

Adaptive Optics: Methods, Analysis and Applications (AO) Topical Meeting and Tabletop Exhibit

Technical Conference: October 13–15, 2009

[The Fairmont San Jose](#)
[San Jose, California, USA](#)

Postdeadline Submission Deadline: September 21, 2009 12:00 p.m. EDT (16.00 [GMT](#))

Hotel Reservation Deadline: September 11, 2009

Pre-Registration Deadline: September 16, 2009

Part of the Fall OSA Optics & Photonics Congress

Featuring Five Topical Meetings Collocated with FiO 2009/LS XXV:

[Frontiers in Optics/Laser Science XXV \(FiO 2009/LS XXV\)](#)

Adaptive Optics: Methods, Analysis and Applications (AO)

[Advances in Optical Materials \(AIOM\)](#)

[Computational Optical Sensing and Imaging \(COSI\)](#)

[Femtosecond Laser Microfabrication \(LM\)](#)

[Signal Recovery and Synthesis \(SRS\)](#)

2009 Meeting Chairs

Julian C. Christou, *Gemini Observatory, USA*

Brent L. Ellerbroek, *Thirty Meter Telescope Project, USA*

[View entire program committee](#)

About AO

This meeting investigates the possible synergies between the methods developed by various communities pursuing different applications. The meeting will include a full spectrum of papers from surveys, results of the most recent research, panel discussions, poster sessions, and time for informal discussion and interaction.

Topics to be Considered

- AO concepts and applications
 - Advanced system concepts for atmospheric turbulence compensation, including multi-conjugate, multi-object, ground-layer, and extreme AO
 - Innovative applications, including vision science and optical communication
- AO control algorithms
 - Optimal and adaptive control
 - Computationally efficient algorithms
 - Amplitude and phase control
 - PSF reconstruction and performance estimation
 - Simulation and modeling methods
- Component technologies
 - Conventional, MEMS, and large deformable mirrors
 - Wavefront sensing optics and detectors
 - Signal processing electronics
 - Lasers and fiber optics for laser guidestar systems
- AO laboratory and field tests

About Adaptive Optics

This meeting investigates the possible synergies between the methods developed by various communities pursuing different applications. The meeting will include a full spectrum of papers from surveys, results of the most recent research, panel discussions, poster sessions, and time for informal discussion and interaction.

The mission of the Topical Meeting on Adaptive Optics: Methods, Analysis and Applications is

- to provide a forum for the presentation and discussion of adaptive optics (AO) system concepts, control algorithms, and analysis/simulation methods;
- to promote an interdisciplinary exchange between the developers and users of AO component technologies,
- to publicize recent progress in AO laboratory and field tests, and to summarize plans for future systems;
- to facilitate AO solutions to challenges in fields including vision science and optical communications, and to promote synergy between classical and innovative applications of adaptive optics.

Who should attend:

- Developers and users of adaptive optical systems for both conventional and innovative applications;
- Adaptive optics theoreticians, analysis, and modelers;
- Developers of adaptive optical components including wavefront sensors, wavefront correctors, laser systems, detectors and control electronics; and
- Students and generalists seeking an exposure to the subject of adaptive optics.

Submission Topics:

- AO concepts and applications
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Program Committee

Program Chairs

Julian C. Christou, *Gemini Observatory, USA*
Brent L. Ellerbroek, *Thirty Meter Telescope Project, USA*

Committee Members

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Jean-Marc Conan, *Office Natl. d'Etudes et de Recherches Aeronautiques, France*
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Thomas Rimmele, *Natl. Solar Observatory, USA*
Jean-Pierre Veran, *Natl. Res. Council, Canada Inst. Herzberg d'astrophysique, Canada*
Christophe Veninaud, *European Organisation for Astronomical Research in the Southern Hemisphere, Germany*
Mikhail Vorontsov, *Univ. of Maryland at College Park, USA*

Special Events

Joint AO/COSI/LM/SRS Welcome Reception and Poster Session

Tuesday, October 13, 6:00 p.m.–7:30 p.m.

Regency Ballroom, Fairmont Hotel

Get the meeting off to a great start by attending the welcome reception and joint poster session. Meet with colleagues from around the world and tour the wide range of poster displays. The reception is open to all AO/COSI/LM/SRS registered attendees and will feature light fare.

Invited Speakers

Joint AO/COSI/SRS Session

JWA1, **Innovative Adaptive Optics and Applications**, *Christopher Dainty; Natl. Univ. of Ireland Galway, Ireland*

JWA2, **Adaptive Regression Kernels for Image/Video Restoration and Recognition**, *Peyman Milanfar; Univ. of California at Santa Cruz, USA*

JWA3, **Light Field Photography and Microscopy**, *Marc Levoy; Stanford Univ., USA*

JWA4, **Adaptive Complex Field Control with an Array of Phase-Locked Fiber Collimators**, *Mikhail Vorontsov, Thomas Weyrauch, A. Beresnev, Gary W. Carhart, Ling Liu, Konley Aschenbach; Inst. for Systems Res., Univ. of Maryland at College Park, USA*

Joint FiO/AO Sessions: Advances in Adaptive Optics Imaging of the Living Retina

JWB3, **Adaptive Optics Psychophysics**, *Heidi Hofer; Univ. of Houston, USA*

JWF1, **Adaptive Optics Instrumentation**, *Stephen A. Burns¹, Zhangyi Zhong², Weiyao Zou², Cong Deng¹, Daniel Ferguson², Xiaofeng Qi¹; ¹Indiana Univ., USA, ²Physical Sciences Inc., USA*

JWF3, **Adaptive Optics-OCT Imaging of the Retina**, *Donald T. Miller; Indiana Univ., USA*

Invited Speakers

AOWB1, **Control Design and Turbulent Phase Models in Adaptive Optics: A State-Space Interpretation**, *Caroline Kulcsár¹, Henri-François Raynaud¹, Jean-Marc Conan², Carlos Correia², Cyril Petit²; ¹Univ. of Paris, France, ²ONERA, France*

AOWB2, **Predictive Fourier Wavefront Control: Theory and Observational Results**, *Lisa Poyneer¹, Marcos van Dam², Jean-Pierre Véran³; ¹Lawrence Livermore Natl. Lab, USA, ²W. M. Keck Observatory, USA, ³Herzberg Inst. of Astrophysics, Canada*

AOTuA1, **A New Sodium Guidestar Adaptive Optics System for the Starfire Optical Range 3.5m Telescope**, *Robert Johnson¹, Dennis Montera¹, Timothy Schneeberger², James Spinhirne²; ¹Starfire Optical Range, AFRL/DES, USA, ²Boeing Co., USA*

AOTuB1, **Polar Coordinate CCD Array for LGS Wavefront Sensing**, *Sean Adkins; Keck Observatory, USA*

AOTuD1, **MEMS Wavefront Correctors**, *Thomas Bifano^{1,2}; ¹Boston Univ., USA, ²Boston Micromachines Corp., USA*

OSA's 93RD ANNUAL MEETING AND EXHIBIT

FRONTIERS IN OPTICS 2009

SAN JOSE, CA • OCTOBER 13-14 **EXHIBIT**

WWW.FRONTIERSINOPTICS.ORG

EXHIBIT GUIDE

TECHNICAL CONFERENCE

October 11 – 15, 2009

EXHIBIT

October 13 – 14, 2009

**Fairmont Hotel
San Jose, California, USA**

EXHIBIT HOURS

**Tuesday, October 13
10:00 a.m. – 4:00 p.m.**

**Wednesday, October 14
10:00 a.m. – 4:00 p.m.**

EXHIBIT-ONLY TIME

**Tuesday, October 13
12:00 p.m. – 1:30 p.m.**

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EXHIBIT AND CONFERENCE INFORMATION

| | SUNDAY October 11 | MONDAY October 12 | TUESDAY October 13 | WEDNESDAY October 14 | THURSDAY October 15 |
|---|---------------------------------------|-----------------------------|---------------------------------------|--|-------------------------------|
| Registration <i>Fairmont Hotel, Market Street Foyer</i> | 7:00 a.m. – 6:00 p.m. | 7:00 a.m. – 6:00 p.m. | 7:00 a.m. – 5:30 p.m. | 7:30 a.m. – 5:30 p.m. | 7:30 a.m. – 5:00 p.m. |
| E-Center <i>Fairmont Hotel, Market Street Foyer</i> | 7:00 a.m. – 6:00 p.m. | 7:00 a.m. – 6:00 p.m. | 7:00 a.m. – 5:30 p.m. | 7:30 a.m. – 5:30 p.m. | 7:30 a.m. – 5:00 p.m. |
| Press Room <i>Fairmont Hotel, Redwood Room</i> | 12:00 p.m. – 4:00 p.m. | 8:00 a.m. – 5:00 p.m. | 8:00 a.m. – 5:00 p.m. | 8:00 a.m. – 5:00 p.m. | 8:00 a.m. – 12:00 p.m. |
| 1st International OSA Student Chapter Solar Mini-Car Competition <i>Fairmont Hotel, Imperial Ballroom</i> | 4:00 p.m. – 7:00 p.m. Prelim. Race | | 12:00 p.m. – 2:00 p.m. Final Races | | |
| FiO/LS Welcome Reception <i>Sainte Claire Hotel, Ballroom</i> | 6:00 p.m. – 7:30 p.m. | | | | |
| Joint FiO/LS Plenary Session/ Award Presentations <i>Fairmont Hotel, Regency Ballroom</i> | | 8:00 a.m. – 12:00 p.m. | | | |
| Export Regulation Fundamentals for the Optics and Photonics Industry (Registration Required) <i>Sainte Claire Hotel, Sainte Claire Room</i> | | | | 9:00 a.m. – 12:00 p.m. | |
| Exhibit <i>Fairmont Hotel, Imperial Ballroom</i> | | | 10:00 a.m. – 4:00 p.m. | 10:00 a.m. – 4:00 p.m. | |
| Exhibit Hall Coffee Breaks <i>Fairmont Hotel, Imperial Ballroom</i> | | | 10:00 a.m. – 10:30 a.m. | 10:00 a.m. – 10:30 a.m. 3:30 p.m. – 4:00 p.m. | |
| Exhibit-Only Time <i>Fairmont Hotel, Imperial Ballroom</i> | | | 12:00 p.m. – 1:30 p.m. | | |
| Refreshment Break <i>Fairmont Hotel, Imperial Ballroom</i> | | | 3:30 p.m. – 4:00 p.m. | | |
| OSA Member Reception <i>Sainte Claire Hotel, Ballroom</i> | | | 7:00 p.m. – 8:30 p.m. | | |
| Joint FiO/LS Poster Session <i>Fairmont Hotel, Imperial Ballroom</i> | | | | 12:00 p.m. – 1:30 p.m. | |

The Fall OSA Optics & Photonics Congress 2009 is collocated with FiO 2009 / LS XXV and features the following topical meetings:

- Adaptive Optics: Methods, Analysis and Applications (AO)
- Advances in Optical Materials (AIOM)
- Computational Optical Sensing and Imaging (COSI)
- Femtosecond Laser Microfabrication (LM)
- Signal Recovery and Synthesis (SRS)

Look for these meetings October 13-15 at the Fairmont San Jose.

E-Center

Fairmont Hotel, Market Street Foyer

The E-Center, offering free Internet connectivity, will be open Sunday through Thursday during registration hours.

Business Center

Fairmont Hotel, B Level

The Fairmont Hotel's in-house Business Center offers one-stop shopping for all of your business needs, including e-mail and high-speed Internet access, secretarial/transcription services, photocopying, and faxing. The business center is open 24 hours a day with a guest room key. Attendees staying at other hotels should contact an operator from a house phone to gain access to the business center. All machines require a credit card swipe to activate a session.

Lost and Found

Fairmont Hotel, Registration Desk, Market Street Foyer

For lost and found items and/or questions, please check at the registration desk. Please put your name on all conference materials (Conference Program, Technical Digest CD-ROM and Short Course Notes), as they will only be replaced for a fee.

Special Needs

If you have a disability and require special accommodations in order to fully participate in this conference, please contact Conference Management at the registration desk. Your specific needs will be addressed.

Sponsoring Society Membership Booths

Fairmont Hotel, Market Street Side

Catch up on the latest product and service offerings of the conference's sponsoring societies, APS and OSA, by visiting their membership booths.

