

2010

HPA

The International High-Power Laser Ablation Conference

Back to Basics
18-22 April 2010

Call for Abstracts

HPLA Background

Since 1998, the International High-Power Laser Ablation (HPLA) Conference has provided a unique forum for exchange of ideas on the physics and application of high-power laser materials interaction, including advances in relevant high-power laser sources and problems of beam propagation and detection, in a collegial atmosphere.

The HPLA series is one of the first to be organized around a physical phenomenon (high power ablation) rather than a specific technology. HPLA addresses every aspect of the high power ablation of materials from the basic physics to the leading applications.

HPLA attendees are forefront specialists in the basic physics of laser-surface interactions, high-power lasers, materials science, femtosecond lasers and effects, beam propagation, beam forming, diagnostics and detection.

Attendees are deeply involved in a broad range of laser materials interaction research. They are interested in and use the following laser technologies: ultrashort pulse lasers; picosecond Nd lasers and doublers, triplers; Ti:sapphire lasers; KrF, XeCl, ArF, XeF excimer lasers; high power fiber lasers; CO₂ lasers; quantum dots; oxygen-iodine lasers; diode pumped alkali halide lasers. Applications of interest to HPLA attendees include, but are not limited to: laser cutting; scribing, material modification; Coulomb explosion, charging and plasma effects generated by fs pulses; ultrafast dynamic ellipsometry; physics of bulk optical breakdown; ultrafast melt dynamics; pulsed laser deposition, MAPLE; laser surface cleaning; and laser space propulsion.

Lead Corporate Sponsor

General Dynamics Information Technology

Conference Chair: Dr. Claude R. Phipps
Managing Partner, Photonic Associates, LLC
Santa Fe (USA)

Program Committee:

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

Victor Apollonov
General Physics Institute (Russia)

Michel Autric
Université de la Méditerranée
(France)

Dieter Bäuerle
Johannes Kepler University Linz
(Austria)

Willy Bohn
BohnLaser Consult Stuttgart
(Germany)

Boris Chichkov
Laser Zentrum Hannover (Germany)

Gordon Hager
Air Force Research Laboratory
(USA)

Richard Haglund
Vanderbilt University (USA)

Victor Hasson
Trex Enterprises (USA)

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

Michael Lander
General Dynamics Information
Technology (USA)

Thomas Lippert
Paul Scherrer Institute (Switzerland)

Boris Luk'yanchuk
Data Storage Institute ASTAR
(Singapore)

Max Michaelis
University of Natal, Durban
(South Africa)

Minoru Obara
Keio University (Japan)

Dennis Paisley
Los Alamos National Laboratory
(USA)

Bärbel Rethfeld
Technische Universität
Kaiserslautern (Germany)

Klaus Sokolowski-Tinten
University Duisburg-Essen
(Germany)

Takashi Yabe
Tokyo Institute of Technology
(Japan)

Keynote Speaker *(Tentatively Confirmed)*



Dr. Donald R. Pettit
NASA Astronaut



Education:

Graduated from Silverton Union High School, Silverton, Oregon, in 1973; received a bachelor of science degree in chemical engineering from Oregon State University in 1978; and a doctorate in chemical engineering from the University of Arizona in 1983.

Experience:

Staff scientist at Los Alamos National Laboratory, Los Alamos, New Mexico from 1984-1996. Projects included reduced gravity fluid flow and materials processing experiments on board the NASA KC-135 airplane, atmospheric spectroscopy on noctilucent clouds seeded from sounding rockets, fumarole gas sampling from volcanoes, and problems in detonation physics. He was a member of the Synthesis Group, slated with assembling the technology to return to the moon and explore Mars (1990), and the Space Station Freedom Redesign Team (1993).

NASA Experience:

Selected by NASA in April 1996, Dr. Pettit reported to the Johnson Space Center in August 1996. A veteran of two spaceflights, Dr. Pettit has logged over 176 days in space and over 13 EVA hours. He lived aboard the Space Station for 5-1/2 months in 2002-2003 and in 2008 was a member of the STS-126 crew.

