SSDLTR Preliminary Schedule

Tuesday, 13 June 2006

Tuesday Morning
Plenary Session (Chair: Gerald Uyeno)

PLENARY-1
Dr. Jeffrey Cavins, Northrop Grumman
Laser Target Designators and Rangefinders: Integration and Production, a Merchant Suppliers Perspective

PLENARY-2
Dr. Iain McKinnie, Lockheed Martin
Lockheed Martin Coherent Airborne LIDAR

PLENARY-3
Mr. Dan Nieuwsma, Raytheon
Diode Pumped Solid State Laser Integration for Raytheon’s Advanced Targeting Forward Looking Infrared Pod

PLENARY-4
Dr. Rob Afzal, Rob, Aculight
NASA Geoscience Laser Altimeter System (GLAS)

PLENARY-5
Dr. Floyd Hovis, Fibertek
Qualification and Integration of the Laser Transmitter for the CALIPSO Aerosol Lidar Mission

PLENARY-6
Dr. David Tratt, NASA
NASA Initiative Toward Reliable Long-Duration Operation of Diode Laser Arrays in Space

Tuesday Afternoon
High Power Lasers (Chair: Dennis Harris)
LIMITED DISTRIBUTION

LASER-1
Dr. Alex Mandl, Textron Systems
Nd:YAG Ceramic ThinZag High Power Laser Development

LASER-2
Dr. Randy St. Pierre, Northrop Grumman
Strategic Illuminator Laser (SILL) Program Produces the Highest Power Continuously Pulsed Device and Achieves All MDA Advanced Technology Development Goals

LASER-3
Dr. Hans Bruesellbach, HRL Laboratories, LLC
The Destiny of Multi-kW High-Brightness Yb:YAG Single-Rod Lasers

LASER-4
Dr. Alan Karpinski, Laser Diode Array, Inc.
Pump Donuts Simplify Side Pumping of Solid State Lasers

LASER-5
Dr. Huai-Chuan Lee, Onyx Optics, Inc.
Stress Relief of Adhesive-Free-Bond (AFB®) Laser Crystal Composites at Elevated and Cryogenic Temperatures

LASER-6
Dr. Ove Lyngnes, Precision Photonics

LASER-7
Jeff Sollee, Northrop Grumman
Joint High Power Solid-State Laser
**Tuesday Afternoon (Continued)**

LASER-8  
Matthew Kendall and Michael Perry, General Atomic & Donald Woodbury, DARPA  
HELLADS Overview

**Alternate Wavelength Sources (Chair: Paul Rudy)**

ALT-1  
Dr. Timothy Day, Daylight Solutions, Inc.  
Tunable External Cavity Quantum Cascade Lasers for Molecular Detection and Imaging in the Mid Infrared

ALT-2  
Dr. Mahmoud Fallahi, University of Arizona  
Tunable High-Power High-Brightness Diode-Pumped VECSELs and Their Applications

ALT-3  
Dr. Jerome Moloney, University of Arizona  
Power Scalable, Kilowatt-Class, Wavelength Agile OPSLs

ALT-4  
Dr. Andrew Ongstad, AFRL/DELS  
High-Brightness from an Unstable Resonator Mid-IR Semiconductor Laser

ALT-5  
Dr. M Osowski, Quintessence Photonics Corporation  
Advances in High Brightness Semiconductor Lasers in the 1400 – 1600 nm Wavelength Regime

ALT-6  
Dr. Steve Patterson, nLight  
Record High-Power and High-Efficiency InP-based Diode Lasers

ALT-7  
Dr. Manijeh Razeghi, Northwestern University  
High Power, High Reliability Quantum Cascade Lasers at the Center for Quantum Devices

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**Wednesday, 14 June 2006**

**Wednesday Morning**

**Diode Pump Lasers I (Chair: Jason Farmer)**

DIODE1-1  
Mr. Jason Carter, Pennsylvania State University  
In-Situ Spatially and Temporally Resolved Temperature Measurement of Laser Diode Arrays as a Predictive Failure Analysis Tool

DIODE1-2  
Dr. Boris Volodin, PD-LD Inc.  
High-Brightness Laser Diode Arrays for Eye-Safe Lasers Enabled by Volume Bragg Gratings