SUNDAY

1st International OSA Student Chapter Solar Mini-Car Competition

Preliminary race: Sunday, October 11, 4:00 p.m. – 7:00 p.m.

Fairmont Hotel, Imperial Ballroom

OSA Student Chapters compete to build their own mini solar cars and race them. The chapters will work to optimize light capturing efficiency, and demonstrate sustainability and aesthetic appeal.

FiO/LS Welcome Reception

Sunday, October 11, 6:00 p.m. – 7:30 p.m.

Sainte Claire Hotel, Ballroom

Free to all Technical Conference Attendees: Get the FiO 2009/LS XXV meeting off to a great start by attending the welcome reception! Meet with colleagues from around the world. Light hors d'oeuvres will be served.

A special thanks to Thorlabs for their sponsorship of the 2009 FiO/LS Welcome Reception.

TUESDAY

1st International OSA Student Chapter Solar Mini-Car Competition

Final races: Tuesday, October 13, 12:00 p.m. – 2:00 p.m.

Fairmont Hotel, Imperial Ballroom

OSA Student Chapters compete to build their own mini solar cars and race them. The chapters will work to optimize light capturing efficiency, and demonstrate sustainability and aesthetic appeal.

Refreshment Break

Tuesday, October 13, 3:30 p.m. – 4:00 p.m.

Fairmont Hotel, Imperial Ballroom

Free to all Attendees: Enjoy a light refreshment on the Exhibit Hall Floor.

A special thanks to JK Consulting for sponsoring this event.

OSA Member Reception

Tuesday, October 13, 7:00 p.m. – 8:30 p.m.

Sainte Claire Hotel, Ballroom

Free to all OSA Members: The OSA Member Reception is a great opportunity to see old friends and establish new contacts. Appetizers and beverages will be served. Please note: Membership will be verified at the entrance.

EXHIBIT AND CONFERENCE INFORMATION

WEDNESDAY

Export Regulation Fundamentals for the Optics and Photonics Industry

Presented by the OSA Corporate Associates

Wednesday, October 14, 9:00 a.m. – 12:00 p.m.

Sainte Claire Hotel, Sainte Claire Room

Instructor: Kay Allan Morrell, Esq.; Managing Partner and Counsel, MK Technology, USA

With the global nature of business, it is a necessity for every company employee involved in non-U.S. transactions to fully understand the regulations surrounding export controls. This program will provide the foundation by covering need-to-know information about International Traffic in Arms Regulations (ITAR), Export Administration Regulations (EAR) and your compliance, data management and licensing responsibilities. Registration required. Employees of OSA Corporate Associates receive a special registration rate.

Joint FiO/LS Poster Session

Wednesday, October 14, 12:00 p.m. – 1:30 p.m.

Imperial Ballroom, Fairmont Hotel

This year, rather than two poster sessions throughout the week, all FiO/LS posters will be presented in one session.

Make sure to visit the poster session in the Exhibit Hall to see the 75 FiO and 8 LS posters scheduled for presentation.

EXHIBIT HALL REGULATIONS

- All bags are subject to search.
- Neither photography nor videotaping is permitted without the express written consent of Show Management. Non-compliance may result in the surrendering of film or other storage device(s) and removal from the hall.
- Children under 18 are not permitted in exhibit hall during set-up and tear-down.
- Children 12 and under must be accompanied by an adult at all times.
- Strollers are not permitted on the exhibit floor at any time.
- Soliciting in the aisles or any public space is not permitted.
- Distribution of literature is limited to exhibitors and must be done from within the confines of their booths. All other materials will be discarded.
- Smoking is permitted only in designated exterior areas of the facility.
- Alcohol is not permitted in the exhibit hall during set-up and tear-down hours.

FiO MANAGEMENT THANKS THE FOLLOWING CORPORATE SPONSORS FOR THEIR GENEROUS SUPPORT



EXHIBITOR LISTINGS *(as of 9.13.09)*

ALPAO **Booth 204**



2217 route de Meylan | Biviers | Iserre 38330 | France

Phone: +33 6 60 05 14 09 | **Fax:** +33 4 76 51 45 32

Email: www.alpao.com | **URL:** contact@alpao.fr

As a designer and manufacturer of adaptive optics for the research and the industry, ALPAO offers you a complete range of adaptive optics products: the next generation of deformable mirrors featuring the largest strokes available, a large bandwidth and a small actuator pitch, extremely sensitive wavefront sensors, and complete adaptive optics loops. Thanks to the unique ALPAO Core Engine control software, the user benefits from a flexible and open architecture.

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The American Physical Society is the publisher of the world's most prestigious and widely-read physics research publications: *Physical Review*, *Physical Review Letters*, *Reviews of Modern Physics*, *PR-Special Topics-Accelerators and Beams*, *PR-Special Topics-Physics Education Research*, *PR Focus*, *PROLA*, and *Physics*. *Physics* is a free online publication that features expert commentaries on selected papers in *Physical Review* and *Physical Review Letters*. For more information, please visit the Physics website at <http://physics.aps.org/>.

Physics: Physics is a free online publication that features expert commentaries on selected papers in *Physical Review* and *Physical Review Letters*.

Amplitude Laser Inc.

Booth 208

One Broadway, 14th Floor | Cambridge, MA 02142

Phone: 617.401.2195 | **Fax:** 617.758.4101

Email: rbraunschweig@amplitude-laser.com | **URL:** www.amplitude-laser.com

Amplitude Laser is the US based subsidiary for Amplitude Systemes, pioneer in Ytterbium laser technology, manufactures advanced diode-pumped ultrafast lasers for scientific, industrial and medical applications. Products include high energy oscillators (Mikan and t-Pulse series), amplifiers (s-Pulse series) and fiber amplifiers (Satsuma and Tangerine series). Today, by combining high quality manufacturing and aggressive R&D, Amplitude Systemes brings new solutions to your most demanding applications.

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Chroma Technology Corp.



Booth 111

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Precision optical filters and coatings designed/manufactured for a broad range of applications including fluorescence microscopy, forensics, material analysis, laser-based imaging, astronomy, absorption spectroscopy. Bandpass and edge filters, laser rejection filters, neutral density filters, polychroic beamsplitters and custom coatings for UV, visible and near-IR portions of the spectrum. Multiple deposition methods (sputtering, e-beam, resistive) offer flexibility in designs and turnaround for prototyping.

Coherent, Inc.



Booth 211

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Phone: 408.764.4000 | **Fax:** 408.764.4825

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World's leading manufacturer of photonics-based products for a wide range of commercial and scientific applications. Industry's largest and most diverse selection of lasers and a wide range of laser test and measurement equipment. Highly reliable, high performance product lines include CO₂, continuous-wave, diode, diode module, diode-pumped solid-state, excimer, ion, tunable-dye, YAG, YLF, and ultrafast lasers.

CREOL, The College of Optics and Photonics



Booth 115

4000 Central Florida Blvd. #53 | PO Box 162700

Orlando, FL 32816-2700

Phone: 407.823.6800 | Fax: 407.823.6880

Email: info@creol.ucf.edu | URL: www.creol.ucf.edu/

CREOL, The College of Optics & Photonics at the University of Central Florida is an internationally recognized academic and research institution, offering MS and PhD degrees in Optics, and serving as a scientific and technical resource partner to industry. The College has 40 faculty, 69 research scientists, and 146 graduate students conducting research into all aspects of optics and photonics. CREOL, FPCE, and the Townes Laser Institute are centers within the College.

Optics Graduate Education: The College of Optics & Photonics offers Masters and Doctoral degrees in Optics. Additionally, optics tracks are offered within UCF's Physics and Electrical Engineering Bachelor and graduate Programs.

Elsevier



Booth 310

Radarweg 29 | Amsterdam | 1043 NX | Netherlands

Phone: +31 20 485 2037 | Fax: +31 20 485 3280

Email: h.zijlstra@elsevier.com | URL: www.elsevier.com/physics

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Scientific journals and books on Optics, Lasers and Photonics:

Elsevier offers journals and books on Optics, Lasers and Photonics: hardcopy and sciencedirect.com. New online author service: CiteAlert. Dedicated alerting services for companies in this field.

FEMTOLASERS, Inc.



Table 11

1 Mifflin Place | 119 Mt. Auburn Street, Suite 400 | Cambridge, MA 02138

Phone: 978.456.9920 | Fax: 978.456.9922

Email: infofli@femtolasers.com | URL: www.femtolasers.com

FEMTOLASERS is the premier manufacturer of ultrafast laser oscillator and amplifier solutions, offering laser pulses down to sub-7 fs at MHz and multi-kHz repetition rates up to multi-mJ energies. FEMTOOPTICS features a patented optics line with ultra-broadband dispersive/non-dispersive components and custom solutions. Applications include ultrafast spectroscopy, OCT, THz-generation, MP-microscopy, micromachining and Attoscience.

FEMTOPOWER™ V: an ultrafast 2-stage Ti:Sapphire multi-millijoule amplifier system including the FEMTOSOURCE™ rainbow™ DFG oscillator for lowest noise Carrier Envelope Phase (CEP) stabilization of the entire system.

Fianium Ltd.



Booth 109

858 West Park Street | Eugene, OR 97401

Phone: 541.343.6767 | Fax: 541.343.1838

Email: sales@fianium.com | URL: www.fianium.com

Fianium is a leading manufacturer of optical supercontinuum lasers, operating across 400-2400 nm spectral range and delivering up to 6 W of power in a collimated laser beam. These unique laser sources enable significant improvements in performance of imaging instruments, including confocal and STED microscopes, FLIM and flow-sytometry. Based on compact, maintenance free ultra-fast fiber lasers, the supercontinuum systems offer a versatile laser source for a variety of bio-medical applications.

Gooch & Housego



Table 2

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United Kingdom

Phone: +44 1460 256457 | Fax: +44 1460 256441

Email: sales@goochandhousego.com

URL: www.goochandhousego.com

Gooch & Housego is a global manufacturer of custom precision-optic, acousto-optic, crystal-optic, electro-optic and fibre-optic components, combined with material engineering, crystal growth, polishing and coating capabilities for the Aerospace & Defense, Industrial & Research and Biomedical & Life Sciences Markets.

Imagine Optic

Booth 208



Third Street, Suite 231 | San Francisco, CA 94107

Phone: 617.583.1350 | Fax: 617.758.4101

Email: contact@imagine-optic.com

URL: www.imagine-optic.com

Imagine Optic is the leading provider of Shack-Hartmann wavefront sensing hardware and software, adaptive optics technologies and professional services in applied optics. We work with scientists and industrials in domains including pure science, industrial quality control, space and defense, semiconductors and many others. Since 1996, we've been supplying industry leaders around the world with the high-quality products and services that they need to perform. From X-EUV, through the visible light spectrum and on to NIR (near infra-red), we develop, manufacture, distribute and support the largest range of wavefront measurement and correction technologies.

HASO First: The HASO First is a mono wavelength calibration wavefront sensor taking benefits of both the calibration performances of Imagine Optic and the HASO V3 software for a very interesting price.

IOP Publishing

Table 4

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Journal of Optics: As of 2010, the journal has been re-named (previously Journal of Optics A: Pure and Applied Optics).

Laser Focus World / Pennwell

Table 8



98 Spit Brook Road | Nashua, NH 03062-5737

Phone: 603.891.0123 | Fax: 603.891.0574

Email: aadler@pennwell.com

URL: www.laserfocusworld.com

Published since 1965, Laser Focus World is a global resource for engineers, researchers, scientists and technical professionals providing comprehensive coverage of optoelectronics and photonics technologies, applications and markets.

LaserFest

Booth 113

c/o The Optical Society

2010 Massachusetts Ave., NW | Washington, DC 20036

Phone: 202.416.1412

Email: info@laserfest.org | URL: www.laserfest.org

Sponsored by Founding Partners, The Optical Society, the American Physical Society and SPIE, LaserFest is a yearlong celebration of the 50th anniversary of the laser. This celebration will recognize and honor the accomplishments of the scientists, engineers, inventors and entrepreneurs who made possible the discovery, development and application of the laser; inform students, educators, legislators, funding agencies and the general public about the impact that the laser has had on the economy and how it has affected and continues to affect their lives in many ways; and use the story of the laser to illustrate the importance of scientific discovery and technological innovation.

