

# Poster Session

## Poster (Tuesday September 13)

Session Chair: *Suwas Nikumb*

- TuPO1     **Elimination of Surface Debris Generated by KrF Excimer Laser Ablation of Polymer**  
Dong Sig Shin<sup>1</sup>, To Hoon Kim<sup>1</sup>, Jae Hoon Lee<sup>2</sup>, and Jeong Suh<sup>2</sup>, <sup>1</sup>*Department of Metallurgical System Engineering, Yonsei University, South Korea*, <sup>2</sup>*Laser Application Group, Korea Institute of Machinery and Materials, South Korea*
- TuPO2     **Laser Processing of New Hybrid Organic-Inorganic Materials Based on Titanium Oxide Gels**  
A. I. Kuznetsov<sup>1,2</sup>, O. Kameneva<sup>1,3,4</sup>, L. A. Smirnova<sup>3</sup>, A. Alexandrov<sup>2</sup>, L. Rozes<sup>4</sup>, C. Sanchez<sup>4</sup>, K. Chhor<sup>1</sup>, N. Bityurin<sup>2</sup>, A. Kanaev<sup>1</sup> <sup>1</sup>*Laboratoire d'Ingénierie des Matériaux et des Hautes Pressions, France* <sup>2</sup>*Institute of Applied Physics RAS, Russia* <sup>3</sup>*Lobachevsky State University, Russia* <sup>4</sup>*Laboratoire de Chimie de la Matière Condensée, France*
- TuPO3     **A Laser Beam Model for High Performance Microdrilling**  
Sylvain Lazare and Vladimir Tokarev, *Laboratoire de Physicochimie Moléculaire (LPCM), France*
- TuPO4     **Optical Limiting Phenomena of Carbon Nanoparticles Prepared by Laser Ablation in Liquids**  
G.X. Chen<sup>1</sup>, M.H. Hong<sup>1</sup>, L.S. Tan<sup>1</sup> T.C. Chong<sup>1</sup>, H.I. Elim<sup>2</sup>, W. Z. Chen<sup>2</sup> and W. Ji<sup>2</sup>, <sup>1</sup>*Data Storage Institute, DSI Building and Department of Electrical and Computer Engineering, National University of Singapore, Singapore*, <sup>2</sup>*Department of Physics, National University of Singapore, Singapore*
- TuPO5     **2D Modeling of Dielectric Breakdown with Temporally Shaped Femtosecond Laser Pulses: Application to Surface Structuring**  
N.M. Bulgakova<sup>1</sup>, I.M. Burakov<sup>1</sup>, R. Stoian<sup>2</sup>, A. Rosenfeld<sup>2</sup>, I.V. Hertel<sup>2</sup>, <sup>1</sup>*Institute of Thermophysics SB RAS, Russia*, <sup>2</sup>*Laboratoire TSI (UMR 5516 CNRS), Université Jean Monnet, France*, <sup>2</sup>*Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie, Germany*
- TuPO6     **Optimizing Pulsed Laser Deposition Parameters of SmFeO<sub>3</sub> from Optical and Magneto-Optical Property Characterization**  
P.R. Dahoo<sup>1,2</sup>, A. Girard<sup>3</sup>, T. Hamon<sup>1</sup>, P. Renaudin<sup>1</sup>, M. Tessier<sup>1</sup>, N. Keller<sup>1</sup> and M. Guyot<sup>1</sup>, <sup>1</sup>*Laboratory of Magnetism and Optics of Versailles, France*, <sup>2</sup>*Department of Physics, University of Versailles France*, <sup>3</sup>*Laboratoire d'étude des Microstructures (LEM), France*
- TuPO7     **Influence of Laser-Pulse Width and Electron-Phonon Relaxation Time on Materials Processes in Ultrafast-Laser Ablation**  
Arun K.Upadhyay and Herbert M. Urbassek, *Fachbereich Physik, Universität Kaiserslautern, Erwin-Schrödinger-Straße, D-67663 Kaiserslautern, Germany*

- TuPO8 **Blank**
- TuPO9 **High Mobility ZnO and GaN Fabricated by Laser Assisted Molecular Beam Deposition**  
Robert L. DeLeon<sup>1</sup>, Nehal S. Chokshi<sup>1</sup> and W. A. Anderson<sup>2</sup>, <sup>1</sup>*AMBP Tech Corporation, USA*, <sup>2</sup>*SUNY at Buffalo, USA*
- TuPO10 **Effect of Coherent Carrier-Lattice Interactions on Dry Fs-Laser Cleaning of Critical Surfaces**  
Susan D. Allen, and Sergey I. Kudryashov, *Arkansas State University, State University, USA*
- TuPO11 **Plume Emissions Accompanying the Growth of Nanostructured Amorphous Carbon by Pulsed Laser Ablation**  
