer-Institut für Lasertechnik (Germany) and Joining Technologies, Inc. (United States); M. C. Richardson, CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States)

LASER PROCESSING OF NOVEL STRUCTURES AND COMPLEX SHAPES

Rapid manufacture of freeform micro-optics for high power applications [8970-26]
M. Currie, R. McBride, PowerPhotonic Ltd. (United Kingdom)

Flexible and robust beam shaping concepts with aspheres [8970-27]
U. Fuchs, asphericon GmbH (Germany)

Author Index
Conference Committee

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Session Chairs

1 Opportunities and Challenges in Laser 3D Manufacturing
   Henry Helvajian, The Aerospace Corporation (United States)

2 Multi-photon Polymerization of 3D Micro- and Nanostructures I
   Martin Wegener, Karlsruher Institut für Technologie (Germany)

3 Multi-photon Polymerization of 3D Micro- and Nanostructures II
   Henry Helvajian, The Aerospace Corporation (United States)

4 Applications and Diagnostics of Laser Transfer Techniques:
   Joint Session with Conferences 8967 and 8970
   Daisuke Nakamura, Kyushu University (Japan)

5 Multifunctional and Multimaterial 3D Fabrication
   Alberto Piqué, U.S. Naval Research Laboratory (United States)
6  Laser Additive Manufacturing of Metal Structures: Joint Session with Conferences 8963 and 8970  
   Stan Ream, Edison Welding Institute (United States)  

7  Laser Processing of Novel Structures and Complex Shapes  
   Bo Gu, Bos Photonics (United States)
Introduction

The Laser 3D Manufacturing conference was newly established at SPIE Photonics West 2014 with the intent to provide a forum for professionals in materials science, laser processing physics/chemistry, mechanical engineering, design tools, software modeling, characterization, and metrology to share and discuss the latest advances in the field of laser-based manufacturing. The gathering offered a unique opportunity to discuss the development and implementation of the next generation of laser-based 3D manufacturing processes that will accelerate the mass-customization of products. The Laser 3D Manufacturing conference goals were to merge ideas and approaches used in free-form fabrication that not only involves both additive and subtractive techniques, but also to explore light-matter interaction phenomena that achieve transformative effects.

The conference hopes to spurn the development of materials that have protean (mutable, changeable) properties that could be induced via light-matter interaction “upon command.” The conference also hopes to generate interest within the process control disciplines that will enable the reliable 3D manufacturing of structures that have localized functionality.

The full two-day event was marked with overflow sessions. The program schedule and submitted papers of the inaugural meeting follows.

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