MPF Products, Inc.

Table 10

3046 Bramlett Church Road | Gray Court, SC 29645

Phone: 864.876.9853 | Fax: 864.876.2465

Email: sales@mpfpi.com | URL: www.mpfpi.com

MPF Products, Inc. specializes in ceramic-to-metal sealing technology. We offer UHV rated electrical feedthroughs, connectors, isolators and viewports. MPF stocks more than 1300 standard parts, and produces custom assemblies with highly competitive costs and lead times. MPF's Viewports are used for energy transmission into vacuum systems. MPF offers several material options – sapphire, fused silica, MgF₂, CaF₂, ZnSe and other advanced materials. Single and multi-layer coatings can be added to viewports to optimize transmission performance.

MPF's Laser-Optics Viewports: MPF's Laser-Optics viewports have lens and AR-coating features specific to use with high powered lasers - 193 ArF-Excimer, 248 KrF-Excimer, 780 Diode, and 1064 Yag.

Nature Publishing Group

Booth 210

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OPN

Table 17

2010 Massachusetts Ave., NW | Washington, DC 20036

Phone: 202.416.1942

Email: opn@osa.org | **URL:** www.osa-opn.org

Optics & Photonics News (OPN) is a global news and information source that is consistently ranked by OSA members as their #1 member benefit. OPN is published by The Optical Society (OSA), the association that brings together optics and photonics scientists, engineers, educators, technicians and business leaders. OPN's circulation consists of the members of OSA and The Society for Applied Spectroscopy as well as a select group of qualified professionals.

OP-TEC: National Center for Optics and Photonics Education

Table 6

324B Kelly Drive | Waco, TX 76710

Phone: 254.741.8338 | **Fax:** 254.399.6581

Email: op-tec@op-tec.org | **URL:** www.op-tec.org

OP-TEC, the National Center for Optics and Photonics Education, is funded by the National Science Foundation's Advanced Technological Education (ATE) program. OP-TEC has developed materials and strategies for infusing optics and photonics into curriculum for several industries and is committed to developing a robust supply of well-educated engineering technicians in photonics, lasers and related technologies. OP-TEC has also begun to plan and enlist colleges and employers to begin education/training programs for Precision Optics Technicians.

Optikos Corporation



Table 7

107 Audubon Road, Bldg. 3 | Wakefield, MA 01880

Phone: 617.354.7557 | **Fax:** 617.354.5946

Email: sales@optikos.com | **URL:** www.optikos.com

Optikos Corporation is the world's largest manufacturer of equipment for the measurement of optical image quality and a leading provider of optical product development services. As the world leader in the field of MTF testing, Optikos offers complete solutions for both component and system level tests on imaging systems operating from the ultraviolet to the far infrared. Optikos's product line includes testing suites for measuring the performance of optical and electro-optical imaging systems.

Optimax Systems, Inc.



Table 5

6367 Dean Parkway | Ontario, NY 14519

Phone: 585.265.1066 | **Fax:** 585.265.1033

Email: sales@optimaxsi.com | **URL:** www.optimaxsi.com

Optimax is dedicated to small volume, high quality, and quick delivery of precision optical components. Specializing in aspheres, cylinders, plano-optics and spheres, manufactured to customer-supplied specifications. With more than 100 opticians, we enjoy a good challenge, call us!

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OSA Foundation

Table 9

2010 Massachusetts Ave., NW | Washington, DC 20036

Phone: 202.416.1421 | **Fax:** 202.416.6130

Email: foundation@osa.org | **URL:** www.osa-foundation.org

Established in 2004 by The Optical Society (OSA), the OSA Foundation (OSAF) is a charitable organization dedicated to supporting programs that: advance youth science education, provide optics education and resources to underserved populations, provide career and professional development resources and support awards and honors that recognize technical and business excellence. Over the last six years, the OSAF has funded over 150 grant programs that have benefited thousands of individuals in more than 40 countries.

OSA Interactive Science Publishing

Booth 203

2010 Massachusetts Ave., NW | Washington, DC 20036

Phone: 202.223.8130 | **Fax:** 202.223.1096

Email: info@osa.org | **URL:** www.opticsinfobase.org

The Optical Society (OSA) announces a new paradigm for the publication of scientific images – Interactive Scientific Publishing (ISP). With support from the NIH's National Library of Medicine, ISP allows authors of peer-reviewed journal articles to publish large 2D and 3D datasets with original source data that can be viewed and analyzed interactively by readers. ISP provides the software for authors to organize and publish source data while offering readers the viewing and analysis tools. Interact with 2D and 3D image data. Engage more thoroughly with research results. View ISP images and data for free!

Photonics Media



Booth 302

2 South Street, Berkshire Common | Pittsfield, MA 01201

Phone: 413.499.0514 | **Fax:** 413.442.3180

Email: photonics@laurin.com | **URL:** www.photonics.com

Photonics Media - The Pulse of the Industry - is Laurin Publishing Company's international suite of media with more than 50 years as the industry's leading publications. In print with *Photonics Spectra* and *Biophotonics International* magazines, *EuroPhotonics* and *Photonics Showcase* supplements, the *Photonics Directory* and online at Photonics.com.

Physics Today

Table 1

One Physics Ellipse | College Park, MD 20740

Phone: 301.209.3043 | **Fax:** 301.209.3692

Email: alcolema@aip.org | **URL:** www.physicstoday.org

Physics Today is the #1 publication for the physical sciences worldwide. Read by 125,000 scientists and engineers, *Physics Today* penetrates research labs better than other scientific trade publications.

PolarOnyx, Inc.

Booth 202

470 Lakeside Drive, Suite F | Sunnyvale, CA 94085

Phone: 408.245.2181 | **Fax:** 408.245.9587

Email: lihmeiyang@polaronyx.com

URL: www.polaronyx.com

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Society of Vacuum Coaters

Table 1

171 Pinon Hill Place | Albuquerque, NM 87122

Phone: 505.856.7188 | Fax: 505.856.6716

Email: svcinfo@svc.org | URL: www.svc.org

Vision of the Society of Vacuum Coaters: To be the global source for learning, applying and advancing vacuum coating, surface engineering, and related technologies. Mission of the Society of Vacuum Coaters: To foster technical excellence by providing a global forum to inform and educate the members, the technical community, and the public on all aspects of vacuum coating, surface engineering and related technologies. Visit the SVC Web Site at www.svc.org.

Stanford Photonics Research Center

Booth 215

Ginzton Laboratory – AP 207 | Stanford University
Stanford, CA 94305-4088

Phone: 650.723.5627 | Fax: 650.725.1822

Email: photonics@stanford.edu

URL: <http://photonics.stanford.edu>

SPRC builds strategic partnerships between the Stanford photonics research community and member companies. SPRC, one of the largest photonics programs in the US, brings together approximately 200 core photonics professors, graduate students and postdoctoral research associates in the Schools of Engineering, Humanities & Sciences, and Medicine.

Swamp Optics, LLC



Table 3

6300 Powers Ferry R, Ste. 600-345 | Atlanta, GA 30339-2919

Phone: 404.547.9267 | Fax: +1 866.855.4518

URL: www.swampoptics.com

Email: linda.trebino@swampoptics.com

Swamp Optics offers compact, convenient devices for measuring ultrashort laser pulses in real time and which yield the most complete measurements ever and include the beam spatial profile and spatio-temporal distortions. Awards include an R&D100 award and a Circle of Excellence award. Swamp Optics also offers custom devices for nearly every pulse-measurement problem, and we recently introduced a compact pulse compressor automatically free of distortions and very inexpensive.

BOA Pulse Compressor: BOA Compressor automatically aligned arrangement avoids all problematic distortions of two and four prism designs (including angular dispersion, spatial chirp, and pulse front tilt).

Taylor & Francis

Booth 214

4 Park Square | Milton Park | Nr Abingdon | Oxfordshire OX14 4RN | United Kingdom

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Email: rebecca.hougham@tandf.co.uk | URL: www.tandf.co.uk/journals

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Journal of Modern Optics: Modern Optics publishes original contributions to optical knowledge from educational, government and industrial groups world-wide. The whole field of classical and quantum optics is covered.

Thorlabs



Booth 107

435 Rt. 206 | Newton, NJ 07860

Phone: 973.300.3000 | Fax: 973.300.3600

Email: sales@thorlabs.com | URL: www.thorlabs.com

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University of Arizona College of Optical Sciences

Booth 205

1630 E University Blvd. | PO Box 210094

Tucson, AZ 85721-0094

Phone: 520.621.4111 | **Fax:** 520.626.1480

URL: www.optics.arizona.edu

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Zygo Corporation

Booth 206

21 Laurel Brook Road | Middlefield, CT 06455

Phone: 860.347.8506 | **Fax:** 860.347.3869

Email: inquire@zygo.com | **URL:** www.zygo.com

Zygo Corporation is a worldwide supplier of optical metrology instruments, high precision optics and electro-optical design and manufacturing services, providing productivity and yield improvement solutions for manufacturers of precision components for a variety of industries. Zygo Corporation provides a wide range of inspection, surface analysis, precision displacement measurement, and automated solutions.



University of Rochester, The Institute of Optics

Booth 105

Wilmot Bldg., R.C. | Rochester, NY 14627

Phone: 585.275.2322 | **Fax:** 585.271.1027

Email: gayle@optics.rochester.edu

URL: www.optics.rochester.edu

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Agenda of Sessions — Sunday, October 11

| | |
|----------------------|---|
| 7:00 a.m.–3:00 p.m. | OSA Student Chapter Leadership Meeting , Plaza Ballroom, Crowne Plaza Hotel |
| 7:00 a.m.–6:00 p.m. | Registration , Market Street Foyer, Fairmont Hotel |
| 9:00 a.m.–12:30 p.m. | <p>Short Courses, Locations will be provided at registration</p> <p>SC235: Nanophotonics: Materials, Fabrication and Characterization, Joseph W. Haus, Andrew Sarangan, Qiwen Zhan; Univ. of Dayton, USA</p> <p>SC324: Plasmonics, Stefan Maier; Experimental Solid State Group, Dept. of Physics, Imperial College London, UK</p> <p>SC326: Patent Fundamentals, Mohammed N. Islam; Optics and Photonics and Solid State Electronics Lab, Dept. of Electrical Engineering and Computer Science, Univ. of Michigan, USA</p> |
| 12:30 p.m.–1:30 p.m. | Lunch Break (on your own) |
| 1:30 p.m.–5:00 p.m. | <p>Short Courses, Locations will be provided at registration</p> <p>SC274: Polarization Engineering, Russell Chipman; Univ. of Arizona, USA</p> <p>SC322: Silicon Nanophotonics, Jelena Vučković; Edward L. Ginzton Lab, Stanford Univ., USA</p> <p>SC340: Tissue Optics and Optical Coherence Tomography, Kirill Larin¹, Valery V. Tuchin²; ¹Univ. of Houston, USA, ²Saratov State Univ., Russian Federation</p> |
| 4:00 p.m.–6:00 p.m. | What's Hot in Optics Today? Regency Ballroom, Fairmont Hotel |
| 4:00 p.m.–7:00 p.m. | 1st International OSA Student Chapter Solar Mini-Car Preliminary Races , Imperial Ballroom, Fairmont Hotel |
| 6:00 p.m.–7:30 p.m. | FiO/LS Welcome Reception , Ballroom, Sainte Claire Hotel |