Simon J Henley<sup>1</sup>, J. David Carey<sup>1</sup>, S. Ravi<sup>1</sup>, P. Silva<sup>1</sup>, Gareth M. Fuge<sup>2</sup> and Michael N. R. Ashfold<sup>2</sup>, <sup>1</sup>*Nano-Electronics Centre, Advanced Technology Institute, University of Surrey, United Kingdom*, <sup>2</sup>*School of Chemistry, University of Bristol, United Kingdom*
- TuPO12 **Mechanisms of SiO<sub>n</sub> Cluster Formation and Fragmentation in the Laser Ablation of SiO Targets at 266 nm**  
María Jadraque<sup>1</sup> and Margarita Martín<sup>1</sup>, Mirosław Sawczak<sup>2</sup>, Adam Cenian<sup>2</sup> and Gerard Sliwinski<sup>2</sup>, <sup>1</sup>*Instituto de Química Física "Rocasolano"*, <sup>2</sup>*Polish Academy of Sciences, Poland*
- TuPO13 **Synthesis and Optimization of Tungsten and Tungsten Oxide Films Produced by Laser Ablation**  
Suzuki Shuntaro<sup>1</sup>, Tsuneo Suzuki<sup>1</sup>, Makoto Hirai<sup>1</sup>, Hisayuki Suematsu<sup>1</sup>, Constantin Grigoriu<sup>2</sup>, Cornelia Sima<sup>2</sup>, Ionut Nicolae<sup>2</sup>, Wolfgang Waldhauser<sup>3</sup> and Jürgen M. Lackner<sup>3</sup>, <sup>1</sup>*Nagaoka University of Technology, Japan*, <sup>2</sup>*National Institute for Laser, Plasma and Radiation Physics, Romania*, <sup>3</sup>*Joanneum Forschungs GmbH/Laser Center Leoben, Austria*
- TuPO14 **Effect of Laser Irradiation on Thermal Conductivity of ZnO Nanofluids**  
Jonggan Hong, Sang Hyun Kim, and Dongsik Kim, *Department of Mechanical Engineering, POSTECH, Korea*
- TuPO15 **Pulsed Laser Deposition of Polymers Doped with Fluorescent Probes. Application to Environmental Sensors**  
E. Rebollar<sup>1</sup>, M. Oujja<sup>1</sup>, M. Castillejo<sup>1</sup>, T. Corrales<sup>2</sup>, M.M. Villavieja<sup>2</sup>, P. Bosch<sup>2</sup>, S. Georgiou<sup>3</sup> <sup>1</sup>*Institute of Physical Chemistry Rocasolano, CSIC, Spain*, <sup>2</sup>*Institute of Polymer Science and Technology, CSIC, Spain*, <sup>3</sup>*Foundation for Research and Technology-Hellas, Institute of Electronic Structure and Laser, Greece*
- TuPO16 **Chemical Effects in the 248 nm Femtosecond Ablation of Doped Polymers**  
G. Bounos<sup>1</sup>, S. Georgiou<sup>1</sup>, C. Fotakis<sup>1</sup>, E. Rebollar<sup>2</sup>, M. Castillejo<sup>2</sup>, <sup>1</sup>*Foundation for Research and Technology-Hellas, Institute of Electronic Structure and Laser, Greece*, <sup>2</sup>*Institute of Physical Chemistry Rocasolano, CSIC, Spain*
- TuPO17 **UV-Assisted Selective Chemical Etching of Submicron Period Relief Gratings in Er/Yb-Codoped IOG-1 Phosphate Glass**  
C. Pappas and S. Pissadaklis, *Foundation for Research and Technology-Hellas, Institute of Electronic Structure and Laser, Vasilika Vouton, GREECE*

- TuPO18 **Laser Processing of Polymer Nanocomposite Thin Films: Experimental and Computational Methodologies**  
Aaron T. Sellinger, Elodie M. Leveugle, Guillaume Peman, Leonid V. Zhigilei, and James M. Fitz-Gerald, *University of Virginia, Department of Materials Science and Engineering, USA*
- TuPO19 **Local Growth of Aligned Carbon Nanotubes by Laser-Induced Surface Modification of Coated Surfaces**  
K. Zimmer, R. Böhme, D. Ruthe, Th. Rudolf, J. Zajadacz, Th. Höche, B. Rauschenbach, *Leibniz-Institut für Oberflächenmodifizierung e. V., Germany*
- TuPO20 **Femtosecond Laser Structuring for Interconnection of Thin Film Solar Cells**  
D. Ruthe<sup>1</sup>, K. Zimmer<sup>1</sup>, T. Rudolph<sup>1</sup>, R. Böhme<sup>1</sup>, A. Braun<sup>2</sup>, <sup>1</sup>*Leibniz-Institute for Surface Modification Leipzig, Germany*, <sup>2</sup>*Solarion GmbH Leipzig, Germany*
- TuPO21 **Simulations of Laser Ablation of Poly(methyl methacrylate)**  
Patrick F. Conforti<sup>a</sup>, Yaroslava G. Yingling<sup>b</sup> and Barbara J. Garrison<sup>a</sup>, <sup>a</sup>*Department of Chemistry Penn State University, USA*, <sup>b</sup>*Center for Cancer Research, National Cancer Institute, National Institute of Health, USA*
