

Conference Chair

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The International Zeta-Exawatt Science & Technology Center (IZEST)

http://www.izest.polytechnique.edu

SPIE Laser Damage

http://spie.org/conferences-and-exhibitions/laser-damage

Conference Attire

Attire for the HPLA Conference is business casual.

HPLA Program Committee

Prof. Sergei Anisimov, L. D. Landau Institute of Theoretical Physics (Russia)

Prof. Victor Apollonov, General Physics Institute (Russia)

Prof. Michel Autric, University de la Mediteranée (France)

Prof. Dieter Bäuerle, Johannes Kepler University (Austria)

Prof. Willy Bohn, Bohn Laser Consult (Germany)

Prof. Nadezhda Bulgakova, HiLASE Project (Czech Republic)

Dr. Eric Davis, Institute for Advanced Studies at Austin (USA)

Dr. Hans-Albert Eckel, DLR Institute of Technical Physics (Germany)

Dr. Vitaly Gruzdev, University of Missouri (USA)

Prof. Richard Haglund, Vanderbilt University (USA)

Prof. Victor Hasson, Consultant (USA)

Prof. Hideyuki Horisawa, Tokai University (Japan)

Prof. Andrei Ionin, P. N. Lebedev Physical Institute (Russia)

Prof. Andrei Kanaev, CNRS – LSPM UPR3407 (France)

Prof. Kimiya Komurasaki, University of Tokyo (Japan)

Mr. Michael Lander, Stratonics, Inc. (USA)

Prof. Thomas Lippert, Paul Scherrer Institut (Switzerland)

Dr. Gerald Manke, Navy Weapons Division - Crane (USA)

Prof. Max Michaelis, Rutherford Appleton Laboratory (UK)

Prof. Gérard Mourou, École Polytechnique (France)

Dr. Ross Muechausen, Los Alamos National Laboratory (USA)

Dr. Leik Myrabo, Lightcraft Technologies, Inc. (USA)

Dr. Tom Nelson, Sandia National Laboratory (USA)

Prof. José Ocaña, Centro Laser UPM (Spain)

Dr. Kevin Parkin, Parkin Research, LLC (USA)

Prof. Johannes Pedarnig, Johannes Kepler University (Austria)

Dr. Joseph Penano, Naval Research Laboratory (USA)

Dr. Claude Phipps, Photonic Associates, LLC (USA)

Prof. Baerbel Rethfeld, Technische Universität Kaiserslautern (Germany)

Dr. Yuri Rezunkov, Research Institute for Optical Instrument Engineering (Russia)

Prof. Thierry Sarnet, University Aix-Marseille (France)

Prof. Akihiro Sasoh, Nagoya University (Japan)

Dr. John Sinko, Saint Cloud State University (USA)

Prof. Klaus Sokolowski-Tinten, University of Duisburg-Essen (Germany)

Prof. Rongging Tan, Chinese Academy of Sciences (China)

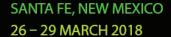
Prof. Zhiping Tang, University of Science and Technology (China)

Dr. Tony Valenzuela, Army Research Laboratory (USA)

Prof. Takashi Yabe, Tokyo Institute of Technology (Japan)

Prof. Leonid Zhigilei, University of Virginia (USA)

Dr. Fred Zutavern, Sandia National Laboratory (USA)





Agenda | At-A-Glance

Sun, 25 March 2018

1400 – 1530 | **Santa Fe - A Sense** of Place Walking Tour

1500 - 1800Early Check-In & Badging

Location Key:

Registration is located in the Mezzanine

Table-Top Exhibits are located in the Mezzanine

Technical Sessions are located in Lumpkins Ballrooms

Posters are located in the New Mexico Room

Wednesday's Dinner will be held in La Terraza and the Garden

Welcome Reception is located in the New Mexico Room

Mon, 26 March 2018

0700 – 0800 | Light Continental Breakfast

0700 - 1730 | Registration Open

1615 – 1730 | Posters & Exhibits Open

0800 - 0815 | Welcome & Administrative Announcements

0815 – 0900 | **Keynote: Mr.** Frédéric Masson, CNES

0905 - 1025/1000

Track One: Laser Modification of Surface Microstructure and Morphology

Track Two: Next Generation **Beamed Energy Propulsion**

1025/1000 -1050 | Break

1050 - 1215

Track One & Two: Continued

1215 – 1345 | Lunch Break

1345 - 1505

Track One: Laser Induced Shock **Applications**

Track Two: Femtosecond **Repetitive Action on Materials**

1505 – 1530 | Break

1530 - 1600/1615

Track One & Two: Continued

1615 – 1730 | Welcome Reception & Poster and Exhibit Technical Interchange

Tue, 27 March 2018

0700 – 0800 | Light Continental Breakfast

0700 - 1715 | Registration Open

0700 - 1125 | Exhibits & Posters Open & 1300 - 1715

0800 - 0810 | Administrative Announcements

0810 - 0850 | **Keynote: Prof. Thomas Lippert, Paul Scherrer**

0855 - 1010

Track One: Ultrafast Materials **Processing**

Track Two: Space Debris **Removal and Asteroid Impact Mitigation Strategies**

1010 - 1040 | Break

1040 - 1125 | Keynote: Dr. Antonio Lucianetti, HiLASE Centre

1125 - 1300 | Lunch Break

1300 - 1445/1450

Track One: Theory and Simulation Track Two: Post-Deadline Session

1445/1450 - 1515 | Break

1515 - 1715

Track One: Continued

Track Two: Panel: The Business Side of High Power Beam Applications

Wed, 28 March 2018

0700 – 0800 | Light Continental Breakfast

0700 - 1730 | Registration Open

0700 – 1155 | Exhibits & Posters Open & 1330 - 1730

0800 - 0810 | Administrative Announcements

0810 - 0850 | Keynote: Dr. David Moore, Los Alamos National

Laboratory 0855 - 1015/1035

Track One: Laser Materials Interactions in a Liquid **Environment**

Track Two: New Results in High **Power Lasers and Their Applications**

1015/1035 - 1110 | Break

1110 - 1155 | Keynote: Mr. Mark **Neice, Directed Energy Professional Society**

1155 - 1330 | Lunch Break

1330 - 1505

Track One: Ultra High Intensity Lasers: From Earth to Cosmos Track Two: Ultrashort Pulse

Effects

1505 – 1525 | Break & Final Poster Voting

Wed, 28 March 2018, cont.