Key to Shading



Frontiers in Optics



Laser Science



Joint



Fall OSA Optics & Photonics Congress

Agenda of Sessions — Monday, October 12

| | Empire | Crystal | Gold | Valley | California |
|-----------------------|--|---|--|---|--|
| 7:00 a.m.–6:00 p.m. | Registration , <i>Market Street Foyer, Fairmont Hotel</i> | | | | |
| 8:00 a.m.–12:00 p.m. | 2009 Joint FIO/LS Awards Ceremony and Plenary Session , <i>Regency Ballroom, Fairmont Hotel</i> | | | | |
| 10:00 a.m.–10:30 a.m. | Coffee Break , <i>Regency and Imperial Ballroom Foyer, Fairmont Hotel</i> | | | | |
| 12:00 p.m.–1:30 p.m. | Lunch Break (<i>on your own</i>) | | | | |
| 12:00 p.m.–2:00 p.m. | LSMA: Laser Science Symposium on Undergraduate Research Posters , <i>Cupertino Room, Fairmont Hotel</i> | | | | |
| 1:30 p.m.–3:30 p.m. | JMA: Entanglement Generation and Measurement I (Joint FIO/LS) | FMA: Metamaterials I | FMB: Optics for Renewable Energy | FMC: Anderson Localization I | FMD: RF Photonics |
| 3:30 p.m.–4:00 p.m. | Coffee Break , <i>Regency and Imperial Ballroom Foyer, Fairmont Hotel</i> | | | | |
| 4:00 p.m.–6:00 p.m. | FMG: Quantum Optics in Waveguides I | FMH: Metamaterials II (ends at 5:45 p.m.) | JMB: Gravitational Wave Interferometers I (Joint FIO/LS) | FMI: High Peak Power Laser Technology I (ends at 5:45 p.m.) | FMJ: Integrated Optical Sensors |
| 6:30 p.m.–8:30 p.m. | OSA Student Member Reception , <i>O'Flaherty's Irish Pub, 25 N. Pedro Street, San Jose, California 95110, Phone: 408.947.8007</i> | | | | |

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| Glen Ellen | Atherton | Sacramento | Piedmont | Hillsborough | Fairfield |
|--|--|---|--|--|--|
| Registration , <i>Market Street Foyer, Fairmont Hotel</i> | | | | | |
| 2009 Joint FiO/LS Awards Ceremony and Plenary Session , <i>Regency Ballroom, Fairmont Hotel</i> | | | | | |
| Coffee Break , <i>Regency and Imperial Ballroom Foyer, Fairmont Hotel</i> | | | | | |
| Lunch Break (<i>on your own</i>) | | | | | |
| LSMA: Laser Science Symposium on Undergraduate Research Posters , <i>Cupertino Room, Fairmont Hotel</i> | | | | | |
| FME: Tissue Imaging and Spectroscopy | FMF: Spatial Nonlinearities: Solitons and Beams | LSMB: Advances in Chiroptical Spectroscopy I | LSMC: Micro- and Nanofluidics I (ends at 3:15 p.m.) | LSMD: Ultrafast X-Ray Science I | LSME: Laser Science Symposium on Undergraduate Research I (2:00 p.m.–4:00 p.m.) |
| Coffee Break , <i>Regency and Imperial Ballroom Foyer, Fairmont Hotel</i> | | | | | |
| FMK: Microscopy and OCT I | FML: Silicon Photonics I | LSMF: Advances in Chiroptical Spectroscopy II (ends at 5:30 p.m.) | LSMG: Micro- and Nanofluidics II (ends at 6:15 p.m.) | LSMH: Ultrafast X-Ray Science II (ends at 5:45 p.m.) | LSMI: Laser Science Symposium on Undergraduate Research II (4:30 p.m.–6:30 p.m.) |
| OSA Student Member Reception , <i>O'Flaherty's Irish Pub, 25 N. Pedro Street, San Jose, California 95110, Phone: 408.947.8007</i> | | | | | |

Agenda of Sessions — Tuesday, October 13

| | Empire | Crystal | Gold | Valley | California | Glen Ellen |
|-----------------------|--|---|--|--|--|---|
| 7:00 a.m.–5:30 p.m. | Registration, Market Street Foyer, Fairmont Hotel | | | | | |
| 8:00 a.m.–10:00 a.m. | FTuA: 3-D Entertainment in the Marketplace (ends at 9:30 a.m.) | FTuB: Plasmonic Emitters and Resonators | JTuA: Gravitational Wave Interferometers II (Joint FiO/LS) (ends at 10:15 a.m.) | FTuC: Optical Communication (ends at 10:15 a.m.) | FTuD: Novel Fiber Devices I | JTuB: Entanglement Generation and Measurement II (Joint FiO/LS) |
| 8:00 a.m.–9:30 a.m. | OSA Young Professionals Networking Event with Corporate Members, Courtyard Atrium, Sainte Claire Hotel | | | | | |
| 9:00 a.m.–12:00 p.m. | Student Programming: Painless Publishing, Science Policy and OSA Traveling Lecturer, Regency Ballroom II, Fairmont Hotel | | | | | |
| 10:00 a.m.–10:30 a.m. | Coffee Break, Imperial Ballroom, Fairmont Hotel | | | | | |
| 10:00 a.m.–4:00 p.m. | Exhibit Hall Open, Imperial Ballroom, Fairmont Hotel | | | | | |
| 10:30 a.m.–12:00 p.m. | FTuF: 3-D Capturing, Visualization and Displays | FTuG: Wavefront Design for Information Transport and Sensing I (ends at 11:45 a.m.) | FTuH: Diffractive and Holographic Optics I | FTuI: All-Optical Signal Processing I | FTuJ: Anderson Localization II | FTuK: High Peak Power Laser Technology II |
| 12:00 p.m.–1:30 p.m. | Exhibit Only Time, Imperial Ballroom, Fairmont Hotel | | | | | |
| 12:00 p.m.–2:00 p.m. | 1st International OSA Student Chapter Solar Mini-Car Final Races, Imperial Ballroom, Fairmont Hotel | | | | | |
| 12:00 p.m.–1:30 p.m. | OSA Fellow Member Lunch, Silicon Valley Capital Club, 50 W. San Fernando, Suite 1700, San Jose, California 95113, Phone: 408.971.9300 | | | | | |
| 12:00 p.m.–1:30 p.m. | Lunch Break (on your own) | | | | | |
| 1:30 p.m.–3:30 p.m. | FTuM: Emerging 3-D Display Technologies and Research Frontiers I (ends at 3:00 p.m.) | FTuN: Negative Index Materials and Cloaking | FTuO: Diffractive and Holographic Optics II | FTuP: Optical Access | FTuQ: Light in the Eye | FTuR: Rogue Waves and Related Phenomena |
| 3:30 p.m.–4:00 p.m. | Coffee Break/Exhibits, Imperial Ballroom, Fairmont Hotel | | | | | |
| 3:30 p.m.–5:30 p.m. | Meet the Editors of the APS Journals, Bamboo Lounge, Fairmont Hotel | | | | | |
| 4:00 p.m.–5:30 p.m. | FTuT: Emerging 3-D Display Technologies and Research Frontiers II | FTuU: Wavefront Design for Information Transport and Sensing II | FTuV: Metamaterials in Emerging Technologies | FTuW: All-Optical Signal Processing II | FTuX: Novel Optics of Periodic Structures | FTuY: Optical Biosensing (ends at 5:45 p.m.) |
| 4:30 p.m.–5:30 p.m. | Minorities and Women in OSA (MWOSA) Tea, Sainte Claire Room, Sainte Claire Hotel | | | | | |
| 6:00 p.m.–7:00 p.m. | OSA Annual Business Meeting, Piedmont Room, Fairmont Hotel | | | | | |
| 6:00 p.m.–7:00 p.m. | DLS Annual Business Meeting, California Room, Fairmont Hotel | | | | | |
| 6:00 p.m.–7:30 p.m. | JTuC: Joint AO/COSI/LM/SRS Welcome Reception and Poster Session, Regency Ballroom, Fairmont Hotel | | | | | |
| 7:00 p.m.–8:30 p.m. | OSA Member Reception, Ballroom, Sainte Claire Hotel | | | | | |
| 7:00 p.m.–10:00 p.m. | Laser Science Banquet, Gordon Biersch, 33 East San Fernando Street, San Jose, California, Phone: 408.294.6785 | | | | | |

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Fall OSA Optics & Photonics Congress

| AO | | | | | | | | LM | | | | | | | | COSI | | | | | | | | SRS | | | | | | | |
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| Atherton | | | | Sacramento | | | | Piedmont | | | | Hillsborough | | | | Fairfield | | | | Belvedere | | | | Club Regent | | | | Cupertino | | | |
| Registration, Market Street Foyer, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTuE: Fiber Optics Sensors | | | | LSTuA: General Laser Science | | | | LSTuB: Cavity Optomechanics I | | | | LSTuC: Ultrafast X-Ray Science III | | | | AOTuA: Adaptive Optics Systems I (ends at 9:50 a.m.) | | | | LMTuA: Fundamentals of Femtosecond Laser Interactions with Materials | | | | CTuA: Computational Imaging and Compressive Sensing | | | | STuA: Imaging from Limited and Compressed Data | | | |
| OSA Young Professionals Networking Event with Corporate Members, Courtyard Atrium, Sainte Claire Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Student Programming: Painless Publishing, Science Policy and OSA Traveling Lecturer, Regency Ballroom II, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coffee Break, Imperial Ballroom, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exhibit Hall Open, Imperial Ballroom, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTuL: Molecular Imaging and Nanomedicine | | | | LSTuD: Photophysics of Quantum Dots and Nanostructures I | | | | LSTuE: Cavity Optomechanics II | | | | LSTuF: Micro- and Nanofluidics III | | | | AOTuB: Wavefront Sensing I | | | | LMTuB: Three-Dimensional Micromachining with Femtosecond Lasers | | | | CTuB: Light Field Representations | | | | STuB: Inverse Scattering | | | |
| Exhibit Only Time, Imperial Ballroom, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1st International OSA Student Chapter Solar Mini-Car Final Races, Imperial Ballroom, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OSA Fellow Member Lunch, Silicon Valley Capital Club, 50 W. San Fernando, Suite 1700, San Jose, California 95113, Phone: 408.971.9300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lunch Break (on your own) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTuS: Short Wavelength Generation and Applications I: From EUV to X-Rays (ends at 3:15 p.m.) | | | | LSTuG: Optoelectronic Materials Characterization (ends at 3:45 p.m.) | | | | LSTuH: Cavity Optomechanics III | | | | LSTuI: High Field Dynamics I | | | | AOTuC: High Contrast Imaging and Point Spread Function Calibration I (ends at 3:10 p.m.) | | | | LMTuC: Fabrication of Waveguides with Femtosecond Laser Systems | | | | CTuC: Constraints on Imaging | | | | STuC: Atmospheric Imaging | | | |
| Coffee Break/Exhibits, Imperial Ballroom, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Meet the Editors of the APS Journals, Bamboo Lounge, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTuZ: Short Wavelength Generation and Applications II: Spectroscopy and Microscopy | | | | LSTuJ: Photophysics of Quantum Dots and Nanostructures II | | | | LSTuK: Cavity Optomechanics IV (ends at 5:15 p.m.) | | | | LSTuL: High Field Dynamics II (ends at 5:45 p.m.) | | | | AOTuD: System Simulation and Modeling I (ends at 5:20 p.m.) | | | | LMTuD: Surface Processing and Panel Discussion on Femtosecond Laser Micromachining (ends at 6:00 p.m.) | | | | CTuD: 3-D Imaging and PSF Design (ends at 5:45 p.m.) | | | | STuD: Time-Frequency and Phase-Space Methods (ends at 5:15 p.m.) | | | |
| Minorities and Women in OSA (MWOSA) Tea, Sainte Claire Room, Sainte Claire Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OSA Annual Business Meeting, Piedmont Room, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DLS Annual Business Meeting, California Room, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JTuC: Joint AO/COSI/LM/SRS Welcome Reception and Poster Session, Regency Ballroom, Fairmont Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OSA Member Reception, Ballroom, Sainte Claire Hotel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Laser Science Banquet, Gordon Biersch, 33 East San Fernando Street, San Jose, California, Phone: 408.294.6785 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Agenda of Sessions — Wednesday, October 14

