



August 2007 Newsletter

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Editor's Note

Jenny Mages, August 2007

Dear DLS members:

It is time for another edition of the DLS newsletter. Summer roles around and gives us an opportunity to digest the events of the academic year and gear up for new efforts. In this edition we recognize some recent awards to our members that we are very proud of. As recognized by Hal Metcalf in the last newsletter there is a brilliant new generation on the horizon. Also, some of our distinguished scientists were recognized with OSA awards.

The highlights from the DLS minutes are intended to give a short synopsis of some of the topics that were talked about. There will be more to follow on those topics. The interplay of science and politics has many aspects as was seen in the Capitol Hill Day 2007. Topics ranged from STEM education to research funding and more. More than 40 Capitol Hill Offices were involved. History shows that the involvement of scientists and engineers with political efforts is critical so that informed decisions can be made

http://ptonline.aip.org/journals/doc/PHTOAD-ft/vol_60/iss_6/47_1.shtml.

The Distinguished Traveling Lecturer program is evolving. New speakers have been added. Laurie Butler and F. Fleming Crim represent the fields of Molecular Reaction Dynamics. Linda Young probes atoms and molecules in strong laser fields using x rays. More information is available through the link to speaker profiles in the DTL section: <http://www.physics.sdsu.edu/~anderson/DTL/lecturers.html>.

Have a great summer!

Send any input and/or comments to: Jenny Magnes.

Chair's Message

Leo W. Hollberg, July 2007

To DLS members:

Time always moves too quickly. The weeks since our April Newsletter have been filled with numerous developments within our DLS programs and also with outside activities of interest to our laser science community.

May arrived and brought us together in Baltimore for another excellent CLEO/QELS/PhAST conference. Consistent with tradition, the meeting had a broad spectrum of technical and scientific topics: ranging from single photons and single atom experiments, to degenerate gases, ultra-fast and ultra-precise measurements, condensed matter, semiconductors, and a dizzying assortment of advanced laser sources, nonlinear optics and applications. We rely on that major yearly conference to provide the latest news of cutting edge laser-science and technology as well as an outstanding trade show. Our thanks go out to everyone involved in putting the program together and managing the massive meeting.

New Distinguished Traveling Lecturers

It is a real pleasure to report that DLS has now added four new people to the list of Distinguished Traveling Lecturers, they are: Laurie Butler (chemical reaction dynamics, spectroscopy, molecular beams), F. Fleming Crim (molecular dynamics, high resolution and ultrafast), Hui Cao (mesoscopic physics, nano-optics, quantum-chaos and -optics), and Linda Young (ultrafast x-rays, strong fields, atoms and molecules). These new distinguished lecturers broaden the range of research topics covered, and will help us better represent the scientific and technical breadth of our Division. Additional details about all of the DTLs can be found on our DLS website.

Laser Science XXIII

We now look forward to our DLS annual meeting, **Laser Science XXIII**, which will be in **San Jose , 16-20 September, 2007**, which is earlier than usual . As in recent years, Laser Science (**LS**) is held jointly with the OSA annual meeting **FiO**; the registration for **LS** and management of the joint meeting is being handled by the OSA. The registration website is linked from the DLS home page or can be found via www.osa.org/meetings/annual. PLEASE NOTE, the registration fees are reduced for APS members as well as OSA members, which has been inadvertently obscure on the registration web pages. For reduced

registration fees you simply need to provide your APS member ID number. We encourage you to register by checking the box “07 LS Regular Member Registration”, which will indicate that your primary interest is in the **Laser Science XXIII**, sessions of the joint conference. In any case, registration under either meeting preference gives participants access to all sessions of **LS** and **FiO** irrespective of your indication of primary interest.

A fantastic program for LS XXIII has been put together by the Chairs: Fred Raab (LIGO Hanford Observatory) and Charles Schmuttenmaer (Yale University). Topics include: Lasers in Precisions Measurements, Precision Control of Light and Mater, Optical and Mechanical Couplings of Laser Light (Joint theme with FiO), Lasers in Chemistry, Lasers in Biology, Lasers in Condensed Matter, Quantum Information (Joint theme with FiO), Quantum Sensing and Imaging (joint theme with FiO) and General Laser Science. There is also a special joint FiO/LS symposium: Optics and the Second “Magic Decade” of Quantum Mechanics. Our sincere thanks go out to Fred and Charles and to all the others that have helped with the program.

This year, the **DLS Banquet** will be held after the FiO/LS technical sessions on **Tuesday 18 th of September 2007**. Rather than holding our banquet at the conference hotel we will venture out into the real world, to the **Gordon-Biersch Brewery Restaurant** which is a short walk (about 3 blocks) from the conference location. This venue should be more fun and interesting than the typical hotel ballroom; and also results in substantial cost savings (\$50/ea rather than \$100+/ea). In addition, the banquet fee includes two hours of “unlimited” drinks (microbrew beer and house wine, soft drinks, etc.) -- which might increase attendance. You can sign up for the DLS Banquet when you are registering online for the FiO/LS conference. Alternatively, if space is still available, tickets can be purchased at the conference registration desk before 12:00 noon on Monday the 17 th . This year, we are very fortunate to have Ed Moses, the Associate Director of the National Ignition Facility (NIF), <http://www.llnl.gov/nif/>, as the DLS-Banquet speaker. Ed will present the latest impressive results from the world's largest and highest energy laser, and will discuss future plans and prospects for NIF.