- TuPO22 **Ionization in Vacuum Ultraviolet F<sub>2</sub> Laser ablated Polymer Plumes**  
P E Dyer<sup>1</sup>, M Pervolaraki<sup>1</sup> and C D Walton<sup>1</sup>, T Lippert<sup>2</sup>, M. Kuhnke<sup>2</sup>, A. Wokaun<sup>2</sup>, <sup>1</sup>*Department of Physics, University of Hull, UK*, <sup>2</sup>*General Energy Research Department, Paul Scherrer Institut, Switzerland*
- TuPO23 **Long-Range, Arrayed Nano-Planes Produced Inside Fused Silica in the Moving Focus of a Femtosecond Laser Beam**  
R. S. Taylor<sup>1</sup>, C. Hnatovsky<sup>2</sup>, V. R. Bhardwaj<sup>3</sup>, E. Simova<sup>3</sup>, P. P. Rajeev<sup>3</sup>, P. B. Corkum<sup>3</sup>, D. M. Rayner<sup>3</sup>, <sup>1</sup>*Institute for Microstructural Sciences, National Research Council, Canada*, <sup>2</sup>*Department of Physics, University of Ottawa, Canada*, <sup>3</sup>*Steele Institute for Molecular Sciences, National Research Council, Canada*
- TuPO24 **Electron Microscopy Observations of an Amorphous Layer Formed by Femtosecond Laser Irradiation of Silicon**  
J. Yamanaka<sup>1</sup>, T.H.R. Crawford<sup>2</sup>, G.A. Botton<sup>3,4</sup>, and H.K. Haugen<sup>2,3,5</sup>, <sup>1</sup>*Center for Crystal Science and Technology, University of Yamanashi, Japan*, <sup>2</sup>*Department of Engineering Physics, McMaster University, Canada*, <sup>3</sup>*Brockhouse Institute for Materials Research, McMaster University, Canada*, <sup>4</sup>*Department of Materials Science and Engineering, McMaster University, Canada*, <sup>5</sup>*Department of Physics and Astronomy, McMaster University, Canada*
- TuPO25 **Fabrication of Laser Active Er<sup>3+</sup>:ZBLAN Planar Waveguides by Pulsed Laser Deposition and Femtosecond Laser Structuring**  
Jens Gottmann, Herbert Horn-Solle, Leonid Moiseev, Ralph Wagner, Dirk Wortmann, Ion Vasilief, *Lehrstuhl für Lasertechnik, RWTH Aachen, Germany*
- TuPO26 **Quantitative Emission from Femtosecond Microplasmas for Laser-Induced Breakdown Spectroscopy**  
Michael T. Taschuk, Sean E. Kirkwood, Georg W. Rieger, Ying Y. Tsui and Robert, *Department of Electrical and Computer Engineering, University of Alberta, Canada*

- TuPO27 **Sub-Wavelength Ripple Formation on Various Materials Induced by Tightly Focused Femtosecond Laser Radiation**  
Ralph Wagner, Jens Gottmann, *Lehrstuhl für Lasertechnik, RWTH Aachen, Germany*
- TuPO28 **Prompt Electron Emission During Nanosecond Laser Ablation of Tin**  
S. S. Harilal, Beau O'Shay and Mark S. Tillack, *University of California San Diego, Center for Energy Research, USA*
- TuPO29 **Time Resolved Images of Particle Ejection During Laser Ablation**  
Chunyi Liu, Sybor Wen, Xianglei Mao and R.E. Russo, *Lawrence Berkeley National Laboratory*
- TuPO30 **Study of High Power Laser Induced Vapor Plume Expansion in Background Air**  
Sy-Bor Wen, Chunyi Liu, Xianglei Mao, Richard E. Russo, *Lawrence Berkeley National Laboratory, USA*
- TuPO31 **Growth of Carbon Nanofiber on Metal-Catalyzed Substrates by Laser Ablation of Graphite**  
Y. Suda<sup>1</sup>, A. Tanaka<sup>1</sup>, A. Okita<sup>1</sup>, Y. Sakai<sup>1</sup> and K. Suzuki<sup>2</sup>, <sup>1</sup>*Graduate School of Information Science and Technology, Hokkaido University, Japan*  
<sup>2</sup>*College of Science and Technology, Nihon University, Japan*
- TuPO32 **Femtosecond Laser Ablation-Based Synthesis of Colloidal Nanoparticles in Aqueous Environment**  
M. Meunier<sup>1</sup>, S. Besner<sup>1</sup>, P. Boyer<sup>1</sup>, A. V. Kabashin<sup>1</sup>, F. Winnik<sup>2</sup>, <sup>1</sup>*Laser Processing Laboratory, Department of Engineering Physics, Ecole Polytechnique de Montréal, Canada*, <sup>2</sup>*Department of Chemistry and Pharmacology, Université de Montréal, Canada*