| | Empire | Crystal | Gold | Valley | California | Glen Ellen |
|-----------------------|---|--|---|---|---|--|
| 7:30 a.m.–5:30 p.m. | Registration, Market Street Foyer, Fairmont Hotel | | | | | |
| 8:00 a.m.–10:00 a.m. | FWA: Biomedical Applications of Ultrafast Lasers | FWB: Optical Information Processing and Transport in the Age of Nanophotonics and Metamaterials | FWC: Extraordinary Transmission and Structured Surface | FWD: Turbulence and Other Nonlinear Phenomena | FWE: Novel Fiber Devices II (ends at 9:45 a.m.) | FWF: Photonic Bandgap Devices (ends at 9:45 a.m.) |
| 9:00 a.m.–12:00 p.m. | Export Regulation Fundamentals for the Optics and Photonics Industry, Sainte Claire Room, Sainte Claire Hotel | | | | | |
| 10:00 a.m.–10:30 a.m. | Coffee Break, Imperial Ballroom, Fairmont Hotel | | | | | |
| 10:00 a.m.–4:00 p.m. | Exhibit Hall Open, Imperial Ballroom, Fairmont Hotel | | | | | |
| 10:30 a.m.–12:00 p.m. | FWH: Coherence and Fundamental Optics I (ends at 12:15 p.m.) | FWI: Optics in Information Sciences | FWJ: Quantum Optics in Waveguides II (ends at 12:15 p.m.) | FWK: All-Optical Signal Processing III | FWL: Optical Communication Devices | FWM: Optical Trapping and Micromanipulation I (ends at 11:45 a.m.) |
| 12:00 p.m.–1:30 p.m. | JWC: Joint FiO/LS Poster Session, Imperial Ballroom, Fairmont Hotel | | | | | |
| 12:00 p.m.–1:30 p.m. | Lunch Break (on your own) | | | | | |
| 1:30 p.m.–3:30 p.m. | JWD: Entanglement Generation and Measurement III (Joint FiO/LS) | FWO: OSA Topical Meeting Highlights I | FWP: Metamaterials III | FWQ: Phase Space Optics—Optical System Theory for the 21st Century I (ends at 3:15 p.m.) | FWR: Novel Optical Architectures in Emerging Technologies I | FWS: Optical Trapping and Micromanipulation II |
| 3:30 p.m.–4:00 p.m. | Coffee Break/Exhibits, Imperial Ballroom, Fairmont Hotel | | | | | |
| 4:00 p.m.–5:30 p.m. | FWU: Coherence and Fundamental Optics II | FWV: OSA Topical Meeting Highlights II | JWE: Entanglement Generation and Measurement IV (Joint FiO/LS) (ends at 6:00 p.m.) | FWW: Phase Space Optics—Optical System Theory for the 21st Century II | FWX: Novel Optical Architectures in Emerging Technologies II | FWY: Optical Trapping and Micromanipulation III |
| 6:30 p.m.–8:00 p.m. | FiO Postdeadline Paper Sessions, See the Postdeadline Papers Book in your registration bag for exact times and locations | | | | | |
| 6:30 p.m.–8:00 p.m. | AIOM Welcome Reception, Regency Ballroom I, Fairmont Hotel | | | | | |

Key to Shading

| | | | | | | | |
|---|---------------------|---|---------------|---|-------|---|--------------------------------------|
|  | Frontiers in Optics |  | Laser Science |  | Joint |  | Fall OSA Optics & Photonics Congress |
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Fall OSA Optics & Photonics Congress

| AO | | AIOM | | COSI | | SRS | |
|---|---|---|---|---|---|---|--|
| Atherton | Sacramento | Piedmont | Hillsborough | Fairfield | Belvedere | Club Regent | Cupertino |
| Registration, Market Street Foyer, Fairmont Hotel | | | | | | | |
| FWG: Photonic Sensing Devices | LSWA: Single-Molecule Biophysics I | LSWB: Second-Order Nonlinear Optics I | LSWC: Multidimensional Spectroscopy I | | AWA: Semiconductor Materials (ends at 9:45 a.m.) | JWA: Joint AO/COSI/SRS Session | |
| Export Regulation Fundamentals for the Optics and Photonics Industry, Sainte Claire Room, Sainte Claire Hotel | | | | | | | |
| Coffee Break, Imperial Ballroom, Fairmont Hotel | | | | | | | |
| Exhibit Hall Open, Imperial Ballroom, Fairmont Hotel | | | | | | | |
| FWN: Silicon Photonics II | LSWD: Single-Molecule Biophysics II | LSWE: Second-Order Nonlinear Optics II | LSWF: Multidimensional Spectroscopy II | AOWA: High Contrast Imaging and Point Spread Function Calibration II (ends at 11:50 a.m.) | AWB: Laser-Material Interactions (ends at 11:45 a.m.) | CWA: Polarization Sensing and Imaging | JWB: Advances in Adaptive Optics Imaging of the Living Retina I (Joint AO/FIO) |
| JWC: Joint FIO/LS Poster Session, Imperial Ballroom, Fairmont Hotel | | | | | | | |
| Lunch Break (on your own) | | | | | | | |
| FWT: Plasmonic Sensors (ends at 3:15 p.m.) | LSWG: Ultrafast Spectroscopy I | LSWH: Second-Order Nonlinear Optics III (ends at 3:15 p.m.) | LSWI: Multidimensional Spectroscopy III (ends at 3:00 p.m.) | AOWB: Control Algorithms and Architecture | AWC: Oxide Crystals (ends at 3:15 p.m.) | CWB: Multi Aperture Systems (ends at 3:15 p.m.) | SWA: Phase Retrieval Methods (ends at 3:15 p.m.) |
| Coffee Break/Exhibits, Imperial Ballroom, Fairmont Hotel | | | | | | | |
| FWZ: Silicon Photonics III | LSWJ: Ultrafast Spectroscopy II (ends at 6:15 p.m.) | LSWK: Second-Order Nonlinear Optics IV (ends at 5:45 p.m.) | | JWF: Advances in Adaptive Optics Imaging of the Living Retina II (Joint AO/FIO) | AWD: Optical Ceramics | | |
| FIO Postdeadline Paper Sessions, See the Postdeadline Papers Book in your registration bag for exact times and locations | | | | | | | |
| AIOM Welcome Reception, Regency Ballroom I, Fairmont Hotel | | | | | | | |

Agenda of Sessions — Thursday, October 15

| | Empire | Crystal | Gold | Valley | California |
|-----------------------|---|--|---|--|--|
| 7:30 a.m.–5:00 p.m. | Registration , <i>Market Street Foyer, Fairmont Hotel</i> | | | | |
| 8:00 a.m.–10:00 a.m. | LSThA: X-Ray Imaging I | FThA: Nanofocusing Optics I | FThB: Diffractive and Holographic Optics III | FThC: Micro-Cavity Devices I | FThD: High-Power Fiber Lasers I |
| 10:00 a.m.–10:30 a.m. | Coffee Break , <i>Regency and Imperial Ballroom Foyer, Fairmont Hotel</i> | | | | |
| 10:30 a.m.–12:00 p.m. | LSThC: X-Ray Photon Correlation Spectroscopy | FThG: Nanofocusing Optics II | FThH: Aspheric and Freeform Optical Surfaces: Design, Characterization and Alignment I (ends at 11:45 a.m.) | FThI: Novel Nonlinear Optical Phenomena | FThJ: High-Power Fiber Lasers II |
| 12:00 p.m.–1:30 p.m. | Lunch Break (<i>on your own</i>) | | | | |
| 1:30 p.m.–3:30 p.m. | LSThE: X-Ray Imaging II (ends at 2:45 p.m.) | FThM: Nanoscale Methods and Instruments I | FThN: Aspheric and Freeform Optical Surfaces: Design, Characterization and Alignment II | FThO: Micro-Cavity Devices II | FThP: Optics in Interventional Medicine |
| 3:30 p.m.–4:00 p.m. | Coffee Break , <i>Regency and Imperial Ballroom Foyer, Fairmont Hotel</i> | | | | |
| 4:00 p.m.–6:00 p.m. | FThS: Optical Nonlinear Properties of Materials (ends at 5:45 p.m.) | FThT: Nanoscale Methods and Instruments II (ends at 5:15 p.m.) | | FThU: Micro-Cavity Devices III | |
| 5:30 p.m.–8:00 p.m. | Science Educators' Day , <i>McCaw Hall, Frances C. Arrillaga Alumni Center, Stanford Univ., 326 Galvez Street, Stanford, California 94305, Phone: 650.723.2021</i> | | | | |

Key to Shading

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|--|---|---|---|
| Frontiers in Optics | Laser Science | Joint | Fall OSA Optics & Photonics Congress |
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Fall OSA Optics & Photonics Congress

| | | AO | | AIOM | | COSI |
|---|--|--|---|--|--|------|
| Glen Ellen | Atherton | Sacramento | Fairfield | Belvedere | Club Regent | |
| Registration, Market Street Foyer, Fairmont Hotel | | | | | | |
| FThE: Integrated Optics | LSThB: Single-Molecule Biophysics III | FThF: Polarization and Birefringence in Optical Design I | AOThA: Adaptive Optics Systems II (ends at 9:40 a.m.) | ATHA: Nanostructured Materials (ends at 9:30 a.m.) | CThA: New Imaging Concepts | |
| Coffee Break, Regency and Imperial Ballroom Foyer, Fairmont Hotel | | | | | | |
| FThK: Optoelectronics | LSThD: Single-Molecule Biophysics IV | FThL: Polarization and Birefringence in Optical Design II (ends at 11:45 a.m.) | AOThB: System Simulation and Modeling II (ends at 11:30 a.m.) | ATHB: Applications of Nanophotonics | CThB: Pupil Encoding Methods (ends at 12:15 p.m.) | |
| Lunch Break (on your own) | | | | | | |
| FThQ: Molecular Imaging in the Eye | LSThF: Single-Molecule Biophysics V (ends at 3:00 p.m.) | FThR: Computational Imaging and Photography I | AOThC: Wavefront Sensing II (ends at 3:10 p.m.) | ATHC: Glass Synthesis and Properties (ends at 3:15 p.m.) | CThC: Imaging through Complex Media and Spectroscopy (ends at 3:00 p.m.) | |
| Coffee Break, Regency and Imperial Ballroom Foyer, Fairmont Hotel | | | | | | |
| FThV: Microscopy and OCT II | FThW: Plasmonic Waveguides and Devices (ends at 5:45 p.m.) | FThX: Computational Imaging and Photography II | AOThD: Wavefront Correction Technology (ends at 5:30 p.m.) | ATHD: Optical Fibers | CThD: COSI Panel Discussion (4:00 p.m.-5:00 p.m.) | |
| Science Educators' Day, McCaw Hall, Frances C. Arrillaga Alumni Center, Stanford Univ., 326 Galvez Street, Stanford, California 94305, Phone: 650.723.2021 | | | | | | |

Fall OSA Optics & Photonics Congress

Fairfield

AO

8:00 a.m.–9:50 a.m.

AOTuA • Adaptive Optics Systems I

Richard M. Myers; Univ. of Durham, UK, President

AOTuA1 • 8:00 a.m. **Invited**

A New Sodium Guidestar Adaptive Optics System for the Starfire Optical Range 3.5m Telescope, Robert Johnson¹, Dennis Montera¹, Timothy Schneeberger², James Spinhirne³; ¹Starfire Optical Range, AFRL/DES, USA, ²Boeing Co., USA. A new adaptive optics system is being installed on the Starfire 3.5m telescope, using the existing 50W pump to create a sodium guidestar. Transmission to the wavefront sensor is improved from 0.16 to 0.67.

AOTuA2 • 8:30 a.m.

High-Resolution Lidar Observations of Mesospheric Sodium and Implications for Adaptive Optics, Paul Hickson, Thomas Pfrommer; Univ. of British Columbia, Canada. We describe new observations of sodium density variability obtained with a high-resolution lidar system. These show significant mean altitude variations extending to frequencies above 1 Hz with a near-Kolmogorov spectrum.

AOTuA3 • 8:50 a.m.

ARGOS: The LBT's Laser-Guided Adaptive Optics System, Michael Hart¹, Sebastian Rabien², Simone Esposito³, Lorenzo Busoni³; ¹Steward Observatory, Univ. of Arizona, USA, ²Max-Planck-Inst. fuer Extraterrestrische Physik, Germany, ³Osservatorio Astrofisico di Arcetri, Italy. The Large Binocular Telescope is adding a constellation of Rayleigh laser guide stars to implement ground-layer AO over a 4 arc minute field. A further upgrade will add sodium lasers to provide diffraction-limited operation.

AOTuA4 • 9:10 a.m.

Laboratory Experiments of Laser Tomographic Adaptive Optics at Visible Wavelengths, Mark Ammons, Luke Johnson, Donald T. Gavel, Renate Kupke, Claire E. Max; Ctr. for Adaptive Optics, Univ. of California at Santa Cruz, USA. We review laboratory experiments of Laser Tomographic Adaptive Optics (LTAO) on a simulated 10-meter telescope tested at 710 nm. The system maintains 20-35% Strehl across 45° over the equivalent of 0.8 seconds of operation.