Track One: Plasmonics and Metamaterials

Track Two: Continued

1635-1730

Track One: Very High Power CW Lasers

Track Two: Continued

1830 - 2130 | Dinner & Awards Program

Thu, 29 March 2018

0700 – 0800 | Light Continental Breakfast

0700 - 1220 | Registration Open

0800 - 0805 | Administrative Announcements

0805 - 0855/0925

Track One: **Biological**

Applications Track Two: Laser Direct Writing

0855/0925 - 0940 | Break

0940 - 1205/1220

Track One: Thermal and **Mechanical Coupling for Ultrashort Pulses**

Track Two: MAPLE and Materials **Processing**

1800 --> | Dinner at El Farol, must RSVP at HPLA Registration Desk (cost on vour own)

2018 HPLA Dedication

We dedicate the Conference to our friend, colleague, and Programming Committee Member Jordin T. Kare. Jordin was a physicist and aerospace engineer known for his research on laser propulsion and had a significant impact on beamed power propulsion. In particular, he was responsible for his HX microwave powered rocket; the Mockingbird, a conceptual design for an extremely small (75 kg dry mass) reusable launch vehicle; and was involved in the Clementine lunar mapping mission. Jordin was also known as developer of the Sailbeam interstellar propulsion concept and, in the science fiction fan community, as a composer, performer and recording artist of filk music. Jordin passed away in July and he will be greatly missed. (October 24, 1956 – July 19, 2017)







Exhibit & Poster Session Hours

Please take time to view the technical posters and table-top exhibits. Posters are located in the New Mexico Room and the table-top exhibits are in the Mezzanine across from the technical sessions. Exhibit & poster hours include:

Monday, 26 March 2018:

1615 – 1730 Welcome Reception & Poster and Exhibit Technical Interchange (Exhibits will be co-located with posters for this.)

Tuesday, 27 March 2018:

0700 – 1125 Exhibits & Posters Open 1300 – 1715 Exhibits & Posters Open

Wednesday, 28 March 2018:

0700 – 1155 Exhibits & Posters Open

1330 – 1730 Exhibits & Posters Open

(Final Poster Voting for Best Poster Ends at 1525)

Table-Top Exhibitors

Amplitude Laser Group - http://www.amplitude-laser.com

Amplitude is a leading manufacturer of ultrafast lasers for scientific, medical and industrial applications. From ultrafast industrial fiber lasers to petawatt-class high intensity lasers, Amplitude is focused on helping its customers with advanced solutions. Amplitude offers a unique and distinct product portfolio: diode-pumped ultrafast solid-state lasers, ultra-high energy Ti:Sapphire ultrafast lasers, and a full line of high energy solid state laser products. The group consists of three manufacturing locations in Bordeaux and Paris, France, and San Jose, CA U.S.A., and has an extensive network of support offices in Europe, Asia and North America.

IDIL Fibres Optiques - http://www.idil.fr

IDIL is an engineering company specialized in the design, development, manufacturing of fibered systems and optoelectronic solutions: fiber optics, passive and active optical components, fiber lasers, seeder laser source, fiber optic sensors, and Photonic doppler velocimeter (PDV).

Poster Papers

- Pulse Shaping Femtosecond Laser Beams for Rapid Drilling of High Aspect Ratio Features, Dr. Michael Abere, Sandia National Laboratory
- Doping Inclusion in Nanoparticles Using Pulsed Laser Ablation in Liquid, Dr. David Amans, Université Claude Bernard Lyon 1, CNRS, Institut Lumière Matière
- High Power High Repetition Rate Pulse-Periodical Lasers, Prof. Victor Apollonov, GPI RAS
- Numerical Simulation of Femtosecond Laser Pulse Propagation in Dielectric Materials: Evaluation of the Energy Deposition, Mr. Romain Beuton, CELIA
- Electron-Ion Temperature Relaxation in Warm Dense Hydrogen: Interplay Between Quantum Electrons and Coupled Ions, Prof. Jiayu Dai, National University of Defense
- Novel Biointerfacing Composite Coatings Obtained by MAPLE for Modulating the Osteoblast Response, Dr. Valentina Dinca, National Institute for Laser, Plasma and Radiation Physics
- Laser-Induced Correlative SHG and Fluorescence in a Silver-Containing Phosphate Glass under a Train of Femtosecond Laser Pulses, Dr. Guillaume Duchateau, CELIA/CEA
- Collisional-Radiative Modeling of Laser-Induced Aluminum Plasma, Mr. Eugen Eisfeld, University of Stuttgart
- Coatings with High Damage Threshold Prepared by Laser Ablation, Dr. Mihaela Filipescu, National Institute for Laser, Plasma and Radiation Physics
- Simulations and Experiments on Laser-Induced Phase Transformation and Generation of Crystal Defects in Silicon, Mr. Miao He, University of Virginia
- Study of Nano-Composite Formation by Laser Irradiation of Colloidal Suspensions: from Aggregates to Alloys and Core-Shells, Prof. Tatiana Itina, Laboratoire Hubert Curien, UMR CNRS 5516/Univ. Lyon/UJM and ITMO University
- Liquid-Liquid Phase Transition of Dense Hydrogen, Dr. DongDong Kang, National University of Defense Technology







Poster Papers, cont.

- Linking the Properties of Surface Plasmon Polaritons and the Quality of Laser-Induced Periodic Surface Structures, Dr. Yoann Levy, HiLASE Centre
- Numerical Simulation of Short and Ultrashort Pulsed Laser Processing for Industrial Micromachining Applications,
 Dr. Zhibin Lin, Electro Scientific Industries
- Laser-Based Space Debris Removal Laser-Induced Momentum Generation on True Scale Debris-Like Targets, Dr. Raoul-Amadeus Lorbeer, German Aerospace Center Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)
- Shock Wave Enhanced Ablation, Dr. Sonny Ly, Lawrence Livermore National Laboratory
- Dissolution of Secondary Phases by Excimer Laser Processing for Improved Corrosion Resistance of the Mg Alloy AZ31B, Mr. Michael Melia, University of Virginia
- Improved Corrosion Resistance of Biodegradable Mg Alloy by Excimer Laser Processing and Pulsed Laser Deposited (PLD) Coatings, Mr. Michael Melia, University of Virginia
- Single-Crystalline, Single-Domain Epitaxial Growth of La₅Ca₉Cu₂₄O₄₂ Thin Films by Pulsed Laser Deposition,
 Dr. Nicolae Mihailescu, National Institute for Laser, Plasma and Radiation Physics
- Mechanism of Comb-Shape Plasma Filament Formation in Atmospheric Millimeter-Wave Discharge, Mr. Yusuke Nakamura, The University of Tokyo
- Effect of the Background Gas Pressure on the Laser-Induced Material Removal from a High-Aspect-Ratio Cavity, Mr. Austin Palya, University of Alabama
- Time of Flight Velocity Distributions from UV Ablation of Titanium in He and Ar, Dr. Glenn Perram, Air Force Institute of Technology
- Laser Fabrication of Dual-Function Antireflective and Phase Shifting Structures for the THz Spectral Range, Dr. Gediminas Raciukaitis, Center of Physical Sciences and Technology
- Cation Doping and Epitaxial Strain Dependence of Functional Properties in Perovskite Thin Films Obtained by Laser Techniques, Dr. Nicu Doinel Scarisoreanu, National Institute for Laser, Plasma and Radiation Physics
- Functional Properties of Ferroelectric Lead-Free Perovskites Thin Films, Dr. Nicu Doinel Scarisoreanu, National Institute for Laser, Plasma and Radiation Physics
- From Keldysh-Drude Model to Keldysh-Vinogradov Model: Fixing of Some Fundamental Issues,
 Dr. Olga Sergaeva, University of Missouri
- Tamped Impulse Studies, Dr. Andy Sibley, AWE
- Picosecond Acoustic Waves in Laser-Excited Metal-Semiconductor Heterostructures Studied by Ultrafast X-Ray Diffraction, Dr. Klaus Sokolowski-Tinten, University of Duisburg-Essen
- Substrate Thermal Conductivity Controls Ability to Manufacture Microstructures via Laser-Induced Direct Write, Mr. John Tomko, University of Virginia
- Visible Emission Spectra from Mid Infrared Pulsed Ablation of Al and Ti in Air, Mr. Todd Van Woerkom, Air Force Institute of Technology
- Mid-IR Femtosecond Ablation of InSb, Mr. Kevin Werner, The Ohio State University
- Laser Amplification in Excited Dielectrics (LADIE), Mr. Thomas Winkler, University of Kassel, Institute of Physics and CINSaT