Space Flight Experience:

Expedition 6 (November 23, 2002 to May 3, 2003). Dr. Pettit completed his first space flight as NASA ISS Science Officer aboard the International Space Station, logging over 161 days in space, including over 13 EVA hours. During 5-1/2 months aboard the International Space Station, the crew worked with numerous U.S. and Russian science experiments. Dr. Pettit and the mission commander Ken Bowersox performed 2 EVAs (spacewalks) to continue the external outfitting of the orbital outpost. The Expedition 6 crew launched on STS-113 Space Shuttle Endeavour and returned to Earth on Soyuz TMA-1.

STS-126 Endeavour (November 14-30, 2008) launched at night from the Kennedy Space Center, Florida, and returned to land at Edwards Air Force Base, California. It was NASA's 4th shuttle flight in 2008 and the 27th Shuttle/Station assembly mission. Highlights of the almost 16-day mission included expanding the living quarters of the space station to eventually house 6 member crews by delivering a new bathroom, kitchenette, two bedrooms, an exercise machine, and a water recycling system. During the mission Dr. Pettit operated the robotic arm for a total of four EVAs (spacewalks) performed by three members of the crew. STS-126 also delivered a new resident to the station, replacing Greg Chamitoff, Expedition 17-18 with Sandy Magnus, Expedition 18. STS-126 returned to Earth after completing 250 orbits in over 6 million miles.

Call for Abstracts

The goal of the 8th International High-Power Laser Ablation Conference is to bring together leading specialists in laser-materials interaction physics and laser science in a collegial atmosphere in which a wide array of specialists who might not otherwise meet can talk and learn from each other. All sessions are plenary, affording all attendees the opportunity to hear all oral presentations. Because there is only time in our four-day format for a limited number of forefront oral papers, many papers will be presented in a poster format at one of the evening poster sessions. These poster sessions take place on Monday and Tuesday evenings and will be, as in the past, a focus for the exchange of new ideas. Poster presentations will be mounted on standard sized easels and located in the exhibit hall.

The 2010 HPLA Conference will address all aspects of the interaction of lasers with condensed matter, from fundamental theory and simulations to material processing. The range of topics will be diverse, but the focus within each will be on fundamental results. Therefore, attendees can expect to learn about the very latest results at a depth usually reserved for specialist conferences, but in a broader range tied together by the physical phenomenon of high power laser ablation.

Heavy emphasis will be placed on the physics involved in the laser-surface interaction to avoid missing the grand connections among these interesting applications. Groundbreaking physics will be discussed for its own sake. Applications discussed will range from high-tech material processing to space propulsion to inertial confinement fusion. An update will be provided on the status of the National Ignition Facility (NIF). Two or three sessions will be devoted to advances in the specific types of lasers (diode, solid state, iodine, etc.) which are of use in these applications.

Original papers are solicited for the topics listed below. This list is offered for guidance only, and is not intended to exclude other relevant topics. Please submit your abstract for your original paper as instructed below:

Suggested Topics:

- Fundamental Theory
- Femtosecond and Attosecond Effects
- Nanoengineering
- Advances in Oxygen-iodine and Optically-pumped Lasers
- Advances in Promising New Laser Technologies (diode, alkali, etc.)
- PLD, MAPLE and Processing of Advanced Materials
- High Power Lasers Application and Diagnostics
- Simulations
- Near-field Effects
- Biomedical Applications
- Laser Ablation Propulsion
- COIL, DOIL, EOIL and Other Unusual Sources
- Optically Pumped Lasers
- Physics of Laser Matter Interactions

Abstract Specifications

Microsoft Word Document, Arial font, 10 Point Size

Paper title: Bold, Centered, 12 Point

500 Word Maximum, 1.5 line spacing

Include up to 3 topics that your paper fits from the list to the left in order of preference, or another topic not listed.

Include full name, organization, address, phone number and email address for the paper's author, all co-authors and the presenter.

Abstracts Submission

Email your abstract by close of business 17 August 2009 to:

Ms. Sherry Johnson, sherilyn.johnson@gdit.com

For technical questions regarding your abstract, please contact Dr. Claude Phipps at CRPhipps@aol.com, or 505-466-3877.

Please title the subject of your email: "last name HPLA Abstract". Authors will be notified by 14 September 2009 if their paper has been selected for a poster presentation, an oral presentation or declined. Authors selected for presentation will receive instructions for submitting their full manuscript, which will be due on or before 14 December 2009.

