

Synthesis and Photonics of Nanoscale Materials XI

Sunday - Tuesday 2 - 4 February 2014

Conference Sessions At A Glance

[SHOW](#) | [HIDE](#)

- 1: Laser-based Nanomaterials Synthesis and Real-Time Diagnostics
- 2: Laser-induced Chemistry and Assembly
- 3: Laser-induced Modification and Patterning of Surfaces I: Joint Session with Conferences 8967 and 8969
- 4: Laser-induced Modification and Patterning of Surfaces II: Joint Session with Conferences 8967 and 8969
- 5: Nanomaterial Photonics and Plasmonics I: Joint Session with Conferences 8967 and 8969
- 6: Nanomaterial Photonics and Plasmonics II: Joint Session with Conferences 8967 and 8969
Posters-Tuesday

Important Dates

[SHOW](#) | [HIDE](#)Abstract Due:
22 July 2013Author Notification:
30 September 2013Manuscript Due Date:
6 January 2014

Conference Committee

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Conference Chairs

[David B. Geohegan](#), Oak Ridge National Lab. (United States)[Frank Träger](#), Univ. Kassel (Germany)[Jan J. Dubowski](#), Univ. de Sherbrooke (Canada)

SUNDAY 2 FEBRUARY

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Session 1: Laser-based Nanomaterials Synthesis and Real-Time Diagnostics

Sunday 2 February 2014


1:00 PM - 3:10 PM

Session Chair: [David B. Geohegan](#), Oak Ridge National Lab. (United States)

In situ Raman spectroscopy studies of single-walled carbon nanotube growth *(Invited Paper)*

Paper 8969-1

Time: 1:00 PM - 1:30 PM


Author(s): [Rahul Rao](#), Honda Research Institute USA, Inc. (United States)[Add To My Schedule](#) 

Laser-assisted growth of carbon nanotubes inside sealed fluidic microchannels

Paper 8969-2

Time: 1:30 PM - 1:50 PM

Author(s): Yoeri van de Burgt, Audrey Champion, Yves Bellouard, Technische Univ. Eindhoven (Netherlands)


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Revealing growth mechanism of graphene induced by CVD and PLD using real-time optical diagnostics

Paper 8969-3

Time: 1:50 PM - 2:10 PM

Author(s): Alex A. Puzos, David B. Geohegan, Sreekanth Pannala, Christopher M. Rouleau, Gyula Eres, Masoud Mahjouri-Samani, Gerd Duscher, Oak Ridge National Lab. (United States)


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Laser-based synthesis of nanoparticles: role of laser parameters and background conditions

Paper 8969-4

Time: 2:10 PM - 2:30 PM

Author(s): Tatiana E. Itina, Lab. Hubert Curien (France); Mikhail Povarnitsyn, Joint Institute for High Temperatures (Russian Federation), Lab Hubert Curien, Saint-Etienne (France); Andrey Voloshko, Lab. Hubert Curien (France)


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Understanding the formation of nanostructures and thin films using nanoparticles as 'building blocks' in pulsed laser deposition

Paper 8969-5

Time: 2:30 PM - 2:50 PM

Author(s): Masoud Mahjouri-Samani, David B. Geohegan, Alex A. Puzos, Christopher M. Rouleau, Gyula Eres, Karren L. More, Miaofang Chi, Oak Ridge National Lab. (United States); Mengkun Tian, Gerd Duscher, The Univ. of Tennessee (United States)


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Catalytic nanoparticles for carbon nanotube growth synthesized by through thin film femtosecond laser ablation

Paper 8969-6

Time: 2:50 PM - 3:10 PM

Author(s): Christopher M. Rouleau, Alex A. Puzos, David B. Geohegan, Mina Yoon, Karren L. More, Oak Ridge National Lab. (United States); Gerd Duscher, The Univ. of Tennessee (United States); Cheng-Yu Shih, Chengping Wu, Leonid V. Zhigilei, Univ. of Virginia (United States)

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Coffee Break 3:10 PM - 3:40 PM

Session 2: Laser-induced Chemistry and Assembly

Sunday 2 February 2014

3:40 PM - 5:20 PM


Session Chair: [Frank Träger](#), Univ. Kassel (Germany)