Systems & components for science, industry, defence & education

Photonic Doppler Velocimetry Solutions

- Multiple speeds measurement (0 to 20 km/s)
- Non contact laser measurement
- Modular (1 to 4 channels)
- Frequency up shifting
- Fibered VISAR option



Other Lasers & Optical Fibers Technologies

- Fiber optics & components
- Lasers & amplifiers
- Optoelectronic systems
- Fiber sensors
- Spectroscopy & microscopy
- Education systems



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Networking Opportunities

Sunday, 25 March 2018, 1400-1530 Santa Fe - A Sense of Place Walking Tour

Depart from the La Fonda on the Plaza Lobby **Guests Welcome**

Cost: \$15 per person, Non-Refundable, Advance Reservations Required

Please join experienced Santa Fe tour guide, Tom Gallegos to explore the cultural vibrancy of the Nation's oldest and highest Capital City. Learn why the cities unique culture, architecture, history and Native/Spanish heritage

have resulted in Santa Fe receiving the "World Legacy Award" by the National Geographic Traveler. Tom will share some of his favorite places and ways you can each enjoy your special time here. The tour will last approximately 1.5 hours.



Monday, 26 March 2018, 1615 - 1730

Welcome Reception & Poster and Exhibit Technical Interchange

Location: La Fonda on the Plaza, New Mexico Room Attendee Only Function

Please plan to join your colleagues for beer, wine, and light appetizers after the technical sessions on Monday. This event provides a dedicated time to look at the outstanding posters in this year's program. Exhibits will be co-located with the posters for this event only, and then can be found upstairs in the Mezzanine across from the technical sessions the remainder of the week.

Wednesday, 28 March 2018, 1830 - 2130 **HPLA Dinner & Awards Program**

Location: La Fonda on the Plaza, La Terraza and Garden Patio Guests Welcome (Guest tickets must be purchased in advance at the registration desk.)

Tickets for attendees are included in the registration fee.

Please plan to join your colleagues for dinner and entertainment on Wednesday, 28 March in the beautiful La Terraza. The event will include an Awards Ceremony, dinner, entertainment, and dancing. Dinner tickets are included with the registration fee. Guest tickets can be purchased for \$70 in advance. Entertainment will be provided by Wayne Wesley Johnson and the Roger Burns Quartet.



Thursday, 29 March 2018, 1600 **Group Dinner at El Farol**

Reservations must be made in advance. See HPLA registration desk.

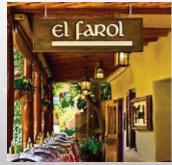
Guests Welcome Cost: On Your Own

Located at 808 Canyon Rd., Santa Fe, NM 87501

Hailed as Santa Fe's most historic and iconic restaurant and bar, El Farol has provided locals and visitors over a century of memorable experiences. The restaurant features traditional Spanish tapas, small plates that pack big flavor, as well as paella, steaks and daily specials. Patrons enjoy dinner shows featuring the musicians and dancers of the renowned National Institute of Flamenco. The bar, once referred to as, "...one of the best bars on earth!" by The New York Times, features classic margaritas, sangria, signature

cocktails, and live music. The walls are graced with murals painted by famous artists,

including Alfred Morang. Treat yourself to a truly authentic Santa Fe dining experience at El Farol and dine with your colleagues one final time before heading home.





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Detailed Agenda

| _ | Sunday, 25 I |
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| 5 | 1400 - 1530 |
| | |

March 2018 Group Tour - Santa Fe - A Sense of Place Walking Tour (Meet in La Fonda on the Plaza Lobby. Reservation required.) Early Check-In (Mezzanine) Monday, 26 March 2018

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| 0700 - 0800 | Light Continental Breakfast (Mezzanine) |
|-------------|--------------------------------------------------------------------------------|
| 0700 - 1730 | Registration Open (Mezzanine) |
| 1100 - 1530 | Poster & Table-Top Exhibit Set-Up (New Mexico Room & Mezzanine) |
| 1615 - 1730 | Posters & Exhibits Open |
| | Welcome Reception & Poster and Exhibit Technical Interchange (New Mexico Room) |
| | Welcome & Keynote |

0800 - 0815 Welcome & Administrative Announcements Conference Chair, Dr. Claude Phipps, Photonic Associates, LLC 0815 - 0820 Keynote Introduction

Lumpkins Ballroom North

| | Prof. Leonid Zhigilei, University of Virginia |
|-------------|------------------------------------------------------------|
| 0820 - 0900 | Keynote: Advanced Concepts for Space Transportation at CNE |

| 0820 - 0900 | Keynote: Advanced Concepts for Space Transportation at CNES |
|-------------|-------------------------------------------------------------|
| | Mr. Frédéric Masson, CNES (Invited) |
| | |

Session Chair: Dr. Laurent Berthe, CNRS/PIMM

| 0900 - 0905 | Transition to Parallel Sessions | | |
|-------------|--------------------------------------------------------------|-------------|-------------------------------------------------------------|
| | Track One | | Track Two |
| | Lumpkins Ballroom North | | Lumpkins Ballroom South |
| | Laser Modification of Surface Microstructure and | | New Committee Book of Economic Broads |
| | Morphology | | Next Generation Beamed Energy Propulsion |
| 0905 - 0910 | Announcements & Session Introduction | 0905 - 0910 | Announcements & Session Introduction |
| | Session Chair: Prof. Leonid Zhigilei, University of Virginia | | Session Chair: Dr. Hans-Albert Eckel, German Aerospace |
| | | | Center - DLR, Institute of Technical Physics |
| 0910 - 0935 | Ultrafast Mixing in the Vapor Dome | 0910 - 0935 | Computational Studies for Improving Flight Performance of a |
| | Prof. Steve Yalisove, University of Michigan (Invited) | | Beamed Energy Propulsion |
| | | | Dr. Masayuki Takahashi, Tohoku University (Invited) |
| 0025 1000 | Ultrafact Dimension of Complete Locar Indicaed Structural | 0035 1000 | Implementation of Lacor Ablative Microthrusters using |