- TuPO33 **Dependence of Femtosecond Laser Ablation for Organic Molecules on Chosen Substrate**  
Mizuki Kurata-Nishimura, Toshiyuki Kato, Yukari Matsuo, Tohru Kobayashi, Rieko Oyama, Yuko Okamura-Oho, Jun Kawai, and Yoshihide Hayashizaki *RIKEN, Japan*
- TuPO34 **Kinetic Energy of Ions Produced With First-, Second-, and Multi-Shot Femtosecond Laser Ablation on a Solid Surface**  
Tohru Kobayashi, Toshiyuki Kato, Mizuki Kurata-Nishimura, Yukari Matsuo, Jun Kawai, Tohru Motobayashi, and Yoshihide Hayashizaki, *RIKEN, Japan*
- TuPO35 **Femtosecond-Pulsed Laser Deposition of Diamond-Like Carbon Films Onto Silicone Rubber**  
Satoshi Yoshida, Masayuki Okoshi, Yuko Fukami, and Narumi Inoue, *Department of Electrical and Electronic Engineering, National Defense Academy, Japan*
- TuPO36 **Comparison Between Femtosecond and Nanosecond Laser Ablation of Solution Samples Applied on a Substrate**  
Toshiyuki Kato, Tohru Kobayashi, Yukari Matsuo, Mizuki Kurata-Nishimura, Rieko Oyama, Yonehiro Matsumura, Hiroshi Yamamoto, Jun Kawai, and Yoshihide Hayashizaki, *RIKEN, Japan*

- TuPO37 **Epitaxial Growth of  $\beta$ -FeSi<sub>2</sub> Thin Films on Si(100) Substrates from  $\epsilon$ -FeSi Targets by ArF Excimer Laser Deposition**  
Mayumi Tode<sup>1</sup>, Yasuo Takigawa<sup>1</sup>, Masaaki Muroya<sup>1</sup>, Masato Ohmukai<sup>2</sup>, Kou Kurosawa<sup>3</sup>, <sup>1</sup>*Osaka Electro-communication University, Japan*, <sup>2</sup>*AKASHI National College of Technology, Hyogo, 674-8501 Japan*, <sup>3</sup>*University of Miyazaki, Japan*
- TuPO38 **Blank**
- TuPO39 **Ablation of Solids by Short Pulse Lasers: Mechanisms of Ablation, Ablation Thresholds and Rates**  
Eugene G. Gamaly, Barry Luther-Davies and Andrei V. Rode, *Laser Physics Centre, Research School of Physical Science and Engineering, Australian National University, Australia*
- TuPO40 **A Deep Micro-Trench on Silica Glass Fabricated by Laser-Induced Backside Wet Etching (LIBWE)**  
Yoshizo Kawaguchi, Hiroyuki Niino, Tadatake Sato, Aiko Narazaki, and Ryozi Kurosaki, *Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan*
- TuPO41 **Blank**
- TuPO42 **The Effects of Electric Field on the Laser-Produced Zn Plasma Plume**  
Hye Sun Park, Sang Hwan Nam, and Seung Min Park, *Department of Chemistry, Kyunghee University, Korea*
- TuPO43 **Preparation of II-VI Semiconductor Nanocrystals Using Pulsed Laser Ablation in Liquid**  
Takeshi Sasaki<sup>1</sup>, Hiroyuki Usui<sup>1</sup>, Yoshiki Shimizu<sup>1</sup>, Naoto Koshizaki<sup>1</sup>, Sang-Hyun Choi<sup>2</sup>, <sup>1</sup>*Nanoarchitectonics Research Center, National Institute of Advanced Industrial Science and Technology, Japan*, <sup>2</sup>*School of Chemical Engineering, Seoul National University, Korea*
- TuPO44 **Synthesis of Photoluminescent Colloidal Silicon Nanoparticles by Pulsed Laser Ablation in Liquids**  
Ikurou Umezū, Hayato Minami, Hayato Senoo and Akira Sugimura, *Konan University, Department of Physics, Japan*
- TuPO45 **Micropatterning onto the SiO<sub>2</sub> Coated Si Surface Using Femtosecond Laser Diffraction**  
Yuko Fukami<sup>1</sup>, Masayuki Okoshi<sup>1</sup>, Narumi Inoue<sup>1</sup>, Daisuke Sekine<sup>2</sup> and Tsugito Yamashita<sup>2</sup>, <sup>1</sup>*Department of Electrical and Electronic Engineering, National Defense Academy, Japan*, <sup>2</sup>*Department of Industrial Chemistry, Kanto Gakuin University, Japan*
- TuPO46 **Fabrication and Properties of Rare Earth Doped Gallium Gadolinium Orthogallate Films Prepared by PLD**  
J. Lancok<sup>1</sup>, M. Jelinek<sup>1</sup>, K. Jurek<sup>1</sup>, M. Novotný<sup>1</sup>, C. Garapon<sup>2</sup>, S. Guy<sup>2</sup>  
<sup>1</sup>*Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic*,  