Demonstration of enhanced surface mobility of adsorbate cluster species by surface acoustic wave excitation-induced by a pulsed laser

Paper 8969-7

Time: 3:40 PM - 4:00 PM

Author(s): Anthony J. Manzo, Henry Helvajian, The Aerospace Corp. (United States)


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Characterization of two-photon polymerization process using Raman microspectroscopy

Paper 8969-8

Time: 4:00 PM - 4:20 PM

Author(s): L. J. Jiang, Yunshen Zhou, Wei Xiong, Univ. of Nebraska-Lincoln (United States); Y. Gao, Univ of Nebraska Lincoln (United States), Univ of Nebraska (United States); T. Baldacchini, Newport Corporation (United States); J.F. Silvain, Univ of Nebraska Lincoln (United States); L. Jiang, Beijing Institute of Technology (China); Yongfeng Lu, Univ. of Nebraska-Lincoln (United States)


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Stability of Rh-Pd-Pt alloy nanoparticles produced by femtosecond laser irradiation of aqueous solution with surfactant

Paper 8969-9

Time: 4:20 PM - 4:40 PM

Author(s): Md. Samiul Islam Sarker, Takahiro Nakamura, Shunichi Sato, Tohoku Univ. (Japan)


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Preparation of submicron-sized gold particles using laser-induced agglomeration-fusion process

Paper 8969-10

Time: 4:40 PM - 5:00 PM

Author(s): Takeshi Tsuji, Yuuma Higashi, Masaharu Tsuji, Kyushu Univ. (Japan); Yoshie Ishikawa, National Institute of Advanced Industrial Science and Technology (Korea, Republic of); Naoto Koshizaki, Hokkaido Univ. (Japan)


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Compositional analysis of silicon fibrous nanostructures synthesized using femtosecond laser pulses under ambient condition

Paper 8969-11

Time: 5:00 PM - 5:20 PM

Author(s): Manickam Sivakumar, Amrita Visshwa Vidyapeetham Univ. (India); Krishnan Venkatakrishnan, Bo Tan, Ryerson Univ. (Canada)

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MONDAY 3 FEBRUARY

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Session 3: Laser-induced Modification and Patterning of Surfaces I: Joint Session with Conferences 8967 and 8969

Monday 3 February 2014

8:00 AM - 10:00 AM


Session Chair: [Yoshiki Nakata](#), Osaka Univ. (Japan)

Excimer laser-induced nanoablation of amorphous and nanocrystalline diamond films

Paper 8969-28

Time: 8:00 AM - 8:20 AM

Author(s): Maksim S. Komlenok, Viktor G. Ralchenko, Sergei M. Pimenov, Vitaly I. Konov, A. M. Prokhorov General Physics Institute (Russian Federation)


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Black and colored metals and applications *(Invited Paper)*

Paper 8967-1

Time: 8:20 AM - 8:50 AM

Author(s): Chunlei Guo, Univ. of Rochester (United States)


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Processing of nano-porous film based on plasmonic excitation of Au nanoparticles *(Invited Paper)*

Paper 8967-2

Time: 8:50 AM - 9:20 AM

Author(s): Yasuyuki Tsuboi, Osaka City Univ. (Japan)


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Fluorescence and second-harmonic generation correlative microscopy to probe space charge separation during femtosecond direct laser writing

Paper 8969-12

Time: 9:20 AM - 9:40 AM

Author(s): Lionel S. Canoni, Nicolas Marquestaut, Univ. Bordeaux 1 (France); Yannick G. Petit, Thierry Cardinal, Institut de Chimie de la Matière Condensée de Bordeaux (France)


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Real-time adaptive optimization of laser induced nano ripples by laser pulse shaping

Paper 8967-3

Time: 9:40 AM - 10:00 AM

Author(s): Pornsak Srisungsithisunti, King Mongkut's Univ. of Technology North Bangkok (Thailand); Marian Zamfirescu, Liviu P. Neagu, National Institute for Lasers, Plasma and Radiation Physics (Romania); Nicolas Faure, Lab Hubert Curien, Université Jean MONNET (France); Razvan Stoian, Lab. Hubert Curien (France)