| | | Prof. Steve Yallsove, University of Michigan (Invited) | | Beamed Energy Propulsion |
|--------|-------------|------------------------------------------------------------------|-------------|-------------------------------------------------------|
| | | | | Dr. Masayuki Takahashi, Tohoku University (Invited) |
| > | 0935 - 1000 | Ultrafast Dynamics of Complete Laser-Induced Structural | 0935 - 1000 | Implementation of Laser Ablative Microthrusters using |
| ⋖ | | Transformation | | MEMS-Scanner and Liquid Lens Systems |
| | | Prof. Chunlei Guo, University of Rochester & CIOMP (Invited) | | Dr. Raoul-Amadeus Lorbeer, German Aerospace Center - |
| 7 | | | | Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR) |
| | 1000 - 1025 | Ultrafast Laser-Induced Periodic Nanostructure Formation and | | |
| 0 | | Lattice Defects in Ni Single Crystals | | |
| \geq | | Dr. Jean-Philippe Colombier, Laboratoire Hubert Curien (Invited) | | |
| | | | | |

| | Dr. Jean-Philippe Colombier, Laboratoire Hubert Curien (Invited) | | |
|------------------|------------------------------------------------------------------|-------------|-------------------------------------------------------------|
| 1025/1000 - 1050 | Break (Mezzanine) | | |
| 1050 - 1115 | Effect of Thermal Diffusion on Precision of the Laser Beam | 1050 - 1115 | Microwave Rocket Development Status at the University of |
| | Interference Ablation by Femto-, Pico-, and Nanosecond Pulses in | | Tokyo |
| | Silicon | | Mr. Yusuke Nakamura, The University of Tokyo (Invited) |
| | Dr. Gediminas Raciukaitis, Center of Physical Sciences and | | |
| | Technology (Invited) | | |
| 1115 - 1130 | Thermo-Elasto-Plastic Modeling of Femtosecond Laser-Induced | 1115 - 1130 | Pulsed Laser Rockets for Launching Small Payloads into Low |
| | Micro-Structures in Fused Silica | | Earth Orbit and Interplanetary Space |
| | Mr. Romain Beuton, CELIA | | Dr. Claude Phipps, Photonic Associates, LLC |
| 1130 - 1145 | Laser-Induced Periodic Surface Structure Formation: Numerical | 1130 - 1145 | Numerical Modeling for Propagation of Subcritical Discharge |
| | Investigation of the Temperature Dynamics in Metals and | | Observed in a Microwave Rocket |
| | Dielectrics and Subsequent Stress Build-Up Estimations | The way | Mr. Kanta Hamasaki, Tohoku University |
| | Dr. Yoann Levy, HiLASE Centre | | |
| 1145 - 1200 | 3D Scanning Electron Microscopy of Mound-Like, Microscale | 1145 - 1200 | Interferometric Method for Isp Determination |
| | Structures Produced by Femtosecond Laser Surface Processing on | | Dr. Carlos Rinaldi, Comisión Nacional de Energía Atómica |
| | Silver | | (CNEA); Consejo Nacional de Investigaciones Científicas y |
| | Dr. Edwin Peng, University of Nebraska - Lincoln | | Técnicas (CONICET) |
| 1200 - 1215 | Ceria Hierarchical Nanostructures Grown by Laser Ablation | 1200 - 1215 | Directed Energy to Enable the First Interstellar Missions - |
| | Dr. Mihaela Filipescu, National Institute for Laser, Plasma and | | NASA Starlight and Breakthrough Starshot |
| | Radiation Physics | | Prof. Philip Lubin, University of California, Santa Barbara |
| 1215 1245 | Lunch Break, On Varia Ories | | |

| | Silver | | (CNEA), Consejo Nacional de Investigaciones cientinicas y |
|-------------|-----------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Dr. Edwin Peng, University of Nebraska - Lincoln | | Técnicas (CONICET) |
| 1200 - 1215 | Ceria Hierarchical Nanostructures Grown by Laser Ablation | 1200 - 1215 | Directed Energy to Enable the First Interstellar Missions - |
| | Dr. Mihaela Filipescu, National Institute for Laser, Plasma and | | NASA Starlight and Breakthrough Starshot |
| | Radiation Physics | | Prof. Philip Lubin, University of California, Santa Barbara |
| 1215 - 1345 | Lunch Break - On Your Own | NA XX | A TOTAL TOTAL STATE OF THE STAT |
| | Track One | | Track Two |
| | Lumpkins Ballroom North | | Lumpkins Ballroom South |
| | Laser Induced Shock Applications | | Femtosecond Repetitive Action on Materials |
| 1345 - 1350 | Announcements & Session Introduction | 1345 - 1350 | Announcements & Session Introduction |



Session Chair: Dr. Andrei Kanaev, LSPM - CNRS





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| | 1350 - 1415 | Laser-Generated Magmas and Evolutions | 1350 - 1415 | Periodic Structure Formation on Dielectrics After Irradiation |
|----|--------------|---------------------------------------------------------------------------|---------------|------------------------------------------------------------------|
| | | Dr. Toshimori Sekine, HPSTAR (Center for High Pressure Science and | | with Ultrashort Pulsed Lasers |
| | | Technology Advanced Research) | | Dr. George Tsibidis, Insitute of Electronic Structure and Laser- |
| | | (Invited) | | FORTH (Invited) |
| | 1415 - 1440 | New Advances on Adhesion Test using Shock Produced by Plasma | 1415 - 1440 | Surface Structuring of Rutile TiO2 Monocrystal in the Regime |
| | | Laser: Applications for Carbon Fiber Reinforced Polymer Stacks | | of High-Density Electronic Excitation |
| | | Dr. Laurent Berthe, CNRS/PMM (Invited) | | Dr. Andrei Kanaev, LSPM - CNRS (Invited) |
| | 1440 - 1505 | Unconventional Ablation | 1440 - 1505 | Multi-Laser Processed Silicon Solar Cell with IR Efficiency |
| _ | | Dr. Alexander Rubenchik, Lawrence Livermore National Laboratory (Invited) | | Prof. Thierry Sarnet, LP3 - CNRS - AMU (Invited) |
| AY | 1505 - 1530 | Break (Mezzanine) | | |
| ND | 1530 - 1545 | Deformation and Fragmentation of Liquid Metal Microdroplets | 1530- 1545 | Optimizing Femtosecond Laser Machining of Microscale |
| Z | | upon Intense Pulses of Ti:Sapphire Laser | | Specimens for High Throughput Mechanical Testing |
| MO | | Mr. Bogdan Lakatosh, Moscow Insititute of Physics and Technology | | Dr. Daniel Magagnosc, U.S. Army Research Laboratory |
| Σ | 1545 - 1600 | Characterization of Ablation Pressure on the Metal Surface | 1545 - 1600 | Experimental Study of EUV Mirror Radiation Damage |
| | | Irradiated by Short Laser Pulses | | Resistance under Longterm Free-Electron Laser Exposures |
| | | Dr. Konstantin Khishchenko, Joint Institute for High Temperatures of | | Below the Single-Shot Damage Threshold |
| | | the Russian Academy of Sciences | | Dr. Igor Makhotkin, MESA+ Institute for Nanotechnology, |
| | | | | University of Twente |
| | | | 1600 - 1615 | Refractive Index Modification of Silicon by Femtosecond |
| | | | | Laser Pulses |
| | | | | Prof. Ying Tsui, University of Alberta |
| | 1615 - 1730 | Welcome Reception & Poster and Exhibit Technical Interchange (Ne | w Mexico Room | 1) |
| | | | | |
| | Tuesday 27 N | March 2018 | | |