<sup>2</sup>*Laboratoire de Physico-Chimie des Matériaux Luminescents, CNRS-Université, France*

- TuPO47 **Sub-Micron Patterning of Complex Oxides by Stencil Deposition**  
Paul te Riele, Arjen Janssens<sup>1</sup>, Guus Rijnders<sup>1</sup>, Dave H.A. Blank<sup>1</sup>, Lianne M. Doeswijk<sup>2</sup>, Marc A.F. van den Boogaart<sup>2</sup>, Jürgen Brugger<sup>2</sup>, <sup>1</sup>*University of Twente, Inorganic Material Science, Faculty of Science and Technology Mesa<sup>+</sup> Institute for Nanotechnology, the Netherlands*, <sup>2</sup>*École Polytechnique Fédérale de Lausanne (EPFL), Laboratoire de microsystemes, Switzerland*
- TuPO48 **Metal Nanocolumns Produced by Pulsed Laser Deposited Silver Nanostructures**  
Jérémie Margueritat<sup>1,2</sup>, Jose Gonzalo<sup>1</sup>, and Carmen N. Afonso<sup>1</sup>, Adnen Mlayah<sup>2</sup>, M. Isabel Ortiz<sup>3</sup>, Carmen Ballesteros<sup>3</sup>, <sup>1</sup>*Instituto de Optica, CSIC, Spain*, <sup>2</sup>*Laboratoire de Physique des Solides de Toulouse, IRSAMC, France*  
<sup>3</sup>*LABMET UC3M, Spain*
- TuPO49 **Laser Direct Writing of Thin-Film Structures as a Modification of Lithographic Processes**  
 Andreas Ostendorf, Uwe Stute, and Frank Meyer, *Laser Zentrum Hannover e.V., Germany*
- TuPO50 **Melting Hysteresis in Bismuth Nanocrystals Embedded in Al<sub>2</sub>O<sub>3</sub>: Size Effects**  
E. Haro-Poniatowski<sup>1</sup>, R. Serna<sup>2</sup>, A. Suárez-García<sup>2</sup>, M. Jiménez de Castro<sup>2</sup>, C. N. Afonso<sup>2</sup>, <sup>1</sup>*Universidad Autónoma Metropolitana Iztapalapa, Departamento de Física, México*, <sup>2</sup>*CSIC, Spain*
- TuPO51 **Direct Surface Micro-Patterning of Self Assembled Monolayers using a CW Laser Beam: Curvilinear Paths and Various Junction Types**  
M. Reza Shadnam and Alidad Amirfazli, *Surface Engineering and Instrumentation Laboratory, Department of Mechanical Engineering, University of Alberta, Canada*
- TuPO52 **Model for Laser Aggregation of Water-Soluble Proteins Including Eye Crystallins**  
N. Bityurin<sup>a</sup>, L. Soustov<sup>a</sup>, E. Chelnokov<sup>a</sup>, N. Sapogova<sup>a</sup>, V. Nemov<sup>b</sup>, Yu. Sergeev<sup>c</sup>, M. Ostrovsky<sup>d</sup>, <sup>a</sup>*Institute of Applied Physics Russian Academy of Science, Russia*, <sup>b</sup>*Institute of Epidemiology and Microbiology, Russia*, <sup>c</sup>*National Eye Institute of National Institutes of Health, USA*, <sup>d</sup>*Institute of Biochemical Physics Russian Academy of Science, Russia*
- TuPO53 **Self-Organized Pattern Formation upon Femtosecond Laser Ablation: Circular Polarization**  
Juergen Reif, Olga Varlamova, Michael Bestehorn, Florenta Costache, *Brandenburg Tech. University Cottbus and IHP/BTU JointLab, Germany*
- TuPO54 **Interaction of Fullerene Clusters (C<sub>60</sub>)<sub>n</sub> and (C<sub>70</sub>)<sub>n</sub> with Femtosecond Laser Radiation: Evidence for Molecular Fusion**  
A.V. Bulgakov<sup>1</sup>, M. Hedén<sup>2</sup>, K. Hansen<sup>2</sup>, M. Kjellberg<sup>2</sup>, E.E.B. Campbell<sup>2</sup>  
<sup>1</sup>*Institute of Thermophysics SB RAS, Russia*, <sup>2</sup>*Dept. of Physics, Göteborg University, Sweden*
- TuPO55 **Chalcogenide Thin Films for Waveguide Applications**  
 P. K. Dwivedi<sup>1</sup>, T. W. Allen<sup>1</sup>, R. G. DeCorby<sup>1</sup>, J.N. McMullin<sup>1</sup>, C.J. Haugen<sup>2</sup>, Ying Y. Tsui<sup>3</sup>, <sup>1</sup>*Dept. of Electrical and Computer Engineering, University of Alberta, Canada*, <sup>2</sup>*TRLabs, Canada*, <sup>3</sup>*Dept. of Electrical and Computer Engineering, University of Alberta, Canada*

- TuPO56 **Simulation of Gun Bore Erosion using Laser Pulse Heating**  
Paul Cote, Mark Todaro, and Jeffrey M. Warrender, *Benet Laboratories, USA*