Belvedere

LM

8:00 a.m.–10:00 a.m.

LMTuA • Fundamentals of Femtosecond Laser Interactions with Materials

Eric Mazur; Harvard Univ., USA, President

LMTuA1 • 8:00 a.m. **Invited**

Intense Field Science in Dielectrics, M. Gertschov^{1,2}, D. Grojo¹, M. Spanner¹, P. P. Rajeev¹, P. B. Corkum^{1,2}, D. M. Rayner¹; ¹Natl. Res. Council Canada, USA, ²Univ. of Ottawa, Canada. We develop the relationship between intense field ionization in the gas phase and the interaction of femtosecond laser pulses with bulk dielectrics. We establish that sub-cycle dynamics can be observed in solids.

LMTuA2 • 8:30 a.m.

Interference Measurements of Parallel Femtosecond-Laser-Induced Phenomena, Yoshio Hayasaki, Mitsuhiro Isaka, Akihiro Takita; Utsunomiya Univ., Japan. Time-resolve pump-probe interference microscope was performed to investigate laser-induced phenomena in parallel femtosecond laser processing. We observed the dynamics of the phenomena and their interaction including microplasma and shockwaves.

LMTuA3 • 8:45 a.m. **Invited**

Controlling Ultrafast Laser-Induced Refractive Index Changes in Optical Glasses via Adaptive Spatio-Temporal Beam Engineering, Razvan Stoian; Univ. Jean Monnet, France. Spatio-temporal beam engineering can adaptively regulate the energy exposure, enabling a synergetic interaction between light and matter. We discuss the possibility of controlling refractive index changes and explore the potential for parallel photo inscription.

LMTuA4 • 9:15 a.m.

Effect of Pulse Shaping on Micromachining Transparent Dielectrics, Jay D. Shah, Tissa C. Gunaratne, Xin Zhu, Vadim Lozovoy, Marcos Dantus; Michigan State Univ., USA. Successful efforts made with silicon micromachining prompts novel methods to study the femtosecond-laser induced ablation of transparent dielectrics. Characterized AFM images of the ablated surfaces will be presented.

Club Regent

COSI

8:00 a.m.–10:00 a.m.

CTuA • Computational Imaging and Compressive Sensing

Michael A. Fiddy; Univ. of North Carolina, USA, President

CTuA1 • 8:00 a.m. **Invited**

Computational Photography, Ramesh Raskar; MIT, USA. The goal is to create an entirely new class of imaging platforms that have an understanding of the world that far exceeds human ability and produce meaningful abstractions that are well within human comprehensibility.

CTuA2 • 8:30 a.m. **Invited**

Task-Specific Compressive Imaging, Mark Allen Neifeld; Univ. of Arizona, USA. Compressive imaging enables optimal use of collected photons. We discuss the implications on image fidelity and task-specific implementations for motion detection, target recognition, and object tracking using both static and adaptive measurements.

CTuA3 • 9:00 a.m.

Millimeter-Wave Imaging Using k-Space Compression, Christy Fernandez-Cull¹, David Brady¹, David A. Wikner², Joseph N. Mait²; ¹Duke Univ., USA, ²US ARL, USA. We apply compression in the spatial frequency domain to generate millimeter wave images. Simulations indicate the efficacy of the approach. We are in the process of testing the system experimentally.

CTuA4 • 9:15 a.m.

An Efficient Method for Multi-Dimensional Compressive Imaging, Yair Rivenson, Adrian Stern; Ben-Gurion Univ. of the Negev, Israel. In previous work we have demonstrated that using a separable imaging operator overcomes practical difficulties of 2-D compressive imaging. Here we extend the separability notion to multidimensional imaging and present the implementation issues it addresses.

Cupertino

SRS

8:00 a.m.–10:00 a.m.

STuA • Imaging from Limited and Compressed Data

Markus Testorf; Dartmouth College, USA, President

STuA1 • 8:00 a.m. **Invited**

Image Reconstruction from Highly Sparse Data in Advanced Tomographic Imaging, Xiaochuan Pan; Univ. of Chicago, USA. Tomographic imaging techniques are found widely in applications in biomedicine, industrial non-destructive, and security applications. We discuss some of the recent algorithm developments for accurate image reconstruction from highly sparse data in advanced tomographic imaging.

STuA2 • 8:30 a.m.

Bayesian Multiresolution Method for Local Tomography, Kati Niinimäki¹, Ville P. Koehmainen¹, Samuli Siltanen²; ¹Univ. of Kuopio, Finland, ²Dept. of Mathematics, Univ. of Helsinki, Finland. We present a wavelet based multiresolution model for local tomography. Reconstruction model is reduced by discarding fine-scale wavelets outside the region-of-interest (ROI). The approach allows significant model reduction without loss of accuracy in the ROI.

STuA3 • 8:45 a.m.

On Improved Temporal Resolution for Magnetic Resonance Angiography, Phil Bones, Bing Wu, Bahereh Vafadar, Anthony Butler, Richard Watts; Univ. of Canterbury, New Zealand. Use of a support constraint derived from a complete k-space acquisition combined with progressive k-space sampling allows improved and adaptive time resolution to be achieved in parallel magnetic resonance angiography (MRA).

STuA4 • 9:00 a.m.

Sparse Reconstruction of Complex Signals in Compressed Sensing Terahertz Imaging, Zhimin Xu¹, Wai Lam Chan², Daniel M. Mittleman³, Edmund Y. Lam¹; ¹Dept. of Electrical and Electronic Engineering, Univ. of Hong Kong, Hong Kong, ²Dept. of Electrical and Computer Engineering, Rice Univ., USA. In reconstructing complex signals, many existing methods apply regularization on magnitude only. We show that by adding control on phase, reconstruction quality can be improved. This is demonstrated in a compressed sensing terahertz imaging system.

STuA5 • 9:15 a.m.

Multi-Frequency Inverse Scattering by Compressed Sensing, Albert Fanjiang; Univ. of California at Davis, USA. Inverse-scattering schemes based on the restricted isometry property (RIP) in compressed sensing are proposed and analyzed. The methods employ randomly and repeatedly (multiple-shot) the single-input-single-output measurements and can recover exactly targets of sufficiently low sparsity.

For FIO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Fairfield

A O

AOTuA • Adaptive Optics Systems I—Continued

AOTuA5 • 9:30 a.m.

CANARY: An On-Sky Laser Guide Star Multiple Object AO Demonstrator, *Tim Morris¹, Zoltan Hubert², Richard Myers¹, Eric Gendron², Andy Longmore³, Gerard Rousset³, Gordon Talbot¹, Thierry Fusco⁴, Nigel Dipper¹, Fabrice Vidal⁵, David Henry³, Damien Gratadour², Tim Butterley¹, Fanny Chemla², Dani Guzman¹, Eddy Younger¹, Aglae Kellerer², Mark Harrison¹, Michel Marteau², Deli Geng¹, Ali Basden¹, Andres Guesalaga³, Colin Dunlop¹, Stephen Todd³, Colin Dickson²*; ¹Univ. of Durham, UK, ²Observatoire de Paris, France, ³UK Astronomy Technology Ctr., UK, ⁴ONERA, France, ⁵Pontificia Univ. Catolica de Chile, Chile. CANARY is the on-sky LGS MOAO demonstrator for the proposed EAGLE E-ELT instrument. The CANARY design is described here for the initial experimental phases. Simulations of system performance predict an H-band Strehl ratio of 0.27-0.33.

Belvedere

L M

LMTuA • Fundamentals of Femtosecond Laser Interactions with Materials—Continued

LMTuA5 • 9:30 a.m.

Femtosecond Laser Direct Writing in P, Ge Doped Silica Glasses: Time Resolved Plasma Measurements, *Matthieu Lancry¹, Stéphane Guizard², Bertrand Poumellec¹*; ¹Univ. of Paris Sud, France, ²Lab des Solides Irradiés, CEA/DRECAM, École Polytechnique, France. Time resolved spectral interferometry shows that the mean trapping time of electrons excited in the conduction band was significantly lower in doped silica and especially in Ge-doped silica when compared to pure silica.

LMTuA6 • 9:45 a.m.

Cascaded Nonlinear Absorption of Laser Pulse Energy in Femtosecond Microfabrication: Experiment, Numerics, and Theory, *Andrey G. Okhrimchuk, Vladimir Mezentsev, Mykhaylo Dubov, Holger Schmitz, Ian Bennion*; *Aston Univ., UK*. A dedicated study of nonlinear absorption in femtosecond laser micro fabrication is presented. Experimental, numerical and theoretical data are analyzed and compared. The results are presented for a range of dielectrics.

Club Regent

C O S I

CTuA • Computational Imaging and Compressive Sensing—Continued

CTuA5 • 9:30 a.m.

Compressive Sensing Hyperspectral Imager, *Ting Sun, Kevin Kelly*; *Rice Univ., USA*. Compressive sensing based hyper spectral imaging is investigated and compared with its raster scan counterpart. Data acquisition and compression are realized simultaneously which greatly decreases the measurement time and storage volume while increasing the signal fidelity.

CTuA6 • 9:45 a.m.

Compressive Coherence Sensing, *Ashwin A. Wagadarikar, Daniel Marks, Kerkil Choi, David J. Brady, Fitzpatrick Ctr. for Photonics, Duke Univ., USA*. The 4-D cross spectral density function is recovered using 2-D rotational shear interferometer measurements and a matrix completion algorithm for low rank matrices. Imaging of point sources through turbulence is demonstrated.

Cupertino

S R S

STuA • Imaging from Limited and Compressed Data—Continued

STuA6 • 9:30 a.m.

Superresolution with Plenoptic 2.0 Cameras, *Todor G. Georgiev¹, Andrew Lumsdaine²*; ¹Adobe Systems, USA, ²Indiana Univ., USA. We have demonstrated working superresolution with Plenoptic 2.0 camera without need for traditional image registration in software. This paper describes our method, which is based only on the camera and microlens parameters.

STuA7 • 9:45 a.m.

Optical Design for Improving Matrix Condition, *Iftach Klapp, David Mendlovic*; *Tel Aviv Univ., Israel*. The problem of image restoration of space variant blur is common and important. In many cases the restoration is limited by the optical system matrix condition. We present optical design for improving this figure.

9:30 a.m.–12:00 p.m. Student Programming: Painless Publishing, Science Policy and OSA Traveling Lecturer, *Regency Ballroom II, Fairmont Hotel*

10:00 a.m.–10:30 a.m. Coffee Break, *Imperial Ballroom, Fairmont Hotel*

10:00 a.m.–4:00 p.m. Exhibit Hall Open, *Imperial Ballroom, Fairmont Hotel*

NOTES

For FIO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Fairfield

AO

10:30 a.m.–12:00 p.m.

AOTuB • Wavefront Sensing I

Lisa Poyneer; Lawrence Livermore Natl. Lab, USA, *Presider*

AOTuB1 • 10:30 a.m. **Invited**

Polar Coordinate CCD Array for LGS Wavefront Sensing, Sean Adkins; W. M. Keck Observatory, USA. Abstract not available.

AOTuB2 • 11:00 a.m.

Comparison of Self-Referenced Center of Gravity, Quad-Cell and Matched Filter Algorithms for Laser Guide Star Wavefront Sensing, Rodolphe Conan, Olivier Lardière, Kate Jackson; Univ. of Victoria, Canada. The UVic AO laboratory has built an optical test-bed reproducing LGS wavefront sensing with Shack-Hartmann WFSs on ELTs. The test bench has been used to compare self-referenced version of the center-of-gravity, quad-cell and matched-filter algorithms.

AOTuB3 • 11:20 a.m.

Pyramid Wave-Front Sensing with a Laser Guide Star for an ELT, Brice Le Roux; Astronomy Observatory of Marseilles Provence, Univ. of Provence, France. We present a study of the behavior and performance of the pyramid WFS when the guide star is a laser GS on an ELT. Simulation results are presented.

Belvedere

LM

10:30 a.m.–12:00 p.m.

LMTuB • Three-Dimensional Micromachining with Femtosecond Lasers

Chris Schaffer; Cornell Univ., USA, *Presider*

LMTuB1 • 10:30 a.m. **Invited**

Three-Dimensional Structuring of Materials by Femtosecond Laser Pulses, Saulius Juodkazis, Hiroaki Misawa; Hokkaido Univ., Japan. Current trends in three-dimensional laser fabrication of materials and their structural modifications will be discussed. Strategies for achieving a sub-100 nm resolution via engineering a light delivery and localization are described.