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Tuesday, 27 March 2018

| | 0700 - 0800 | Light Continental Breakfast (New Mexico Room) |
|---|---------------|------------------------------------------------------------|
| ſ | 0700 - 1125 & | Exhibits & Posters Open (New Mexico Room) |
| | 1300 - 1715 | |
| | 0700 - 1715 | Registration Open (Mezzanine) |
| | 1730 - 1830 | Program Committee Meeting (Santa Fe Room) |
| | | Welcome & Keynote |
| | | Lumpkins Ballroom North |
| ĺ | 0800 - 0810 | Announcements & Keynote Introduction |
| | | Dr. Claude Phipps, Photonics Associates, LLC |
| ĺ | 0810 - 0850 | Keynote: Pulsed Laser Deposition (PLD): Back to the Basics |
| | | Prof. Thomas Lippert, Paul Scherrer Institut (Invited) |
| | 0850 - 0855 | Transition to Parallel Sessions |

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| | Track One Lumpkins Ballroom North | | Track Two Lumpkins Ballroom South |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Ultrafast Materials Processing | | Space Debris Removal and Asteroid Impact Mitigation Strategies |
| 0855 - 0900 | Announcements & Session Introduction Session Chair: Prof. Richard Haglund, Vanderbilt University | 0855 - 0900 | Announcements & Session Introduction Session Chair: Dr. Hans-Albert Eckel, German Aerospace Center - DLR, Institute of Technical Physics |
| 0900 - 0925 | Multiscale Periodic Surface Structures Generated by Short and Ultrashort Pulse Laser Filaments at Different Wavelengths Dr. Anthony Valenzuela, U.S. Army Research Laboratory (Invited) | 0900 - 0925 | Propulsion System Aspects to Comply with Debris Mitigation Rules – Deorbiting with LAP? Mr. Markus Peukert, OHB System (Invited) |
| 0925 - 0940 | Computational Study of Short Pulse Laser Induced Generation of Crystal Defects in Ni and Ni-Based Single Phase Binary Alloys Mr. Miao He, University of Virginia | 0925 - 0940 | Momentum Predictability and Heat Accumulation in Laser- Based Space Debris Removal Dr. Stefan Scharring, German Aerospace Center (DLR), Institute of Technical Physics |
| 0940 - 0955 | Mechanisms of Surface Damage in Ablation Cutting of Thin Glass Sheets with Picosecond Laser Pulses Dr. Mingying Sun, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences | 0940 - 0955 | Impulse Generated by Irradiating Linear-Polarized Nanosecond Laser Pulses on Aluminum Target at Oblique Incidence Dr. Bin Wang & Mr. Hongbin Zhu, Key Lab of Microsatellites, Chinese Academy of Sciences |
| 0955 - 1010 | Energy Relaxation and Dissipation in Laser-Excited Nanoscale Films Dr. Klaus Sokolowski-Tinten, University of Duisburg-Essen | 0955 - 1010 | Space Defense of Earth - First Experiment Prof. Vladimir Gorev, Kurchatov Institute |





| | 1010 - 1040 | Break (New Mexico Room) | | | | | | |
|-----|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| | 1040 - 1045 | Keynote Introduction (Lumpkins Ballroom North) Dr. Claude Phipps, Photonics Associates, LLC | | | | | | |
| | 1045 - 1125 | Keynote: Overview of HiLASE Laser Programme: Status and Prospects (Lumpkins Ballroom North) Dr. Antonio Lucianetti, HiLASE Centre (Invited) | | | | | | |
| | 1125 - 1300 | Lunch Break - On Your Own | | | | | | |
| | | Track One Lumpkins Ballroom North | | Track Two Lumpkins Ballroom South | | | | |
| | | Theory and Simulation | | Post-Deadline Session | | | | |
| | 1300 - 1305 | Announcements & Session Introduction Session Chair: Prof. Nadezhda Bulgakova, Institute of Physics of the ASCR. HiLASE Centre | 1300 - 1305 | Announcements & Session Introduction Session Chair: Prof. Thierry Sarnet, CNRS - Aix Marseille University | | | | |
| | 1305 - 1330 | Unified Model of Plasma Formation, Bubble Generation, and Shock Wave Emission in Water for Femtosecond to Nanosecond Laser Pulses | 1305 - 1320 | Nanosecond Pulsed Laser for Micro-Magnet Synthesis Dr. Frédéric Dumas-Bouchiat, Université de Limoges - CNRS - | | | | |
| | | Dr. Xiaoxuan Liang, Institute of Biomedical Optics, University of Lübeck (Invited) | 1320 - 1335 | Visualizing the Heterogeneous to Homogeneous Melting Transition with Ultrafast Electron Diffraction Dr. Mianzhen Mo, SLAC National Accelerator Laboratory | | | | |
| | 1330 - 1355 | First-Principles Calculations of Energy Transfer from Light to Electrons in Solids Dr. Shunsuke Sato, Max Planck Institute for the Structure and | 1335 - 1350 | Self-Organized Micro/Nanostructure Formation on Silver and Copper using Dual-Pulse Femtosecond Laser Surface Processing | | | | |
| | | Dynamics of Matter (Invited) | | Dr. Craig Zuhlke, University of Nebraska-Lincoln | | | | |
| | | | 1350 - 1405 | Laser-Induced Ablation Modeling with Integrated Melt Flow and Plasma Dynamics Dr. Kaushik Iyer, The Johns Hopkins University Applied Physics Laboratory | | | | |
| DAY | 1355 - 1420 | Band-Structure Modification of Wide-Band-Gap Crystals by Laser- Driven Bloch Oscillations of Electrons: Monochromatic vs Non- Monochromatic Effects Dr. Vitaly Gruzdev, University of Missouri (Invited) | 1405 - 1420 | Laser Vaporization Cluster Source Combined to a Pulsed Laser Deposition Process - Microstructure Roles on VO ₂ Thin Film/Cluster Stack Properties Dr. Corinne Champeaux, Université de Limoges - CNRS - IRCE | | | | |
| UES | 1420 - 1445 | Electron-Ion Temperature Relaxation in Warm Dense Hydrogen: Interplay Between Quantum Electrons and Coupled Ions Prof. Jiayu Dai, National University of Defense Technology (Invited) | 1420 - 1435 | Wavelength-Specific Gold Nanoparticle Mediated Rupture o Polymersomes under Single-Pulse Irradiation Dr. Sean O'Malley, Rutgers University | | | | |
| _ | | , , , , , , , , , , , , , , , , , , , | 1435 - 1450 | Nanoscale Eutectic Microstructure in Al-Cu Thin Films by Scanning Laser Melting Mr. Eli Sullivan, University of Virginia | | | | |
| | 1445/1450 - 1515 | Break (New Mexico Room) | | - The sum tank of the same | | | | |
| | <i>al</i> (1) | Track One Lumpkins Ballroom North | | Track Two Lumpkins Ballroom South | | | | |
| | | Theory and Simulation, cont. | | Panel: The Business Side of High Power Beam Applications | | | | |
| | 1515 - 1520 | Announcements | 1515 - 1520 | Announcements & Panel Moderation Panel Chair: Ms. Julie Mikula, NASA Ames Research Center Co-Chair: Dr. Sergio Carbajo, SLAC National Accelerator Laboratory | | | | |
| | 1520 - 1545 | Kinetic Modeling of Plasma Plume Expansion and Plasma Shielding in Short Pulse Laser Processing of Metal Targets: Effects of the Background Gas and Spatial Confinement Dr. Alexey Volkov, University of Alabama (Invited) | 1520 - 1715 | Dr. Kevin Felch, Communications and Power Industries (Invited) Dr. John Lohr, General Atomics (Invited) Mr. Iouri Pigulevski, DLTECH Institute (Invited) | | | | |
| | 1545 - 1610 | Interatomic Potential of Ultrafast Laser Excited Non-Equilibrium Warm Dense Gold Dr. Zhijiang Chen, SLAC National Accelerator Laboratory (Invited) | | Dr. Sami Tanawai, Stanford University (Invited) Ms. LaNetra Tate, NASA PE for Game Changing Development (Invtied) | | | | |
| | 1610 - 1635 | Mechanism of the Single-Pulse Ablative Generation of Laser Induced Periodic Surface Structures in Vacuum and Liquid Environment Mr. Maxim Shugaev, University of Virginia (Invited) | | Dr. S. Pete Worden, Breakthrough Initiatives (Invited) Mr. Pete Zell, NASA Ames High Power Laser Facilities (Invited) | | | | |
| | 1635 - 1700 | Modeling of the Electron Dynamics in Realistic Dielectric Materials Induced by Short Laser Pulses Dr. Guillaume Duchateau, CELIA/CEA (Invited) | | | | | | |