In conjunction with **LS XXIII**, Hal Metcalf is again organizing the 6 th annual **DLS Symposium on Undergraduate Research**. These symposia have proven to be truly wonderful events, and represent one of the most important activities of the DLS. The symposia are now bringing more than 30 undergraduate students to the LS annual meeting; where they have an opportunity to present talks and posters to their peers and interact with the broader optics/laser/science community.

And last but not least, the annual meeting also has two exceptional speakers for the Plenary Session: John L. Hall, Univ. of Colorado , will speak on “The Optical Frequency Comb: A Remarkable Tool with Many Uses” and Eli Yabonovich, University of California at Berkeley , will present “Nanophotonics: From Photonic Crystals to Plasmonics”.

We sincerely hope to see all of our DLS members at **LS XXIII** in San Jose.

Division of Laser Sciences Honors and Awards to DLS Members 2007

We congratulate our members on the recognition of their achievements.

**Student Travel Grant
Winners:**

Hebin Li,
Texas A&M,
"An Ultra-Dispersive Optically-Controlled Atomic Prism"

Chun Mu,
University of Utah,
"Optimizing Contrast of Tip-Enhanced Fluorescence Microscopy for
Imaging High-Density Samples"

Sarah Nichols,
SUNY Stony Brook,
"Dissociative Ionization of an Aligned Molecular Sample"

Dajun Wang,
University of Connecticut ,
"Rotationally-Resolved Depletion Spectroscopy of Ultracold KRb
Molecules"

Yi Zhao,
University of Toronto,
"Experimental Quantum Key Distribution with Active Phase
Randomization"



Daniel Kleppner,
MIT,
[Frederic Ives Medal/Jarus W. Quinn Endowment](#)



J. Gary Eden,
University of Illinois,
[C. E. K. Mees Medal](#)



Kenneth Chau,
University of Alberta,
[OSA - New Focus/Bookham Student Award](#)

sources:

[Capitol Hill Day 2007 Brings OSA Members to Washington](#)

Executive Committee Minutes Highlights

- **Meeting Place:** Baltimore , MD , May 2007
- DLS-EC discussed joint conferences and interactions with OSA management
- OSA would like feedback on the new long-format layout of the CLEO/QELS program booklet,
- Free short-courses for students at CLEO/QELS was very successful, and is strongly supported by DLS-EC. Student activities are an increasing focus of the meeting, and we should have a stronger presence for student issues on our Web site.
- Locations for future CLEO/QELS are: 2008 San Jose , 2009 Baltimore , 2010 San Jose ,
- Location for FiO/LS 2008 will be Rochester
- The minutes from the Rochester EC meeting were approved unanimously.
- DLS still lacks any sort of useful “operator's manual” to guide the officers and EC. Efforts are now underway to develop a first draft
- The DLS website was discussed, and it was widely agreed that it needs maintenance and upgrades.
- This year at CLEO/QELS we are starting a program to encourage people to join DLS with the incentive that DLS will cover the cost of the first year of DLS membership.
- Some EC members are looking into new ways to enhance participation of under-represented people in optics and laser science. Several ideas were presented and are being considered.
- Reports were presented from the various DLS programs, including:
 - APS Council meeting from April
 - DTL committee; intent of the program is to enhance the visibility of laser science by public lectures of prominent laser scientists. There are 7-8 visits per year roughly. New lecturers added. There is general enthusiasm about the program.
- LS XXIII, Submission numbers look good. The meeting having been moved up a month has caused difficulties. Additional funding to support invited speakers would be most helpful.
- IQEC, which will be in Munich in late June. Program is very strong but US participation is relatively low
- Nick Bigelow reported on the Fellowship committee. The system has gone all electronic, but nothing has happened yet.

- Symposium on Undergraduate Research. Additional, outside support is being raised for the 2007 meeting. (see above)
 - Nominating committee, in place and making good progress.
 - New Laser Scientists Conference. Need to update website for 2006 conf. Next meeting planned for 2008.
 - This year at CLEO/QELS we are starting a program to encourage people to join DLS with the incentive that DLS pays for the first year of DLS membership.
 - Please direct any comments to the appropriate [committee member](#).
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Calendar

