



22 - 27 January 2011
The Moscone Center
San Francisco, California United States

Conference 7922

Synthesis and Photonics of Nanoscale Materials VIII

Conference Program Track: **Laser Micro-/Nanoengineering** ([View Daily Schedule of Program Track](#))

Available in print as *Proceedings of SPIE Volume: 7922*

Dates: **Monday-Tuesday 24 - 25 January 2011**

Conference Chairs

David B. Geohegan, Oak Ridge National Lab.; **Jan J. Dubowski**, Univ. de Sherbrooke (Canada); **Frank Träger**, Univ. Kassel (Germany)

Program Committee

Carmen N. Afonso, Consejo Superior de Investigaciones Científicas (Spain); **J. Thomas Dickinson**, Washington State Univ.; **Costas P. Grigoropoulos**, Univ. of California, Berkeley; **Richard F. Haglund, Jr.**, Vanderbilt Univ.; **Tony F. Heinz**, Columbia Univ.; **Iiko K. Ilev**, U.S. Food and Drug Administration; **Hiroshi Kumagai**, Osaka City Univ. (Japan); **Thomas K. Lippert**, Paul Scherrer Institut (Switzerland); **Vladimir Shalaev**, Purdue Univ.; **Xianfan Xu**, Purdue Univ.

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Monday 24 January

Session 1: Laser Synthesis and Spectroscopy of Nanowires and Nanotubes

Date: **Monday 24 January**

Time: **8:20 AM - 10:15 AM**

Session Chair: **David B. Geohegan**, Oak Ridge National Lab.

Selective annealing by picosecond laser pulses for conductive patterns on the transparent zinc oxide thin film

Paper 7922-1

Time: **8:20 AM - 8:40 AM**

Author(s): Daeho Lee, Heng Pan, Univ. of California, Berkeley (United States); Seung Hwan Ko, KAIST (Korea, Republic of); Costas P. Grigoropoulos, Univ. of California, Berkeley (United States); Hee K. Park, AppliFlex LLC. (United States)

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Fabrication of layer structured ZnO nanowire by nanoparticle-assisted pulsed laser deposition for optoelectronic application

Paper 7922-2

Time: **8:40 AM - 9:00 AM**

Author(s): Daisuke Nakamura, Akio Kumeda, Kazuyuki Toya, Kota Okazaki, Kazuki Kubo, Koji Tsuta, Mitsuhiro Higashihata, Tatsuo Okada, Kyushu Univ. (Japan)

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In situ spectroscopic diagnostics of SnO₂ nanowire growth by laser-CVD at high temperatures

Paper 7922-3

Time: **9:00 AM - 9:20 AM**

Author(s): Alex Puzetzkyy, Junsoo Shin, Christopher Rouleau, Jason D. Readle, Norbert Thonnard, Amit Goyal, David B. Geohegan, Oak Ridge National Lab. (United States)

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Parametric study of laser assisted silicon nanowire growth mechanism

Paper 7922-4

Time: **9:20 AM - 9:40 AM**

Author(s): Sang-gil Ryu, David J. Hwang, Costas P. Grigoropoulos, Univ. of California, Berkeley (United States)

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The single walled carbon nanotube: a model system for excitons in 1D (*Invited Paper*)

Paper 7922-5

Time: **9:40 AM - 10:15 AM**

Author(s): Jacques Lefebvre, National Research Council Canada (Canada)

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Coffee Break 10:15 AM - 10:45 AM

Session 2: Nanoparticle Synthesis and Bioapplications

Date: **Monday 24 January**

Time: **10:45 AM - 12:00 PM**

Session Chair: **Jan J. Dubowski**, Univ. de Sherbrooke (Canada)

Nanoscale optoelectronic probes for carbon nanotube based nanobiohybrids (*Invited Paper*)

Paper 7922-6

Time: **10:45 AM - 11:20 AM**

Author(s): Yaqiong Xu, Vanderbilt Univ. (United States)

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Photo-thermal mediated transformation of carbon nanoparticles

Paper 7922-7

Time: **11:20 AM - 11:40 AM**

Author(s): Vijaylakshmi Varadrajan, Ninad D. Ingle, Ali R. Koymen, Samarendra K. Mohanty, The Univ. of Texas at Arlington (United States)

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Femtosecond laser-induced formation of AuAg nanoalloys from aqueous mixture of metallic ions

Paper 7922-8

Time: **11:40 AM - 12:00 PM**

Author(s): Yuliaty Herbani, Takahiro Nakamura, Shunichi Sato, Tohoku Univ. (Japan)

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Lunch Break 12:00 PM - 1:15 PM
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Session 3: Frontiers in Plasmonics

Date: **Monday 24 January**

Time: **1:15 PM - 3:20 PM**

Session Chair: **Frank Träger**, Univ. Kassel (Germany)