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WEDNESDAY

Simulations of Damage of Ru Thin Films Induced by Single-Shot fs Panel, cont. EUV FEL Pulses Mr. Igor Milov, MESA+ Institute for Nanotechnology, University of

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| Vednesday, 2 | 8 March 2018 | | |
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| | Lumpkins Ballroom North | Lumpkins Ballroom South | |
|---------------|----------------------------------------------------------------------------------------------------------------------|-------------------------|--|
| | Track One | Track Two | |
| 0850 - 0855 | Transition to Parallel Sessions | | |
| 0810 - 0850 | Keynote: Shock Physics at the Nanoscale Dr. David Moore, Los Alamos National Laboratory (Invited) | | |
| 0800 - 0810 | Announcements & Keynote Introduction Dr. Claude Phipps, Photonics Associates, LLC | | |
| | Welcome & Keynote Lumpkins Ballroom North | | |
| 1830 - 2130 | Dinner & Awards Program (La Terraza Room) Entertainment Provided by Wayne Wesley Johnson and the Roger Burns Quartet | | |
| 1730 - 1815 | Poster & Table-Top Exhibit Tear-Down | | |
| 0700 - 1730 | Registration Open (Mezzanine) | | |
| 1330 - 1730 | Extract Colors Open (non-monitor monitor) | | |
| 0700 - 1155 & | Exhibits & Posters Open (New Mexico Room) | | |
| 0700 - 0800 | Light Continental Breakfast (New Mexico Room) | | |

| | Laser Materials Interactions in a Liquid Environment | | New Results in High Power Lasers and Their Applications |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0855 - 0900 | Announcements & Session Introduction Session Chair: Prof. Dr. Wolfgang Kautek, University of Vienna | 0855 - 0900 | Announcements & Session Introduction Session Chair: Dr. Craig Siders, Lawrence Livermore National Laboratory |
| 0900 - 0925 | Mechanisms of the Generation of Nanoparticles and Surface Modification in Short Pulse Laser Ablation of Metal Targets in Liquids Dr. Leonid Zhigilei, University of Virginia (Invited) | 0900 - 0925 | Pushing Energetic High Peak Power Lasers Beyond the Kilowatt Barrier Dr. Craig Siders, Lawrence Livermore National Laboratory (Invited) |
| 0925 - 0950 | Origin of the Nano-Carbon Allotropes in Pulsed Laser Ablation in Liquids Synthesis Dr. David Amans, Université Claude Bernard Lyon 1, CNRS, Institut Lumière Matière (Invited) | 0925 - 0950 | Standoff Applications of Ultrashort-Pulse Lasers Dr. Pavel Polynkin, University of Arizona (Invited) |
| 0950 - 1015 | Light Scattering Dynamics during Pulsed Laser Irradiation of Metals in Water: Effects on Laser-Induced Damage Thresholds Prof. Alexander Bulgakov, HiLASE Centre, Institute of Physics AS CR (Invited) | 0950 - 1005 | Coherent Beam Combining of Femtosecond Fiber Amplifiers A Path Towards High Peak and Average Power Lasers Dr. Jean-Christophe Chanteloup, Ecole Polytechnique |
| | | 1005 - 1020 | Acceleration and Forces Induced by High Power Laser Illumination of Absorbing Particles Dr. Joey Talghader, University of Minnesota |
| | | 1020 - 1035 | High Power High Rep.Rate P-P Lasers and New Applications Prof. Victor Apollonov, GPI RAS |
| 1015/1035 - 1110 | Break and Dedicated Poster Session (New Mexico Room) | | The state of the s |
| 1110 - 1115 | Keynote Introduction (Lumpkins Ballroom North) | | |

| 1015/1035 - 1110 | Break and Dedicated Poster Session (New Mexico |
|------------------|----------------------------------------------------------------------------------------------------|
| | Keynote Introduction (Lumpkins Ballroom North) Dr. Claude Phipps, Photonics Associates, LLC |
| 1115 - 1155 | Keynote: The Directed Energy Professional Society |