- TuPO57 **Computational Study of Cooling Rates and Recrystallization Kinetics in Short Pulse Laser Quenching of Metal Targets**  
William H. Duff and Leonid V. Zhigilei, *Department of Materials Science and Engineering, University of Virginia, USA*
- TuPO58 **Residual Thermal Effects in Laser Ablation of Metals**  
Anatoliy Y. Vorobyev and Chunlei Guo, *The Institute of Optics, University of Rochester, USA*
- TuPO59 **Plume Diagnostics and Room Temperature Deposition of Nanostructured Carbon Onions and Tubes**  
Gouri Radhakrishnan, Paul M. Adams, and Frank D. Ross, *The Aerospace Corporation, USA*
- TuPO60 **Femtosecond Laser Pulse Desorption and Patterning of Self-Assembled Monolayers on Gold-Coated Substrates**  
Sean E. Kirkwood<sup>†</sup>, Mohammad R. Shadnam<sup>‡</sup>, Alidad Amirfazli<sup>‡</sup>, and Robert Fedosejevs<sup>†, ‡</sup>, *University of Alberta, Canada*, <sup>†</sup>*Laser Plasma Applications Laboratory Department of Electrical and Computer Engineering*, <sup>‡</sup>*Surface Engineering and Instrumentation Laboratory Department of Mechanical Engineering, Canada*
- TuPO61 **Submicron Scale Three-Dimensional Structure Writing using Two-Photon Absorption Process**  
Z. R. Chowdhury, and R. Fedosejevs, *University of Alberta, Canada*
- TuPO62 **Blank**
- TuPO63 **Wavelength Dependence on the Formation Of SiO<sub>2</sub> Films by Ultraviolet-Laser-Induced Photochemical Deposition Using Silicone Rubber**  
Hiromitsu Takao, Masayuki Okoshi, Yuko Fukami, and Narumi Inoue, *Department of Electrical and Electronic Engineering, National Defense Academy, Japan*
- TuPO64 **Blank**
- TuPO65 **Pulsed Laser-Induced Effects in the Material Properties of Tungsten Thin Films**  
R. Evans<sup>1</sup>, S. Camacho-López<sup>1</sup>, M. A. Camacho-López<sup>2</sup>, C. Sánchez-Pérez<sup>3</sup>, A. Esparza-García<sup>3</sup>, <sup>1</sup>*Departamento de Óptica, Centro de Investigación Científica y de Educación Superior de Ensenada, México*, <sup>2</sup>*Laboratorio de Investigación y Desarrollo de Materiales Avanzados (LIDMA). Facultad de Química, Campus “El Rosedal”, Universidad Autónoma del Estado de México, México*, <sup>3</sup>*Unidad de Películas Delgadas, Centro de Ciencias Aplicadas y Desarrollo Tecnológico, Universidad Nacional Autónoma de México, México*
- TuPO66 **Characteristics of Nanosecond Laser Ablation of Bulk Cu, Al, Stainless Steel and Bronze**  
R. Maisterrena-Epstein, and S. Camacho-López, *Departamento de Óptica, Centro de Investigación Científica y de Educación Superior de Ensenada, México*

- TuPO67 **Local Deformation and Recovering Processes of Single Animal Cell by Focused Femtosecond Laser Beam**  
Yoichiroh Hosokawa<sup>1</sup>, Takuji Tada<sup>1</sup>, Tsuyoshi Asahi<sup>1</sup>, Hiroshi Masuhara<sup>1</sup>, Chisa Shukunami<sup>2</sup> and Yuji Hiraki<sup>2</sup>, <sup>1</sup>*Dept. of Appl. Phys, Osaka Univ. and CREST JST, Japan*, <sup>2</sup>*Inst. for Front. Med. Sci., Kyoto Univ. and CREST JST, Japan*
- TuPO68 **Crystallization of Organic Molecules in its Supersaturated Solution Enforced by Focused Femtosecond Laser Irradiation**  
Hiroshi Y. Yoshikawa<sup>1</sup>, Yoichiroh Hosokawa<sup>1,2</sup>, and Hiroshi Masuhara<sup>1,2</sup>,  
<sup>1</sup>*Department of Applied Physics and Venture Business Laboratory, Osaka University, Japan*, <sup>2</sup>*CREST JST, Japan*
- TuPO69 **Increase of Laser Micro Ablation Rate of Metals Using Multipulses**  
C. Hartmann, A. Gillner, Ü. Aydin, R. Noll, T. Fehr, R. Poprawe, *Fraunhofer Institut für Lasertechnik, Germany*
- TuPO70 **Theoretical Analysis of the Formation of Microstructures on the Laser Ablated Surfaces**  
J.C. Conde, P. González, F. Lusquiños, J. Serra, S. Chiussi, B. León, *Dpto. Física Aplicada, University of Vigo, Lagoas-Marcosende, Spain*