Call for Table-Top Exhibits and Demonstrations

Become an HPLA exhibitor! Join the top scientists, researchers and decision makers in their field for special events and networking in the exhibit hall.

Interactive exhibitor and poster sessions are an integral part of the overall technical HPLA program. A two hour session is scheduled for both Monday and Tuesday evenings. All attendees will take part in these sessions. The sessions will include table-top or pop-up displays and/or demonstrations. Approximately 30 poster presentations will be included in Monday evening's session, and 30 new poster presentations will be displayed on Tuesday evening. The sessions will take place in the Eldorado Hotel & Spa's beautiful Pavilion, pictured below. Please plan to participate by reserving your exhibit space today. Exhibit space is open, no pipe and drape. Each exhibit area will be 10' x 10' and include:

- One (1) 8' skirted table
- Two (2) chairs
- One (1) standard 110v outlet
- Exhibitor's organization will be recognized in the final program, including logo
- Exhibitor's organization will be recognized on the HPLA website, including a link to your website

Exhibit Space Fees

- Reserve your space and pay the fee by 2 November 2009: \$195.00 (per space)
- Reserve your space and pay the fee after 2 November 2009: \$245.00 (per space)

Conference Registration Fees

- Early Bird Registration Fee (if paid by 22 February 2010): \$695.00
- Standard Registration Fee (if paid after 22 February 2010): \$750.00
- Late Registration Fee (if paid after 22 March 2010): \$795.00

Preliminary Exhibit Hall Hours:

Monday, 19 April 2010

To reserve exhibit space, please call Pam Myers at (937) 476-2168, or pamela.myers@gdit.com.

- 8:00 – 11:30 am Exhibitors Set Up
- 12:00 – 1:00 pm Lunch in Exhibit Hall *(if a sponsor is secured)*
- 2:30 – 3:15 pm Chocolate Break *(if a sponsor is secured)*

8:00 – 10:00 pm Exhibitor & Poster Session
(hors d'oeuvres if a sponsor is secured)

Tuesday, 20 April 2010

- 7:00 – 8:00 am Continental Breakfast
(sponsorship available)
- 2:30 – 3:15 pm Ice Cream Social in Exhibit Hall
(if a sponsor is secured)
- 8:00 – 10:00 pm Exhibitor & Poster Session
(hors d'oeuvres if a sponsor is secured)
- 10:00 pm Exhibits Tear Down



Eldorado Hotel & Spa's Pavilion
Site of the 2010 HPLA Exhibits & Poster Sessions

Call for Sponsors

Become an HPLA sponsor! Showcase your organization by sponsoring an event in the exhibit hall to enhance the networking productivity and enjoyment of all attendees. The HPLA conference offers many sponsorship opportunities – even if your dollars are limited. Sponsorship packages can be tailored for all budgets and partial or shared sponsorships are welcome!

Monday, 19 April 2009

Lunch in the Exhibit Hall _____ \$6,350.00 Sponsorship

This sponsorship includes a walk-around-the-hall lunch with various food and beverage stations. The sponsor will be recognized during the event and awarded a sponsor certificate by the conference chair. The sponsor will be given the opportunity to address the attendees in the exhibit hall with a microphone from a small stage for a 10 minute introduction to their organization. The sponsor's logo will be on the lunch napkins with the words "Sponsor of the 2010 HPLA."

Chocolate Break (PM) in the Exhibit Hall _____ \$2,000.00 Sponsorship

This sponsorship includes an afternoon break featuring chocolate treats and beverages. The sponsor will be recognized during the event and awarded a sponsor certificate by the conference chair. The sponsor's logo will be on the break napkins with the words "Sponsor of the 2010 HPLA."

Evening Poster & Exhibitor Session _____ \$4,750.00 Sponsorship

This sponsorship includes light Hors d'oeuvres and a cash bar station. The sponsor will be recognized during the event and awarded a sponsor certificate by the conference chair. The sponsor will be given the opportunity to address the attendees in the exhibit hall with a microphone from a small stage for a 10 minute introduction to their organization. The sponsor's logo will be on the napkins with the words "Sponsor of the 2010 HPLA."