Keynote: The Directed Energy Professional Society Educational Outreach Campaign (Lumpkins Ballroom North) Mr. Mark Neice, Directed Energy Professional Society (Invited)

| 1155 - 1330 | Lunch Break - On Your Own | | | | |
|-------------|----------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------|--|--|
| | Track One Lumpkins Ballroom North | | Track Two Lumpkins Ballroom South | | |
| | Ultra High Intensity Lasers: From Earth to Cosmos | | Ultrashort Pulse Effects | | |
| 1330 - 1335 | Announcements & Session Introduction Session Chair: Prof. Gérard Mourou, École Polytechnique | 1330 - 1335 | Announcements & Session Introduction Session Chair: Dr. Klaus Sokolowski-Tinten, University of Duisburg-Essen | | |



1830 - 2130

Dinner & Awards Program (La Terraza Room)

Entertainment Provided by Wayne Wesley Johnson and the Roger Burns Quartet

| | 1335 - 1400 | Focused, Laser-Driven Ion Beams as a Tool for Laboratory Astrophysics Prof. Dr. Markus Roth, Technische Universität Darmstadt (Invited) | 1335 - 1400 | Ultrafast Mega-Electron-Volt Electron Diffraction/Microscopy at SLAC National Accelerator Laboratory Dr. Xiaozhe Shen, Stanford Linear Accelerator Center (Invited) | | | |
|---|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| | 1400 - 1425 | Efficient Mo Kα X-Ray Source Produced by Laser Solid Interaction in the Relativistic Regime Dr. Marc Sentis, CNRS, Aix Marseille University, LP3 (Invited) | 1400 - 1425 | Probing Ultrafast Heat Transport in Thin Metallic Bi-Layer Structures Dr. Vasily Temnov, CNRS - University Le Mans (Invited) | | | |
| | 1425 - 1440 | Extreme Light Compression Toward the Single-Cycle Limit Dr. Jonathan Wheeler, Ecole Polytechnique and Institute for Nuclear Physics and Engineering - Horia Hulubei, Extreme Light Infrastructure - Nuclear Physics | 1425 - 1440 | Sub-30-fs Laser Ablation of Dielectrics: Mechanisms and Outcomes Dr. Nicolas Sanner, Aix-Marseille Univ, LP3 CNRS | | | |
| | 1440 - 1505 | Generation and Applications of Femtosecond Relativistic-Intensity Structured Light Dr. Sergio Carbajo, SLAC National Accelerator Laboratory (Invited) | 1440 - 1505 | Time-Resolved Transmission Electron Microscopy: Probing Ultrafast Nanoscale Dynamics Dr. Sascha Schäfer, University of Oldenburg (Invited) | | | |
| Г | 1505 - 1525 | Break & Final Poster Voting (New Mexico Room) | | | | | |
| | | Track One Lumpkins Ballroom North | | Track Two Lumpkins Ballroom South | | | |
| | 1525 - 1530 | Plasmonics and Metamaterials Announcements & Session Introduction Session Chair: Prof. Leonid Zhigilei, University of Virginia | 1525 - 1530 | Ultrashort Pulse Effects, cont. Announcements | | | |
| | | | 1530 - 1555 | Ultrafast X-Ray Studies on the Dynamics of Structural | | | |
| | 1530 - 1555 | Self-Organized Growth of Metallic Nanoparticles upon cw and fs Laser Writing: Mechanisms and Application Prof. Nathalie Destouches, University of Lyon (Invited) | 1330 1333 | Transitions in Geophysical Materials Dr. Arianna Gleason, LANL/Stanford University (Invited) | | | |
| | 1530 - 1555 1555 - 1620 | Laser Writing: Mechanisms and Application | 1555 - 1620 | Transitions in Geophysical Materials Dr. Arianna Gleason, LANL/Stanford University (Invited) Ultrafast X-Ray Probes for Nanoscale Samples at the Solid-to Plasma Transition | | | |
| _ | | Laser Writing: Mechanisms and Application Prof. Nathalie Destouches, University of Lyon (Invited) Meta-Diffractive Sailcraft for Beamed Energy Propulsion Prof. Grover Swartzlander, Rochester Institute of Technology | | Transitions in Geophysical Materials Dr. Arianna Gleason, LANL/Stanford University (Invited) Ultrafast X-Ray Probes for Nanoscale Samples at the Solid-to | | | |

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| | Dr. ben forfalva, oniversity of whichigan | | (invited) |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Track One Lumpkins Ballroom North | 1645 - 1700 | Laser Amplification in Excited Dielectrics (LADIE) Mr. Thomas Winkler, University of Kassel, Institute of Physics and CINSaT |
| | Very High Power CW Lasers | 1700 - 1715 | Time-Resolved XANES Spectroscopy on Non-Equilibrium Warm Dense Copper |
| 1635 - 1640 | Announcements & Session Introduction Session Chair: Dr. Claude Phipps, Photonic Associates, LLC | | Ms. Noémie Jourdain, CEA DAM-DIF, CELIA |
| 1640 - 1705 | Free-Electron Laser Based Very High Average and Peak Power Radiation Sources Prof. Pietro Musumeci, University of California, Los Angeles, Department of Physics and Astronomy (Invited) | | |
| 1705 - 1730 | High Power Fiber Lasers for Industrial Applications Mr. Scott Christensen, IPG Photonics (Invited) | 1715 - 1730 | Energy Confinement and Thermal Boundary Conductance Effects on Short-Pulsed Thermal Ablation Thresholds in Thin Films Mr. John Tomko, University of Virginia |
| 1730 - 1815 | Poster & Exhibit Table-Top Tear-Down | | |

WEDNESDAY

| 0700 - 0800 | Light Continental Breakfast (Mezzanine) | | |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0700 - 1220 | Registration Open (Mezzanine) | | |
| | Track One Lumpkins Ballroom North | | Track Two Lumpkins Ballroom South |
| | Biological Applications | | Laser Direct Writing |
| 0800 - 0805 | Announcements & Session Introduction Session Chair: Dr. Tatiana Itina, Hubert Curien Lab CNRS/UJM | 0800 - 0805 | Announcements & Session Introduction Session Chair: Dr. Alexandra Palla Papavlu, National Institut for Laser, Plasma and Radiation Physics |
| 0805 - 0830 | Impact of Laser Processed Micro-Structured Topographies on Screening Mammalian Cells Response towards the Development of Multifunctional Biointerfaces and Scaffolds Dr. Valentina Dinca, National Institute for Laser, Plasma and Radiation Physics (Invited) | 0805 - 0830 | Smart Flexible Sensor via Laser Transfer Dr. Alexandra Palla Papavlu, National Institute for Laser, Plasma and Radiation Physics (Invited) |
| 0830 - 0855 | Laser Based Methods for the Fabrication of Multifunctional Implants Dr. Maria Dinescu, National Institute for Laser, Plasma and Radiation Physics (Invited) | 0830 - 0855 | Post-Mortem Characterization of Short-Pulse Laser Induce Damage in Metals Dr. Laurent Berthe, CNRS/PIMM (Invited) |
| | | 0855 - 0910 | Enhancement of Nanosecond Laser Ablation of Silicon by Axial Magnetic Field Dr. Hamid Farrokhi, Wellman Center for Photomedicine, Massachusetts General Hospital and Harvard Medical Schoo |
| | | 0910 - 0925 | Ultrashort Pulsed Laser Processing of Glass Materials and Application for Microorganisms Study Dr. Inam Mirza, HiLASE Centre |