DIODE1-3  
Dr. Nels Ostrom, Nuvonyx, Inc.  
Multi-Kilowatt High Brightness Fiber Coupled Diode Laser Systems

DIODE1-4  
Dr. Manoj Kanskar, Alfalight Inc.  
970 nm High Power Conversion Efficiency and Wavelength Stabilized Diode Laser Pumps

DIODE1-5  
Dr. Paul Crump, nLight  
400-W Peak CW Power per Bar from 1-cm GaAs Bars For Emission Wavelengths From 800-nm to 980-nm, 90-W per bar at 660-nm

DIODE1-6  
Dr. Eliot Geathers, Pennsylvania State University  
Laser Diode Array Performance in Vacuum
**Wednesday Morning (Continued)**  
**High Power Fiber Lasers I (Chair: Eric Honea)**

**FIBER1-1**  
Mr. Tim Lauterborn, Fraunhofer USA  
System Integration Aspects of Pulsed Fiber Lasers in MOPA Configuration

**FIBER1-2**  
Dr. Kai-Chung Hou, University of Michigan  
Multi-MW Peak Power Scaling of Single-Transverse Mode Pulses Using 80-µm Core Yb-Doped LMA Fibers

**FIBER1-3**  
Dr. Fabio Teodoro, Aculight Corporation  
Multi-MW Peak Power, Multi-mJ Pulse Energy in Spectrally Narrow, Diffraction-Limited Output from an Yb-doped Photonic Crystal Rod Amplifier

**FIBER1-4**  
Dr. John McCarthy, BAE Systems  
Near Diffraction-Limited, 1064nm, All-Fiber Master Oscillator Fiber Amplifier (MOFA) Architecture with Enhanced SRS Suppression for Pulsed Nanosecond Applications

**FIBER1-5**  
Dr. Pavel Polynkin, University of Arizona  
Development of Watts-Level Sources of Ultra-Short Pulses at 1.5mm Using Heavily-Doped Phosphate Glass Fibers

**FIBER1-6**  
Dr. Ming-Yuan Cheng, University of Michigan  
High Power Compact Fiber Chirped Pulse Amplifiers at 1558-nm using Er/Yb LMA Fibers and Chirped Volume Bragg Grating Compressors

**Wednesday Noon**  
**Poster Session (Chair: Sean Ross)**

**P-1**  
Dr. Mark Culpepper, AFRL/DELO  
Coherent Fiber Array for Active Satellite Imaging

**P-2**  
Dr. Iulian Petrescu-Prahova, High Power Devices  
High Modal Selectivity in Periodic Gain Diode Laser Arrays with Lateral Margin Control

**P-3**  
Dr. Oleg Smolski, University of Central Florida  
Hybrid Master Oscillator Power Amplifier Assembly based on Grating Coupled Laser Diodes

**P-4**  
Dr. Eric Bochove, Air Force Research Laboratory/DELO  
A New Relation for Mode Losses of Dense Laser Arrays coupled to an External Cavity

**P-5**  
Dr. Julien Lumeau, University of Central Florida  
Tunable Narrow Band-Pass Filters for Laser Applications

**P-6**  
Dr. David Westerfeld, Power Photonic Corp  
Effect of Increased Quantum Well Strain on GaSb Based 2.3-2.4 um High Power Diode Lasers

**P-7**  
Dr. G. Alex Newburgh, Army Research Laboratory  
Silicon Carbide: A New Optical Heatspreader Material for Cooling of High Power Solid State Laser Gain Media

**P-8**  
Dr. Anatoliy Khizhnyak, MetroLaser, Inc.  
Multiple-Fiber Channels Beam Coupling Inside a Stable Configuration Laser Cavity
**Wednesday Afternoon**
**Diode Pump Lasers II (Chair: Jason Farmer)**

**DIODE2-1**
Dr. R Lammert, Quintessence Photonics Corporation
Advances in High Brightness Semiconductor Lasers

**DIODE2-2**
Mr. Ryan Feeler, Northrop Grumman Cutting Edge Optronics
Minimization of Diode Array Degradation via Emitter-Level Screening of Laser Diode Subassemblies