LMTuB2 • 11:00 a.m.

Patterning of Functional Polymers by Femtosecond Lasers, Andrea Camposeo¹, Marco Polo^{1,2}, Antonio A. R. Neves¹, Roberto Cingolani¹, Dario Pisignano^{1,2}; ¹Natl. Nanotechnology Lab, CNR-INFN, Italy, ²Inst. Superiore di Formazione Interdisciplinare ISUFI, Univ. del Salento, Italy. We investigated possible routes for the patterning of conjugated polymers by fs laser pulses. In particular, we analyzed the impact of the exposure to fs laser on the emission properties of the light-emitting conjugated polymers.

LMTuB3 • 11:15 a.m. **Invited**

Multifunctional Volume Optics Generated by Direct Femtosecond Laser Writing, Timothy D. Gerke, Rafael Piestun; Univ. of Colorado at Boulder, USA. We present a three-dimensional scattering approach to the design of aperiodic volume optical elements and explore new functionalities utilizing the available degrees of freedom. We demonstrate volume diffractive elements that multiplex spatial and spectral information.

Club Regent

COSI

10:30 a.m.–12:00 p.m.

CTuB • Light Field Representations

Ramesh Raskar; MIT, USA, *Presider*

CTuB1 • 10:30 a.m. **Invited**

Frequency Analysis in the Light Field and Time Space Domains, Fredo Durand; MIT, USA. Computational imaging can reduce motion and defocus blur. New analysis in the Fourier domain of the 4-D light field (light rays) and 3-D space-time sheds new insights and leads to new practical solutions.

CTuB2 • 11:00 a.m.

Lightfield Photography and Phase-Space Tomography: A Paradigm for Computational Imaging, Markus E. Testorf¹, Michael A. Fiddy²; ¹Dartmouth College, USA, ²Univ. of North Carolina at Charlotte, USA. The interpretation of lightfield photography as phase-space tomography is used to introduce a formalism for analyzing and optimizing computational imaging systems. We illustrate this concept by discussing lightfield wavefront sensing and computational imaging applications.

CTuB3 • 11:15 a.m.

Resolution in Plenoptic Cameras, Todor G. Georgiev¹, Andrew Lumsdaine²; ¹Adobe, USA, ²Indiana Univ., USA. Derivation and analysis of sampling patterns of traditional and focused plenoptic cameras show the former rotates pixels $\Pi/2$ in phase space, while the latter does not. These results are interpreted regarding the cameras' spatial resolution.

CTuB4 • 11:30 a.m.

Multichannel, Agile, Computationally Enhanced Camera Based On PANOPTES Architecture, Predrag Milojkovic^{1,2}, John Gill¹, Dan Frattin¹, Kevin Coyle¹, Karl Haack¹, Marc P. Christensen², Dinesh Rajan², Scott Douglas²; ¹Northrop Grumman Info. Systems, USA, ²Southern Methodist Univ., USA. Abstract not available.

Cupertino

SRS

10:30 a.m.–12:00 p.m.

STuB • Inverse Scattering

Andrew Lambert; Univ. of New South Wales, Australia, *Presider*

STuB1 • 10:30 a.m. **Invited**

Inverse Problems with Interior Control, John Schotland; Univ. of Pennsylvania, USA. We report recent work on inverse scattering problems in which manipulation of internal degrees of freedom of a scattering medium leads to improvements in image resolution.

STuB2 • 11:00 a.m.

Ab initio Determination of Virus Electron Density in X-Ray Crystallography, Victor L. Lo, Rick P. Millane; Univ. of Canterbury, New Zealand. The electron density of an icosahedral virus with 5-fold non-crystallographic symmetry is reconstructed *ab initio* from crystal X-ray diffraction amplitudes using the difference map projection algorithm.

STuB3 • 11:15 a.m.

Resolution Enhancement and Classification of Virus Particles in Cellular Tomography, Kang Wang, Peter Doerschuk; Cornell Univ., USA. The tomographic reconstruction from whole-cell electron tomography, which is used in the study of viruses *in situ*, is generally noisy and geometrically distorted due to low electron dose and incomplete projection data.

STuB4 • 11:30 a.m.

3-D Reconstruction from Electron Microscope Images of Heterogeneous Particles, Peter Doerschuk, Yili Zheng; Cornell Univ., USA. A statistical estimation problem for determining 3-D reconstructions from a single 2-D projection image of each of multiple objects when the objects are heterogeneous is described.

For FIO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Fairfield

A O

AOTuB • Wavefront Sensing I—Continued

AOTuB4 • 11:40 a.m.

Off-Axis Beacon Sharpening, Erez N. Ribak^{1,2}, Ruth Mackey²; ¹Technion-Israel Inst. of Technology, Israel, ²Natl. Univ. of Ireland, Ireland. We design an atmospheric beacon which can be observed at an angle with reduced loss of resolution along its main axis. We employ direct inversion or iterative optimization, either by computer or in the laboratory.

Belvedere

L M

LMTuB • Three-Dimensional Micromachining with Femtosecond Lasers—Continued

LMTuB4 • 11:45 a.m.

The Role of Metaphosphate Glass Composition on Changes to the Glass Network Structure after Modification by Femtosecond Laser Pulses, Luke B. Fletcher¹, Jon J. Witcher¹, Denise M. Krol¹, Richard K. Brow²; ¹Univ. of California at Davis, USA, ²Missouri Univ. of Science and Technology, USA. Changes to the glass structure after femtosecond laser modification have been studied in multiple metaphosphate glass systems using white light and laser microscopy. Results indicate initial glass structure is important to the resulting morphological changes.

Club Regent

C O S I

CTuB • Light Field Representations—Continued

CTuB5 • 11:45 a.m.

Quasi Light Fields: A Model of Coherent Image Formation, Anthony Accardi, Gregory Wornell; MIT, USA. We develop a model of coherent image formation that strikes a balance between the simplicity of the light field and the comprehensive predictive power of Maxwell's equations, by extending the light field to coherent radiation.

Cupertino

S R S

STuB • Inverse Scattering—Continued

STuB5 • 11:45 a.m.

New Computational Methodology for the Recovery of Facial Images Retained in Human Memory, Christopher J. Solomon^{1,2}, Stuart J. Gibson¹, Matthew I. S. Maylin¹; ¹Univ. of Kent, UK, ²Natl. Univ. of Ireland, Ireland. We present a new computational methodology for the construction of facial composites from eyewitness memory for criminal investigation. The conceptual and theoretical basis is described and results from both laboratory and real-world applications are presented.

12:00 p.m.–1:30 p.m. Exhibit Only Time, Imperial Ballroom, Fairmont Hotel

12:00 p.m.–2:00 p.m. 1st International OSA Student Chapter Solar Mini-Car Final Races, Imperial Ballroom, Fairmont Hotel

12:00 p.m.–1:30 p.m. OSA Fellow Member Lunch, Silicon Valley Capital Club, 50 W. San Fernando, Suite 1700, San Jose, California 95113, Phone: 408.971.9300

12:00 p.m.–1:30 p.m. Lunch Break (on your own)

NOTES

For FiO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Fairfield

AO

1:30 p.m.–3:10 p.m.

AOTuC • High Contrast Imaging and Point Spread Function Calibration I*Jean-Pierre Veran; Inst. Herzberg d'Astrophysique, Canada, Presider***AOTuC1 • 1:30 p.m.**

Differential Photometry through PDF Deconvolution, *Szymon Gladysz¹, Julian Christou², ¹European Southern Observatory, Germany, ²Gemini Observatory, USA.* We present a novel approach to differential photometry in high-contrast observations. Our algorithm exploits the difference in statistics between the on-axis and off-axis intensity. We test the method on data from the Lick Observatory's 3m telescope.

AOTuC2 • 1:50 p.m.

Statistical Signal Enhancement in Adaptive-Optics Observations of Exoplanets, *Szymon Gladysz¹, Patrice Martinez¹, Emmanuel Aller-Carpentier¹, Julian Christou², ¹European Southern Observatory, Germany, ²Gemini Observatory, USA.* We present a new class of algorithms for the detection of faint companions to stars. The new approach was tested on astronomical observations and on high-contrast corona graphic data recorded in a laboratory experiment.

AOTuC3 • 2:10 p.m.

Optimal Method for Exoplanet Detection by Spectral and Angular Differential Imaging, *Alberto Cornia^{1,2}, Laurent Mugnier¹, Jean-François Sauvage¹, Thierry Fusco¹, Marcel Carbillet³, David Mouillet⁴, Gérard Rousset², Anthony Boccaletti², ¹ONERA Chatillon, France, ²Observatoire de Meudon, LESIA, France, ³Lab Fizeau, Univ. de Sophia-Antipolis, France, ⁴Lab d'Astrophysique de l'Observatoire de Grenoble, France.* We propose a method based on maximum-likelihood for the direct detection of exoplanets from the ground using spectral-angular differential imaging. We can estimate the position and intensity of potential planets orbiting the observed star.

Belvedere

LM

1:30 p.m.–3:30 p.m.

LMTuC • Fabrication of Waveguides with Femtosecond Laser Systems*Presider to Be Announced***LMTuC1 • 1:30 p.m. Invited**

Recent Developments in Monolithic Fibre and Waveguide, DBR and DFB Lasers Fabricated Using Ultrafast Laser Direct-Write Methods, *G. D. Marshall, N. Jovanovic, M. Ams, D. J. Little, P. Dekker, A. Fuerbach, M. J. Withford; Ctr. for Ultrahigh-bandwidth Devices for Optical Systems (CUDOS), Australia.* We report on active photonic devices, both in bulk and fiber glass formats, fabricated using ultrafast laser direct writing. Recent demonstrations include a monolithic 100 mW DFB waveguide laser and a 100W fiber laser.

LMTuC2 • 2:00 p.m.

Demonstration of a fs-Laser Written Highly Efficient Yb:YAG Channel Waveguide Laser, *Jörg Siebenmorgen, Thomas Calmano, Klaus Petermann, Günter Huber; Inst. of Laser-Physics, Univ. Hamburg, Germany.* Using a femtosecond laser tracks were written in Yb:YAG. Due to stress induced birefringence waveguiding was possible in channels surrounding the tracks. Laser oscillation was achieved with an output-power of 719mW at 1223mW of pump-power.

LMTuC3 • 2:15 p.m. Invited

Femtosecond Laser Micromachining: An Enabling Tool for Optofluidics, *R. Osellame, R. Martinez Vazquez, R. Ramponi, G. Cerullo; Inst. di Fotonica e Nanotecnologie, CNR, Italy.* Femtosecond-laser-written optical waveguides are integrated into a commercial micro-fluidic chip. A fluorescence detection scheme is implemented, resulting in a compact device. Testing is performed by electrophoresis and optical detection of a 1-nM oligonucleotide plug.

Club Regent

COSI

1:30 p.m.–3:30 p.m.

CTuC • Constraints on Imaging*Mark Allen Neifeld; Univ. of Arizona, USA, Presider***CTuC1 • 1:30 p.m. Invited**

Fundamental Limit for Optical Devices, *David A. B. Miller; Stanford Univ., USA.* We examine a basic general limit to optical components that scatter, separate, disperse, or delay light, an upper bound that depends on material properties and device volume, independent of design details.

CTuC2 • 2:00 p.m. Invited

Holographic Ghost Imaging, *M. J. Padgett¹, B. Jack¹, J. Leach¹, J. Romero¹, S. Franke-Arnold¹, M. Ritsch-Marte², S. M. Barnett³, ¹Univ. of Glasgow, UK, ²Innsbruck Medical Univ., Austria, ³Univ. of Strathclyde, UK.* We demonstrate a new form of ghost-imaging, where holograms placed non-locally with respect to the object can enhance the contrast of the coincident image. In this configuration the system unambiguously exhibits its quantum properties.

Cupertino

SRS

1:30 p.m.–3:30 p.m.