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| | Track One | | Track Two |
|-------------|-----------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------------------------|
| | Lumpkins Ballroom North | | Lumpkins Ballroom South |
| | Thermal and Mechanical Coupling for Ultrashort Pulses | | MAPLE and Materials Processing |
| 0940 - 0945 | Announcements & Session Introduction | 0940 - 0945 | Announcements & Session Introduction |
| 1.1 | Session Chair: Dr. Stefan Scharring, German Aerospace Center (DLR), Institute of Technical Physics | | Session Chair: Dr. Enikö György, CSIC-ICMAB |
| 0945 - 1010 | Mechanical and Thermal Coupling of Ultrashort Laser Pulses with | 0945 - 1010 | Bottom-Up Laser Ablation Synthesis of Nanomaterials - A |
| | Solids | - | "Building Block" Approach |
| | Prof. Dr. Wolfgang Kautek, University of Vienna (Invited) | | Prof. David Geohegan, Oak Ridge National Laboratory (Invited) |
| 1010 - 1035 | New Insights on Mechanical Coupling from Molecular Dynamics | 1010 - 1035 | Laser Processing of Atomic Layer Films |
| | Simulations using Highly Dynamic Material Properties Dr. Johannes Roth, University of Stuttgart (Invited) | | Prof. Costas Grigoropoulos, University of California (Invited) |
| 1035 - 1100 | Temporal Characterization of Short-Pulse Laser Absorption in | 1035 - 1100 | Laser Processing of Nanocarbon-Based Materials |
| | Metals | | Dr. Angel Perez Del Pino, Consejo Superior de Investigaciones |
| | Dr. Laurent Videau, CEA, DAM, DIF (Invited) | | Científicas, Instituto de Ciencia de Materiales de Barcelona |
| | | | (CSIC-ICMAB) (Invited) |
| 1100 - 1125 | Ultra-Short Laser Structuring of Optical Materials in Volume | 1100 - 1125 | Tuning Morphology and Melting Temperature in |
| | Prof. Tatiana Itina, Laboratoire Hubert Curien, UMR CNRS | | Polyethylene Films by MAPLE |
| | 5516/Univ. Lyon/UJM and ITMO University (Invited) | | Dr. Rodney Priestley, Princeton University (Invited) |
| 1125 - 1150 | Implications of Thermal and Mechanical Coupling for Laser Nano- | 1125 - 1150 | Thin Films for Solar Cells Produced by Pulsed Laser |
| | and Micromachining of Semiconductors and Insulators | | Deposition |
| | Prof. Dr. Nadezhda Bulgakova, Institute of Physics of the ASCR, | | Dr. Jørgen Schou, DTU Fotonik, Technical University of |
| | HiLASE Centre (Invited) | | Denmark (Invited) |
| 1150 - 1205 | Kinetic and Hydrodynamic Simulations of Laser-Induced Plasma | 1150 - 1205 | Photoactive Nano-Carbon Based Composite Materials |
| | Plume Expansion under Conditions of Double-Pulse Irradiation | | Obtained by Matrix Assisted Pulsed Laser Evaporation |
| | Mr. Omid Ranjbar, University of Alabama | | Dr. Enikö György, Instituto de Ciencia de Materiales de |
| | | | Barcelona |
| | | 1205 - 1220 | Laser Ablation of Metals using Periodically Modulated |
| | | 711 1X | Intensity |
| | | | Mr. Wes Keller, Lawrence Livermore National Laboratory |
| 1220 | Conference Adjourns | And I do | |
| 1800 | Group Dinner at El Farol | | |
| | Reservations Required: See HPLA Registration Desk | | |
| TV - | Cost: On Your Own | 1/4 | |

THURSDAY

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Lunch & Dinner Suggestions

Geronimo

724 Canyon Rd., 505-982-1500 Website: http://chrismharvey.wix.com/geronimo

The Compound Restaurant

653 Canyon Rd., 505-982-4353 Website: www.compoundrestaurant.com/

Galisteo Bistro

227 Galisteo Street, 505-982-3700 Website: http://galisteobistro.com

Jinia Asian Café

North DeVargas Mall Across from Albertson's 510 N. Guadalupe St. , 505-982-4321 Website: http://jinjabistro.com/index.html

The Burrito Company

111 Washington Ave http://www.burritocompanysf.com/

Old House Restaurant

309 West San Francisco St., 505-995-4530 Website: http://www.eldoradohotel.com/old_house_restaurant/

Cleopatra Café

418 Cerrillos Road, 505-820-7381 http://www.cleopatrasantefe.com

Bumble Bee's Baja Grill

301 Jefferson, 505-820-2862 Website: http://www.bumblebeesbajagrill.com/

The Pantry Restaurant

1820 Cerrillos Rd., 505-986-0022 Website: http://www.pantrysantafe.com/

Marisco's Costa Azul

2875 Cerrillos Rd., 505-473-4594 Website: http://www.mariscoscostaazul.com/

Cowgirl BBQ

319 S Guadalupe, 505-982-2565 Website: http://www.cowgirlsantafe.com/ menus

L'Olivier

4229 Galisteo, 505-989-1919 Website: http://www.loliviersantafe.com

Realburger

2641 1/2 Cerrillos Road, 505-474-7325 Website: http://www.realburger.org

Plaza Café

54 Lincoln Ave https://www.plazacafesantafe.com/

Whole Hog Café

320 S Guadalupe St https://wholehogcafenm.com/

HPLA Conference Chair Special Mentions:

- Pranzo Italian Grill (http://www.pranzosantafe.com/) \$\$ and good food, almost always available
- SantaCafé (http://santacafe.com/) \$\$\$ but worth it, delicious food
- La Casa Sena (http://www.lacasasena.com/) \$\$\$ but worth it, sit outside under huge trees next to a fountain, or listen to Broadway songs sung by your singing waiter inside
- The Shed (http://sfshed.com/home.html) \$\$ right downtown close to La Fonda for that chili fix
- Pink Adobe (http://www.thepinkadobe.com/) \$\$\$ close to La Fonda, great indoor/outdoor place, local Spanish food
- Rio Chama Steakhouse (http://www.riochamasteakhouse.com/) \$\$\$ close to La Fonda, get the steak, buffalo or venison fix
- Los Magueyes Mexican Restaurant (http://los-magueyes.letseat.at/) \$\$ At the end of Burro Alley, real Mexican food, Charles Tichenor entertains with his piano Friday night at 6
- **The Teahouse** (http://www.teahousesantafe.com) \$\$ Just past El Farol on the left. Yes, a whole menu of rare teas, but also great food, wine and beer.

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See you in 2020!