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Coffee Break 10:00 AM - 10:30 AM

Session 4: Laser-induced Modification and Patterning of Surfaces II: Joint Session with Conferences 8967 and 8969

Monday 3 February 2014

10:30 AM - 12:10 PM


Session Chair: [Xianfan Xu](#), Purdue Univ. (United States)

The liquid phase assembly of metallic nanoparticle arrays using nanolithography and pulsed laser melting *(Invited Paper)*

Paper 8969-13

Time: 10:30 AM - 11:00 AM

Author(s): Jason D. Fowlkes, The Univ. of Tennessee (United States)


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Laser-induced patterns on metals and polymers for biomimetic surface engineering *(Invited Paper)*

Paper 8967-4

Time: 11:00 AM - 11:30 AM

Author(s): Anne-Marie Kietzig, Jorge Lehr, McGill Univ. (Canada); Luke Matus, McGill University (Canada); Fang Liang, McGill Univ. (Canada)


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Laser-induced periodic nanoparticle patterns

Paper 8969-14

Time: 11:30 AM - 11:50 AM

Author(s): Nathalie N. Destouches, Univ. de Lyon (France), Lab. Hubert Curien (France); Guy Vitrant, IMEP-LAHC (France), CEA-LETI-Minatec (France); Nicolas N. Crespo-Monteiro, Lab. Hubert Curien (France), Univ. de Lyon (France); Zeming Liu, Univ. de Lyon (France), Lab. Hubert Curien (France); Yaya Lefkir, Univ. Jean Monnet Saint-Etienne (France), Univ. de Lyon (France); Francis Vocanson, Lab. Hubert Curien (France), Univ. de Lyon (France); Thierry Epicier, Matériaux, Ingénierie et Sciences (MATEIS), UMR 5510 CNRS, Université de Lyon, INSA-Lyon (France)


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Growth evolution of high spatial frequency LIPSS on SiC crystal surfaces

Paper 8967-5

Time: 11:50 AM - 12:10 PM

Author(s): Go Obara, Hisashi Shimizu, Taira Enami, Keio Univ. (Japan); Meng-Ju Sher, Benjamin Franta, Harvard Univ. (United States); Eric Mazur, Harvard School of Engineering and Applied Sciences (United States); Mitsuhiro Terakawa, Minoru Obara, Keio Univ. (Japan)

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Lunch Break 12:10 PM - 1:30 PM

Session 5: Nanomaterial Photonics and Plasmonics I: Joint Session with Conferences 8967 and 8969

Monday 3 February 2014

1:30 PM - 3:20 PM


Session Chair: [Richard F. Haglund](#), Vanderbilt Univ. (United States)

Optothermal response of plasmonic nanofocusing lens under picosecond laser irradiation *(Invited Paper)*

Paper 8967-6

Time: 1:30 PM - 2:00 PM

Author(s): zhidong Du, Chen Chen, Luis Traverso, Xianfan Xu, Purdue University (United States); Liang Pan, Purdue Univ. (United States); Dennis Tsao, Adrienne Lavine, University of California, Los Angeles (United States)


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Optical and electronic properties of transition metal dichalogenides at monolayer thickness *(Invited Paper)*

Paper 8969-15

Time: 2:00 PM - 2:30 PM

Author(s): Tony F. Heinz, Columbia Univ. (United States)


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Near-infrared emission from freestanding single- and few-layer graphene

Paper 8969-16

Time: 2:30 PM - 2:50 PM

Author(s): Tu Hong, Yunhao Cao, Da Ying, Yaqiong Xu, Vanderbilt Univ. (United States)


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Nanophotonics for light-management in thin-film photovoltaics and optical nanopatterning for their fabrication *(Invited Paper)*

Paper 8969-17

Time: 2:50 PM - 3:20 PM

Author(s): Rajesh Menon, The Univ. of Utah (United States)

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Coffee Break 3:20 PM - 3:50 PM

Session 6: Nanomaterial Photonics and Plasmonics II: Joint Session with Conferences 8967 and 8969

Monday 3 February 2014

3:50 PM - 5:50 PM


Session Chair: [Jan J. Dubowski](#), Univ. de Sherbrooke (Canada)