Tuesday, 20 April 2009

Continental Breakfast in the Exhibit Hall _____ \$2,100.00 Sponsorship

This sponsorship includes a traditional continental breakfast and beverages. The sponsor will be recognized during the event and awarded a sponsor certificate by the conference chair. The sponsor's logo will be on the napkins with the words "Sponsor of the 2010 HPLA."

Ice Cream Social (PM) in the Exhibit Hall _____ \$2,800.00 Sponsorship

This sponsorship includes an afternoon break featuring ice cream treats and beverages. The sponsor will be recognized during the event and awarded a sponsor certificate by the conference chair. The sponsor's logo will be on the napkins with the words "Sponsor of the 2010 HPLA."

Evening Poster & Exhibitor Session _____ \$4,750.00 Sponsorship

This sponsorship includes light hors d'oeuvres and a cash bar station. The sponsor will be recognized during the event and awarded a sponsor certificate by the conference chair. The sponsor will be given the opportunity to address the attendees in the exhibit hall with a microphone from a small stage for a 10 minute introduction to their organization. The sponsor's logo will be on the napkins with the words "Sponsor of the 2010 HPLA."

Wednesday, 21 April 2009

Group Dinner _____ \$7,500.00 Sponsorship

This sponsorship includes a very nice, elegant sit-down dinner for all and takes place on Wednesday, the day after exhibits tear down. The sponsor will be recognized at the start of the dinner and awarded a sponsor certificate by the conference chair. The sponsor's logo will be on dinner napkins with the words "Sponsor of the 2010 HPLA."

Group Dinner Entertainment _____ \$2,000.00 Sponsorship

This sponsorship includes entertainment that will be provided during the above dinner. The sponsor will be recognized at the start of the dinner and awarded a sponsor certificate by the conference chair.

Tokens or Attendee Give-a-Ways _____ \$1,500.00 Sponsorship (Several)

Sponsor's logo will be on tokens, with the words "Sponsor of the 2010 HPLA."

Attendee Lanyards (Neck Pouches) _____ \$1,000.00 Sponsorship

See sample photo to the right. The sponsor's logo will be imprinted on the pouch and neck strap, with the words "Sponsor of the 2010 HPLA."

Attendee's Scholarship _____ \$1,000.00 Sponsorship

Sponsor the registration fees and/or travel expenses for a non-U.S. attendee.



Sponsorships from \$1500 and up include:

- Sign recognition in the Exhibit Hall or appropriate area (see sample sign, below right)
- Sponsor certificate awarded during conference
- Sponsor acknowledged during the conference opening remarks
- Sponsor's logo in the final program
- Sponsor's logo on the HPLA website

In addition to the above:

- Sponsorships from \$2,000 include one exhibit space
- Sponsorships from \$4,500 include one exhibit space AND one full conference registration fee
- Sponsorships from \$6,200 include two exhibit spaces and one full conference registration

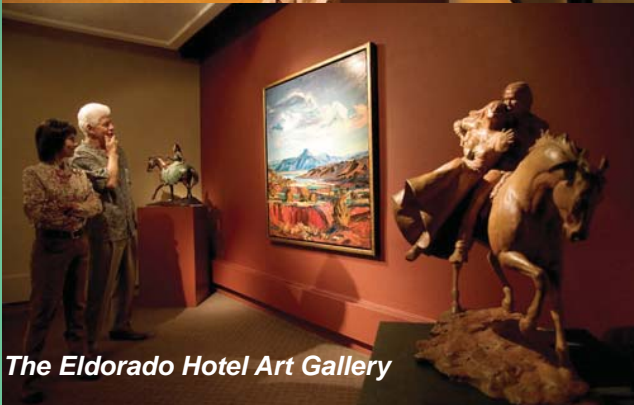
If you are interested in purchasing ad space in the final program, or wish to discuss sponsorship opportunities, please contact Ms. Pamela Myers, the 2010 HPLA Coordinator, at 937-476-2168 or at pamela.myers@gdit.com. In order to make deadlines for ordering and printing, please contact Ms. Myers with your sponsorship preferences by 2 November 2009.



The Eldorado Hotel Rooftop Pool



The Eldorado Hotel Nidah Spa



The Eldorado Hotel Art Gallery



The Eldorado Hotel & Spa
Santa Fe, New Mexico
Site of the 2010 HPLA "Back to Basics" Conference