Plasmonic nanoparticle optical antennas and cavities for manipulation of radiative emission rate and directivity (*Invited Paper*)

Paper 7922-9

Time: **1:15 PM - 1:50 PM**

Author(s): Harry A. Atwater, Jr., California Institute of Technology (United States)

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Surface plasmon lasers (*Invited Paper*)

Paper 7922-10

Time: **1:50 PM - 2:25 PM**

Author(s): Haim Grebel, New Jersey Institute of Technology (United States)

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Tailoring the interaction between matter and polarized light with plasmonic optical antennas (*Invited Paper*)

Paper 7922-11

Time: **2:25 PM - 3:00 PM**

Author(s): Paolo Biagioni, Politecnico di Milano (Italy)

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Damping parameters of localized surface plasmon polariton resonances of gold nanoparticles

Paper 7922-12

Time: **3:00 PM - 3:20 PM**

Author(s): Frank Hubenthal, Frank Träger, Univ. Kassel (Germany)

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Coffee Break 3:20 PM - 3:50 PM
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Session 4: Controlling Laser Interactions at the Nanoscale

Date: **Monday 24 January**

Time: **3:50 PM - 5:45 PM**

Session Chair: **Alex A. Puretzky**, Oak Ridge National Lab.

Resonant optical transmission through hole arrays in metal films: physics and applications (*Invited Paper*)

Paper 7922-13

Time: **3:50 PM - 4:25 PM**

Author(s): Reuven Gordon, Univ. of Victoria (Canada)

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Design parameters of surface-enhanced Raman spectroscopy templates for obtaining strong power enhancement factor with high area density at 532 nm excitation wavelength

Paper 7922-14

Time: **4:25 PM - 4:45 PM**

Author(s): Akira Zenidaka, Yuto Tanaka, Tomoya Miyanishi, Mitsuhiro Terakawa, Minoru Obara, Keio Univ. (Japan)

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Nanostructure formation by self-assembled monolayers: influence of the isomerization state of azobenzene ligands on monolayer formation

Paper 7922-15

Time: **4:45 PM - 5:05 PM**

Author(s): Florian Vogel, Frauke Bretthauer, Ulrich Siemeling, Frank Träger, Univ. Kassel (Germany)

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Hyperspectral imaging of surface plasmon resonance effects induced by uncollimated semiconductor radiation

Paper 7922-16

Time: **5:05 PM - 5:25 PM**

Author(s): Dominic Lepage, Jan J. Dubowski, Univ. de Sherbrooke (Canada)

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Optical limiting behavior of Au-Ag nanoparticles under CW laser illumination

Paper 7922-17

Time: **5:25 PM - 5:45 PM**

Author(s): P. K. Palanisamy, Ramachandran Kasu, Kirubha Elangovan, Anna Univ. Chennai (India)

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Tuesday 25 January

Posters-Tuesday

Date: **Tuesday 25 January**

Time: **6:00 PM - 7:30 PM**

Conference attendees are invited to attend the LASE & MOEMS-MEMS 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/x27476.xml>.

Synthesis of silicon fibrous nanoparticles aggregate structures using femtosecond laser radiation

Paper 7922-18

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

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Fabrication of gold-platinum alloy nanoparticles by high-intensity laser irradiation of aqueous solution

Paper 7922-19

Author(s): Takahiro Nakamura, Yuliati Herbani, Shunichi Sato, Tohoku Univ. (Japan)

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Atomic layer deposition of amorphous TiO₂/ZnO multilayers for soft x-ray coherent optics

Paper 7922-20

Author(s): Yasutaka Sanjo, Yuji Tanaka, Masaki Murata, Hiroshi Kumagai, Osaka City Univ. (Japan); Tsutomu Shinagawa, Osaka Municipal Technical Research Institute (Japan)

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Horizontal alignment of zinc oxide nanowires for UV optoelectronic applications

Paper 7922-21

Author(s): Kota Okazaki, Kyushu Univ. (Japan)

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Laser interactions with graphene: in situ and ex situ studies

Paper 7922-22

Author(s): Christopher Rouleau, Murari Regmi, Alex Poretzky, Gyula Eres, Jason D. Readle, David B. Geohegan, Oak Ridge National Lab. (United States)

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In situ density measurements of carbon nanotube arrays by laser reflectometry: flux dependent density variations induced by pulsed CVD

Paper 7922-23

Author(s): David B. Geohegan, Jeremy J. Jackson, Alex A. Poretzky, Gyula Eres, Christopher Rouleau, Karren More, Oak Ridge National Lab. (United States)

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Laser-based synthesis in liquid environment of silicon nanoparticles and their related structural and optical properties

Paper 7922-24

Author(s): Romuald Intartaglia, K. Bagga, Fernando Brandi, G. Das, A. Genovese, E. Di Fabrizio, Alberto Diaspro, Istituto Italiano di Tecnologia (Italy)

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