- TuPO71 **Deposition and Crystallinity of Metallic Films**  
M D Cropper, A M Booton and R M Wardle, *Department of Physics, Loughborough University, UK*
- TuPO72 **Nucleation and Aggregation Processes in Protein Solution by Femtosecond Laser-Induced Shockwave**  
Kazuhiko Nakamura<sup>1,2,3</sup>, Yoichiro Hosokawa<sup>2,3</sup>, and Hiroshi Masuhara<sup>1,2,3</sup>,  
<sup>1</sup>*Graduate School of Frontier Bioscience*, <sup>2</sup>*Dept. of Appl. Phys., Osaka Univ. and* <sup>3</sup>*CREST-JST, Japan*
- TuPO73 **Nanoparticle Formation in the Expansion Process of a Laser Ablated Plume**  
Toshio Takiya<sup>1</sup>, Ikurou Umezu<sup>2</sup>, Minoru Yaga<sup>3</sup>, Min Han<sup>4</sup>, <sup>1</sup>*Hitachi Zosen Corporation, Japan*, <sup>2</sup>*Konan University, Japan*, <sup>3</sup>*University of the Ryukyus, Japan*, <sup>4</sup>*Nanjing University, China*
- TuPO74 **Optimization of Nanoparticle Production by Laser Ablation With Tailored Ultrashort Pulses**  
V. Hommes, M. Miclea, R. Hergenröder, *ISAS – Institute of Analytical Sciences, Germany*
- TuPO75 **Plasma Dynamics During ns-Laser-Pulse Reheating of a Titanium Plasma Induced in Air by an Ultra-Short Laser Beam**  
Alessandro De Giacomo<sup>1</sup>, Marcella Dell’Aglío<sup>2</sup>, Roberto Teghil<sup>3</sup>, Patrizia Villani<sup>3</sup>, Antonio Santagata<sup>4</sup>, Stefano Orlando<sup>4</sup> and Gianni Pompeo Parisi<sup>4</sup>, <sup>1</sup>*Dip. Chimica, Università degli studi di Bari, Italy*, <sup>2</sup>*CNR-IMIP-BA, Italy*, <sup>3</sup>*Dip. Chimica, Università degli Studi della Basilicata, Italy*, <sup>4</sup>*CNR-IMIP-PZ, Zona Ind. Tito Scalo, Italy*

- TuPO76 **Parametric Study of Polycyclic Aromatic Hydrocarbons Laser Desorption**  
C. Mihesan<sup>1</sup>, M. Ziskind<sup>1</sup>, C. Focsa<sup>1</sup>, E. Therssen<sup>2</sup>, and P. Desgroux<sup>2</sup>  
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- TuPO77 **Laser-Based Microthrusters: A Correlation of Thrust With Material, Plasma and Shockwave Properties**  
Lukas Urech<sup>1</sup>, Thomas Lippert<sup>1</sup>, Alexander Wokaun<sup>1</sup>, Claude R. Phipps<sup>2</sup> <sup>1</sup>General Energy Department, Paul Scherrer Institut, Switzerland, <sup>2</sup>Photonic Associates LLC, USA
- TuPO78 **Laser Micromachining Using F2-Laser - A Machine Concept for New Materials in R&D and Examples of Material Processing Results**  
Jens Hänel, Tino Petsch, Sven Albert, Bernd Keiper, 3D-Micromac AG, Germany
- TuPO79 **UV Ultrafast Laser Processing Using Phase Masks**  
J. Ihlemann, J.-H. Klein-Wiele, J. Bekesi and P. Simon, Laser-Laboratorium Göttingen e.V., Germany
- TuPO80 **Properties of Superhard Pulsed Laser Deposited ta-C and c-BN Films**  
Dirk Rost, Guenter Reisse, Steffen Weissmantel, Hochschule Mittweida, University of Applied Sciences, Germany,
- TuPO81 **Investigation of the Formation of Nanostructures on Silicon Thin Films After Excimer Laser Irradiation**  
J. Eizenkop<sup>1</sup>, D.G. Georgiev<sup>1</sup>, I. Avrutsky<sup>1</sup>, G. Auner<sup>1</sup>, V. Chaudhary<sup>2</sup>, <sup>1</sup>Department of Electrical and Computer Engineering, Wayne State University, <sup>2</sup>Department of Computer Science, Wayne State University, USA
- TuPO82 **ZnO nanostructures Grown by the Pulsed Laser Deposition Technique**  
J.-P. Mosnier, R. O'Haire, A. Meaney, E. McGlynn, M. O. Henry, J.-R. Duclere, National Centre for Plasma Science and Technology, School of Physical Sciences, Dublin City University, Ireland
- TuPO83 **Blank**
- TuPO84 **PLD-grown Yb2O3 Thin Films on Sapphire and Quartz Substrates**  
Hanno Scheife, Yury Kuzminykh, Sebastian Bär, Klaus Petermann, and Günter Huber, University of Hamburg, Institute of Laser-Physics, Germany