Multifunctional materials for electronics and photonics *(Invited Paper)*

Paper 8969-18

Time: 3:50 PM - 4:20 PM

Author(s): Riad Nechache, Federico Rosei, INRS, Univ. du Québec (Canada)


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Optical-only methods for measuring charge carrier diffusion in colloidal quantum dot films *(Invited Paper)*

Paper 8969-19

Time: 4:20 PM - 4:50 PM

Author(s): Oleksandr Voznyy, Univ. of Toronto (Canada)


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Polarization-dependent switching in gold-vanadium dioxide heterodimers

Paper 8969-20

Time: 4:50 PM - 5:10 PM

Author(s): Kannatassen Appavoo, Richard F. Haglund, Vanderbilt Univ. (United States)


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Resonant-cavity effects on plasmon-enhanced photoluminescence in zinc-oxide core-shell nanowires

Paper 8969-21

Time: 5:10 PM - 5:30 PM

Author(s): Daniel C. Mayo, Claire Marvinney, Ephraim Billign, Vanderbilt Univ. (United States); Richard Mu, Fisk Univ. (United States); Richard F. Haglund, Vanderbilt Univ. (United States)


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Femtosecond pump-probe spectroscopy of Au/TiO₂ nanocomposites: the evolution of localized plasmon resonance and its connection to charge transfer effects

Paper 8969-22

Time: 5:30 PM - 5:50 PM

Author(s): Arseny Aybushev, Andrey N. Kostrov, Fedor Gostev, Viktor A. Nadochenko, N.N. Semenov Institute of Chemical Physics (Russian Federation)

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TUESDAY 4 FEBRUARY

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**Session PTue:
Posters-Tuesday**

Tuesday 4 February 2014

6:00 PM - 8:00 PM


Conference attendees are invited to attend the LASE poster session on Tuesday evening. Come view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines and set-up instructions at <http://spie.org/PWPPosterGuidelines>.

Interpreting strong two-photon absorption of PE3 platinum acetylide complex: double resonance and excited state absorption

Paper 8969-23

Time: 6:00 PM - 8:00 PM

Author(s): Marcelo G. Vivas, Leonardo De Boni, Univ. de São Paulo (Brazil); Thomas M. Cooper, Air Force Research Lab. (United States); Cleber R. Mendonça, Univ. de São Paulo (Brazil)


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Structure-property relationships for two-photon absorbing triarylamine chromophores containing trifluoromethyl

Paper 8969-24

Time: 6:00 PM - 8:00 PM

Author(s): Marcelo G. Vivas, Daniel L. Silva, Leonardo De Boni, Univ. de São Paulo (Brazil); Robert Zalesny, Wroclaw Univ. of Technology (Poland); Sylvio Canuto, Univ. de São Paulo (Brazil); Eléna Ishow, Ecole Normale Supérieure de Cachan (France); Cleber R. Mendonça, Univ. de São Paulo (Brazil)


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Correlation between the morphology of the DEA-Mn compounds and the photoinduced absorption

Paper 8969-25

Time: 6:00 PM - 8:00 PM

Author(s): Katarzyna Ozga, Artur Wojciechowski, Politechnika Czestochowska (Poland); Volodymyr Kapustianyuk, Victor P. Rudyk, Ivan Franko National Univ. of L'viv (Ukraine); Stanislaw W. Tkaczyk, J. Dlugosz Univ. de Czestochowa (Poland)


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Raman gas sensing of modified Ag nanoparticle SERS

Paper 8969-26

Time: 6:00 PM - 8:00 PM


Author(s): NoSoung Myoung, Hyung Keun Yoo, Advanced Photonics Research Institute (Korea, Republic of); In-Wook Hwang, Gwangju Institute of Science and Technology (Korea, Republic of)

[Add To My Schedule](#) **Variation of cell spreading on TiO₂ film modified by 775 nm and 388 nm femtosecond laser irradiation**

Paper 8969-27

Time: 6:00 PM - 8:00 PM

Author(s): Masahiro Tsukamoto, Togo Shinonaga, Yuji Sato, Osaka Univ. (Japan); Peng Chen, Akiko Nagai, Takao Hanawa, Institute of Biomaterials and Bioengineering (Japan)

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