**DIODE2-3**
Dr. Rajiv Pathak, Lasertel Inc.
Qualification of High Power Laser Bars for Space Applications

**DIODE2-4**
Dr. Andreas Brandt, Visotek, Inc.
Compact High Power, High Brightness Diode Laser for Pumping of Solid State Lasers

**High Power Fiber Lasers II (Chair: Eric Honea)**

**FIBER2-1**
Dr. O Shkurikhin, IPG Photonics
400W+ Yb and 100W+ Er CW Single-Frequency, Single-Mode, Linearly Polarized All-Fiber Format Amplifiers

**FIBER2-2**
Dr. F Corbin, Nufern
Component Testing and Amplifier Design for 200W, Narrow Linewidth, Monolithic PM-LMA Fiber Amplifiers

**FIBER2-3**
Dr. N Peyghambarian, University of Arizona
Ultra-Compact High Power Fiber Lasers with Phosphate Microstructured Optical Fibers

**Wednesday Afternoon**
**Thermal and Power Management (Chair: Kirk Yerkes)**

**TP-1**
Dr. Kevin Kelly, International Mezzo Technologies
Ultra Compact Heat Exchangers for Thermal Management of High Power Laser Systems

**TP-2**
Dr. Jessic Shi, Northrop Grumman
Modeling & Simulation for Optimization of a Mobile SSL Thermal Management System

**TP-3**
Mr. Don Deaton, DRS TEM Inc.
High Power Density Pulse Generator for Laser Diode Applications

**TP-4**
Dr. Jennifer Lindauer, Rini Technologies, Inc.
Lightweight Cooling System for a 100kW SSL
Thursday, 15 June 2006

Thursday Morning
Beam Combination and Control (Chair: Iain McKinnie)

BC-1
Dr. Thomas Loftus, Aculight Corporation
High Power Spectrally Beam Combined Fiber Laser System with Near-Diffraction Limited Beam Quality

BC-2
Dr. Steve Augst, MIT Lincoln Laboratory
Wavelength Beam Combining of Three 30-watt Fiber Amplifiers

BC-3
Mr. Oleksiy Andrusyak, University of Central Florida
Dense Spectral Beam Combining With Volume Bragg Gratings in PTR Glass

BC-4
Dr. Scott Christensen, Lockheed Martin Coherent Technologies
Novel Coherent Beam Combiner

BC-5
Dr. Chi Liu, University of Michigan
Beam Quality of Spontaneously-Phasing, Multi-Core Fiber Laser with Structural Defects

BC-6
Dr. Eric Bochove, Air Force Research Laboratory/DELO
Spatial and Temporal Stability of an N-Core Evanescently Coupled Fiber Amplifier Ring

BC-7
Dr. Chris Corcoran, Corcoran Engineering, Inc.
Stable Operation of a Phase-Locked Laser Array in a Self-Fourier Cavity

BC-8
Dr. Eric Bochove, Air Force Research Laboratory/DELO
Novel Applications of a Self Fourier Cavity to High Power Phased Laser Arrays

Thursday Morning
Solid State Lasers (Chair: Santanu Basu)

SS-1
Dr. Bhabana Pati, Q-Peak, Inc.
400-W Cryo-Cooled Yb:YAG Laser with 56% Efficiency

SS-2
Dr. Bert Callicoatt, Lockheed Martin Coherent Technologies
Power-Scaling in a Re-Imaging Waveguide MOPA

SS-3
Dr. Mark Dubinskii, Army Research Laboratory
Laser Potential of Diode Pumped Yb-Doped Y2O3 Ceramics

SS-4
Dr. Santanu Basu, Sparkle Optics Corporation
Recent Advances in Rotary Disk Laser Technology

SS-5
Dr. Alex Dergachev, Q-Peak, Inc.
113-W, 115-mJ Ho:YLF MOPA System Pumped with Tm:fiber Lasers

SS-6
Dr. Allen Tracy, Lockheed Martin Coherent Technologies
High-power Sodium Guidestars Laser Systems for Current and Future Adaptive Optic Telescopes

SS-7
Dr. Te-yuan Chung, University of Central Florida

SS-8
Dr. Al Paxton,
Spinning Disk Laser – Computer Simulations