- TuPO85 **1.5µm Light Emission of Er<sup>3+</sup> Ions Doped in SiO<sub>2</sub> Films Including Si Nanocrystallites and in SiO<sub>x</sub> Films**  
Tetsuya Makimura, Hiroshi Uematsu, Yuuki Okada, and Kouichi Murakami  
Institute of Applied Physics, University of Tsukuba, Japan
- TuPO86 **Langmuir Probe Diagnosis of Laser Ablation Plasmas**  
James G Lunney and Brendan Doggett, School of Physics, Trinity College, Ireland

- TuPO87 **Pulsed Laser Deposition of Er<sup>3+</sup> Doped Tellurite Films on Large Area**  
A.P. Caricato<sup>1</sup>, A. Fazzi<sup>1</sup>, G. Leggieri<sup>1</sup>, M. Martino<sup>1</sup>, F. Romano<sup>1</sup>, T. Tunno<sup>1</sup>, A. Chiasera<sup>2</sup>, M. Ferrari<sup>2</sup>, M. Mattarelli<sup>3</sup>, M. Montagna<sup>3</sup>, M. Bouzaoui<sup>4</sup>, B. Capoen<sup>4</sup>, S. Turrell<sup>4,5</sup>, <sup>1</sup>*L3 group, Dipartimento di Fisica, Italy*, <sup>2</sup>*CNR-IFN, CSMFO Group, Italy*, <sup>3</sup>*Physics Department, CSMFO Group, Italy*, <sup>4</sup>*Laboratoire PhLAM, Groupe Photonique, Université des Sciences et Technologies de Lille, France*, <sup>5</sup>*Laboratoire de Spectrochimie Infrarouge et Raman, France*
- TuPO88 **Pulsed Laser Deposited Perovskite Oxides Based Heterostructures on Strontium Ruthenate Bottom Electrodes**  
Gautreau, Olivier; Harnagea, Catalin; Nechache, Riad; Pignolet, Alain, *INRS – Énergie, Matériaux et Télécommunications, Canada*
- TuPO89 **Ferromagnetism in Doped-TiO<sub>2</sub> Thin Films**  
Stella Duhalde<sup>1</sup>, María Florencia Vignolo<sup>1</sup>, Claudio Chillote<sup>1</sup>, Claudia Rodríguez Torres<sup>2</sup>, Leonardo Errico<sup>2</sup>, Alejandra Cabrera<sup>2</sup>, Francisco Sánchez<sup>2</sup> and Mariana Weissmann<sup>3</sup>, <sup>1</sup>*Universidad de Buenos Aires, Argentina*, <sup>2</sup>*Universidad Nacional de La Plata, Argentina*, <sup>3</sup>*Comisión Nacional de Energía Atómica, Argentina*
- TuPO90 **Resistive Switching Induced by Electric Fields in Transition Metal Oxide Thin Films**  
Manuel Villafuerte<sup>1</sup>, Gabriel Juárez<sup>1</sup>, Silvia P. Heluani<sup>1</sup>, Federico Golmar<sup>2</sup>, J.C. León Degreef<sup>2</sup> and Stella Duhalde<sup>2</sup>, <sup>1</sup>*Facultad de Ciencias Exactas y Tecnología, Universidad Nacional de Tucumán, Argentina*, <sup>2</sup>*Dpto de Física, Facultad de Ingeniería, Universidad de Buenos Aires, Argentina*
- TuPO91 **Carbon-Nanotube Cathode Modified by Femtosecond Laser Ablation**  
Masaki Hashida, Seiji Shimizu, and Shuji Sakabe, *Institute for Chemical Research, Kyoto University, Japan*
- TuPO92 **Effects of Deposition Parameters on the Properties of Amorphous Carbon Nitride Thin Films Prepared by Laser Ablation**  
L. Escobar-Alarcón<sup>1</sup>, A. Arrieta<sup>1,2</sup>, E. Camps<sup>1</sup>, S. Romero<sup>1</sup>, S. Muhl<sup>3</sup>, M.A. Camacho-Lopez<sup>4</sup>, <sup>1</sup>*Departamento de Física, Instituto Nacional de Investigaciones Nucleares, México*, <sup>2</sup>*Departamento de Física, Universidad Autónoma Metropolitana, México*, <sup>3</sup>*Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, México*, <sup>4</sup>*Laboratorio de Investigación y Desarrollo de Materiales Avanzados, Facultad de Química, Universidad Autónoma del Estado de México, México*
- TuPO93 **Blank**
- TuPO94 **Blank**
- TuPO95 **Determination of Hermite Gaussian Modes Using the Moving Knife-Edge Method**  
O. Mendoza-Yero<sup>1</sup>, M. Arronte<sup>2</sup>, <sup>1</sup>*Lab. Tec. Láser, IMRE-Universidad de la Habana, Cuba*, <sup>2</sup>*Lab. Tec. Láser, CICATA-IPN, Unidad Altamira, México*
- TuPO96 **Laser-Induced Stress Field Pattern on Silicon Surfaces**  
M. Arronte, R. A. Bendoyro, L. Ponce, T. Flores, *Lab. Tec. Láser, CICATA-IPN, Unidad Altamira, México*

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