- **Symposium on Undergraduate Research** to be held at the DLS meeting in San Jose , 16-20 September 2007, in conjunction with the OSA annual meeting. The symposium is planned for Monday afternoon, 17 September, right after the plenary sessions of the conference. Please be aware that these dates are nearly a month earlier than usual. <http://units.aps.org/units/dls/research-symposium/index.cfm> Contact [Hal Metcalf](#) for more info.
- [AOE 2007 Technical Conference, Collocated with the Asia Optical Fiber Communication & Optoelectronic Exposition](#), October 17-19, 2007, Shanghai Expo Convention Center , Shanghai, China . **[Submission deadline July 11, 2007](#)**
- Job Opportunity : Program Manager for Solar Photochemistry The Office of Basic Energy Science (BES), US Department of Energy, is seeking qualified applicants for a career federal position to manage its Solar Photochemistry Program. This program supports mission-oriented basic science at universities and national laboratories and is located in the Chemical Sciences, Geosciences, and Biosciences Division (<http://www.science.doe.gov/bes/Division.htm#chemical>). [Vacancy number DE-SC-HQ-034 (pm)] and on-line application instructions may be found at <http://www.sc.doe.gov/bes/BESjobs.html>. Applications must be submitted by August 7, 2007. For questions about this position and working at BES, please contact Eric Rohlfing, eric.rohlfing@science.doe.gov, or Richard Greene, richard.greene@science.doe.gov.
- FiO/LS XXIII will be held this year in San Jose , California , September 16-20, 2007. For more detailed information on these symposia visit the website .
- The National Small Arms Center, located in the U.S. Army's Armament Research Development and Engineering Center in Dover , New Jersey , anticipates releasing a Request for Project Proposal solicitation this summer, seeking advanced concept fire control proposals for Fiscal 2008 funding. Further details can be found at <http://www.nationalsmallarmscenter.org/>.
- Slow and Fast Light (SL) , July 8-11, 2007, Hilton Salt Lake City Center , Salt Lake City , Utah , USA www.osa.org/sl.
- Bragg Gratings Photosensitivity and Poling in Glass Waveguides (BGPP), September 2-6, 2007, Loews Le Concorde Hôtel, Québec City , Québec , Canada www.osa.org/bgpp.

and more:

Nonlinear Photonics (NP)

September 2-6, 2007

Loews Le Concorde Hôtel, Québec City , Québec , Canada

<http://www.osa.org/np>

Frontiers in Optics 2007/Laser Science XXIII (FiO/LS)

September 16-20, 2007

Fairmont Hotel, San Jose , California , USA

<http://www.frontiersinoptics.org/>

Collocated with the Organic Thin Films for Photonic Applications Symposium, the Organic Materials and Devices for Displays and Energy Conversion Topical Meeting and the OSA Fall Vision Meeting

Organic Materials and Devices for Displays and Energy Conversion (OMD)

September 16-19, 2007

Fairmont Hotel, San Jose , California , USA

www.osa.org/omd

Collocated with Frontiers in Optics 2007/Laser Science XXIII and the OSA Fall Vision Meeting

Controlling Light with Light: Photorefractive Effects, Photosensitivity, Fiber Gratings, Photonic Materials and More (PR)

October 14–16, 2007

Resort at Squaw Creek, Olympic Valley , California , USA

<http://www.osa.org/pr/>

Quantum-Atom Optics Downunder (QAO)

December 3-6, 2007

Novotel Northbeach, Wollongong , Australia

www.osa.org/qao

More complete descriptions and additional information about registration, deadlines, publication requirements, etc., will be available on the OSA website under the Meetings category starting at

<http://osa.org/meetings/topicalmeetings/CQO/default.aspx>, and

<http://osa.org/meetings/topicalmeetings/ICQI/default.aspx>.

For other details see:

<http://www.osa.org/meetings/annual/>

<http://www.osa.org/meetings/topicalmeetings/>

Student Travel Grant Program

Contact John Fourkas for more info at fourkas@umd.edu .

Distinguished Traveling Lecturer (DTL) Program

This program is very successful with the number of college applications for speakers in balance with the number of speakers available. We have nine volunteers as Distinguished Travelling Lecturers leading to enough flexibility with respect to accommodating the colleges' first choices for speakers.

The list of current DTLs include:

- Laurie Butler
University of Chicago
Department of Chemistry and The James Franck Institute

- Hui Cao
Northwestern University
Dept. of Physics and Astronomy
- Eric A. Cornell
National Institute of Standards and Technology and Department of Physics, University of Colorado
- F Fleming Crim
University of Wisconsin
Department of Chemistry
- Jim Kafka
Spectra-Physics, a division of Newport
- Chris Monroe
University of Michigan (soon to be at University of Maryland)
Department of Physics
- Luis Orozco
University of Maryland
Department of Physics
- Carlos Stroud
University of Rochester
Department of Physics
- Ron Walsworth
Harvard University and Smithsonian Astrophysical Observatory
- Linda Young
Argonne National Laboratory
Chemistry Division

For more information on the speakers go to: <http://www.physics.sdsu.edu/~anderson/DTL/lecturers.html>

The DTL Committee members are:

Rainer Grobe (Chair)
Margaret Murnane
Ian Walmsley
Matt Anderson
Elizabeth McCormack
Mark Beck

DLS Executive Committee Members

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DLS Nomination Committee

Carol Tanner (Chair), Mike Chapman and Chris Monroe

DLS Fellowship Committee

Mark Johnson (Chair), John Sipe, Louis Bloomfield, Jeff Shapiro and Liz McCormack

The Schawlow Prize Committee

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(JCQE)

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Winthrop W. Smith, University of Connecticut

Henry Kapteyn, JILA, University of Colorado

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