STuC • Atmospheric Imaging*Rick P. Millane; Univ. of Canterbury, New Zealand, Presider***STuC1 • 1:30 p.m. Invited**

Information Theoretic Based Image Quality Evaluation, *David R. Gerwe¹, Carlos E. Luna¹, Brandoch Calef¹, ¹Boeing Directed Energy Systems, USA, ²Boeing Laser Technical Services, USA.* A new mutual information based metric for characterizing the influence of sensor design, imaging geometry, environmental conditions, and enhancement processing on image quality is shown to better match visual ratings than the current GIQE metric.

STuC2 • 2:00 p.m.

Statistical Turbulence Approach to the Covariance Matrices in the Shiftmap Prediction Using Kalman Filter, *Murat Tahtali, Andrew J. Lambert; Univ. of New South Wales, Australian Defence Force Acad., Australia.* We consider the statistical estimation of the covariance matrices required in the prediction of restoration shift-maps using Kalman filter. Anisoplanatic warp of imagery through atmospheric turbulence is modeled at pixel level as a simple oscillator.

STuC3 • 2:15 p.m.

Computationally Efficient Image Dewarping Algorithm, *Samuel T. Thurman; Lockheed Martin Coherent Technologies, USA.* Imagery of scenes viewed through atmospheric turbulence often exhibits dynamic distortion or warping. A computationally efficient method for co-registering this type of imagery is described.

For FIO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Tuesday, October 13

Fairfield

AO

AOTuC • High Contrast Imaging and Point Spread Function Calibration I—Continued

AOTuC4 • 2:30 p.m.

Long Exposure PSF Reconstruction for GPI, Jérôme Maire¹, Jean-Pierre Véran², Lisa A. Poyneer³; ¹Univ. of Montreal, Canada, ²Herzberg Inst. of Astrophysics, Canada, ³Lawrence Livermore Natl. Lab, USA. We investigate the performance and limitations of two different methods to reconstruct the Gemini Planet Imager long-exposure PSF based on a statistical analysis of the AO WFS data provided by the GPI AO simulation tool.

AOTuC5 • 2:50 p.m.

Enhanced Faint Companion Photometry and Astrometry Using Wavelength Diversity, Daniel Burke¹, Nicholas Devaney¹, Szymon Gladysz², Chris Dainty³; ¹Natl. Univ. of Ireland, Galway, Ireland, ²European Organisation for Astronomical Res. in the Southern Hemisphere, Germany. We propose a new method to enhance the differential photometry and astrometry of faint companions in adaptive optics images. Our approach combines PSF estimation from multi-wavelength data with a pre-whitening matched filter.

Belvedere

LM

LMTuC • Fabrication of Waveguides with Femtosecond Laser Systems—Continued

LMTuC4 • 2:45 p.m.

Annealing Behavior of Femtosecond Laser-Written Waveguides in Fused Silica, Jonathan Witcher, Luke Fletcher, Wilbur Reichman, Denise Krol; Univ. of California at Davis, USA. We have studied thermal annealing of fs-laser fabricated waveguides in fused silica using confocal fluorescence and Raman microscopy. The results show that laser-induced NBOHC defects disappear at much lower temperatures than three-membered SiO rings.

LMTuC5 • 3:00 p.m.

Femtosecond Laser Writing of Phase-Shifted Bragg Grating Waveguides in Fused Silica, Luis A. Fernandes^{1,2}, Jason R. Grenier¹, Peter R. Herman¹, J. Stewart Aitchison¹, Paulo V. S. Marques²; ¹Univ. of Toronto, Canada, ²INESC Porto, Dept. de Física, Univ. do Porto, Portugal. Phase-shifted Bragg grating waveguide filters were formed in bulk glass for the first time by femtosecond laser direct writing. A narrow, tunable 0.1-nm transmission window at 1550-nm is demonstrated for tunable π and other phase-shifts.

LMTuC6 • 3:15 p.m.

Curvilinear Low-Loss Waveguides in Borosilicate Glass Fabricated by Femtosecond Chirp-Pulse Oscillator, Mykhaylo Dubov, T. Allsop, S. R. Natarajan, V. K. Mezantsev, I. Bennion; Aston Univ., UK. Results on direct femtosecond inscription of straight low-loss waveguides in borosilicate glass are presented. The refractive index contrast obtained allowed us to fabricate low-loss curvilinear waveguides, which are main building blocks for integrated optics circuits.

Club Regent

COSI

CTuC • Constraints on Imaging—Continued

CTuC3 • 2:30 p.m.

An Information Theoretic Analysis of Support Assisted Optical Superresolution in One and Two Dimensions, Sudhakar Prasad, Xuan Luo; Univ. of New Mexico, USA. A Fisher-information-theoretic analysis is presented of the fidelity of optical superresolution of low-resolution image sequences in one and two dimensions based on object support. Both rectangular and circular support geometries are treated.

CTuC4 • 2:45 p.m.

Surpassing the Diffraction Limit of Digital Imaging Systems Using Sinusoidal Illumination Patterns, Prasanna V. Rangarajan, Vikrant R. Bhakta, Marc P. Christensen; Dept. of Electrical Engineering, Southern Methodist Univ., USA. This work presents experimental evidence on surpassing the diffraction limit of digital imaging systems using sinusoidal illumination patterns. Unique contributions of the work include aliasing-management and the notion of incoherent band-pass filtering using sinusoidal modulation.

CTuC5 • 3:00 p.m.

Signal-to-Noise-Ratio Limit to the Depth-of-Field Extension for Task-Specific Imaging Systems with an Arbitrary Pupil Function, Saeed Bagheri; IBM T. J. Watson Res. Ctr., USA. The rigorous trade-off between achieving an extended depth-of-field and improved spectral signal-to-noise-ratio for a task-specific imaging system using arbitrary phase and/or amplitude pupil function is presented.

CTuC6 • 3:15 p.m.

Non-Rectangular Sampling Topologies for Fast Joint Digital-Optical System Optimization, Kathrin Berkner, M. Dirk Robinson; Ricoh Innovations, Inc., USA. Approximation errors of the MSE merit function for joint digital-optical system optimization are caused by use of rectangular sampling grids. We overcome this problem by adapting the MSE calculations to use flexible non-rectangular sampling topologies.

Cupertino

SRS

STuC • Atmospheric Imaging—Continued

STuC4 • 2:30 p.m.

Wavelength Diversity in Restoration from Atmospheric Turbulence Effected Surveillance Imagery, Andrew J. Lambert¹, Geoffrey Nichols²; ¹Australian Defence Force Acad., Univ. of New South Wales, Australia, ²Defence Science and Technology Organisation, Australia. We investigate the fusion of imagery taken at long-range and high-magnification in four wavelength bands, and consider the localised tip-tilt variance that shifts regions of the images differently in each wavelength range.

STuC5 • 2:45 p.m.

Speckle Imaging with a Partitioned Aperture, Brandoch Calef; Boeing LTS, USA. We describe a generalization of aperture masking interferometry that improves the speckle imaging performance of a telescope in the large D/r_0 regime while making use of all collected photons.

STuC6 • 3:00 p.m.

Laboratory Demonstration of Sharpness Metric Approach to Correct Multiple-Plane Phase Errors, Abbie E. Tippie, James R. Fienup; Univ. of Rochester, USA. We describe a laboratory experiment for correction of anisoplanatic blurring effects due to phase screens in multiple planes. A nonlinear optimization method maximizing a modified sharpness metric estimates two phase screens and sharpens the image.

STuC7 • 3:15 p.m.

Image Restoration Using Natural Image Statistics, Zhiying Wen, Donald Fraser, Andrew Lambert; Australian Defence Force Acad., Univ. of New South Wales, Australia. This paper proposes to use the natural image statistics to reconstruct a potential image from a blurred image. The compressive sensing theory and l_1 minimization technique is employed to iteratively estimate the image gradient.

3:30 p.m.–4:00 p.m. Coffee Break/Exhibits, Imperial Ballroom, Fairmont Hotel

3:30 p.m.–5:30 p.m. Meet the Editors of the APS Journals, Bamboo Lounge, Fairmont Hotel

For FIO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Fairfield

AO

4:00 p.m.–5:20 p.m.

AOTuD • System Simulation and Modeling I
Michael Lloyd Hart; Univ. of Arizona, USA, Presider

AOTuD1 • 4:00 p.m.

Extreme Adaptive Optics Simulations for the European ELT, *Visa Korkiakoski, Christophe Véronaud; Lab d'Astrophysique de Grenoble, France*. EPICS is a project for a high contrast imaging instrument dedicated to direct imaging of exo-planets with the European Extremely Large Telescope. We present end-to-end simulation results of a Foucault-like sensors based XAO system.

AOTuD2 • 4:20 p.m.

High Fidelity Sky Coverage Analysis and Long Exposure PSF Modeling for Multi-Conjugate AO, *Liangqi Wang, Brent Ellerbroek; Thirty Meter Telescope, Caltech, USA*. We report a method for long exposure PSF modeling using the previously reported time domain sky coverage simulation. The enclosed energy and point source sensitivity PSF metrics are used as measures of sky coverage.

AOTuD3 • 4:40 p.m.

VLT Adaptive Optics Facility Simulations, *Miska LeLouarn, Pierre-Yves Madec, Jerome Pauflique, Stefan Stroebele; European Organisation for Astronomical Res., Germany*. We detail the simulated performance of two new instruments providing three observing modes (GLAO in the visible and IR and LTAO in the visible) of the Adaptive Optics Facility for the Very Large Telescope.

Belvedere

LM

4:00 p.m.–6:00 p.m.

LMTuD • Surface Processing and Panel Discussion on Femtosecond Laser Micromachining
Andreas Ostendorf; Ruhr-Univ. Bochum, Germany, Presider

LMTuD1 • 4:00 p.m. **Invited**

Ultrafast Laser Surface Micro/Nano-Structuring and Applications, *Vassilia Zorba; Lawrence Berkeley Natl. Lab, USA*. We study the interaction of femtosecond laser pulses with Si surfaces in the optical far- and near-field. The formation of biomimetic structures in the far-field leads to one of the most water repellent surfaces ever reported.

LMTuD2 • 4:30 p.m. **Invited**

Optically-Controlled Growth of Carbon Nanotubes, *Y. F. Lu, Y. S. Zhou, W. Xiong, M. Mahjouri-Samani, Y. Gao, M. Mitchell; Univ. of Nebraska, USA*. Controllable growth and integration of single-walled carbon nanotubes (SWNTs) were achieved using an optically controlled approach. By applying optical near-field effects in a laser-assisted chemical vapor deposition process, controllable growth of SWNTs was realized.

Club Regent

COSI

4:00 p.m.–5:45 p.m.

CTuD • 3-D Imaging and PSF Design
David Brady; Duke Univ., USA, Presider

CTuD1 • 4:00 p.m. **Invited**

Three-Dimensional Superresolution Using Single-Molecule Photoswitches and a Double-Helix PSF, *W. E. Moerner¹, Michael Thompson¹, Matthew Lew¹, Majid Badiestrami¹, Samuel J. Lord¹, Nicholas R. Conley¹, Hsiao-lu D. Lee¹, Sri Rama Prasanna Pavan², Rafael Piestun¹; ¹Stanford Univ., USA, ²Univ. of Colorado at Boulder, USA*. Superresolution detail provided by fluorescence imaging of optically controllable single-molecule emitters can be extended to three dimensions using a novel double-helix point-spread function. The molecules and methods enabling this advance will be reviewed.

CTuD2 • 4:30 p.m.

Optimization of Double-Helix Point Spread Function for Photon-Limited 3-D Imaging Systems, *Ginni Sharma, Sri Rama Prasanna Pavan, Rafael Piestun; Univ. of Colorado at Boulder, USA*. We present a double-helix point spread function (DH-PSF) optimized for particle superlocalization in three-dimensions. The DH-PSF has the lowest Cramer-Rao bound for axial estimation. The limitations to the rotation rate are investigated.

CTuD3 • 4:45 p.m.

Broadband Three-Dimensional Imaging Using a Double-Helix Point Spread Function, *Sean Quirin, Rafael Piestun; Univ. of Colorado at Boulder, USA*. A double-helix point spread function is implemented for optically sensing a three-dimensional scene using an image capture device and matched post-processing. Operation characteristics of the system are presented showing precision ranging under broadband illumination.

Cupertino

SRS

4:00 p.m.–5:15 p.m.

STuD • Time-Frequency and Phase-Space Methods
Phil Bones; Univ. of Canterbury, New Zealand, Presider

STuD1 • 4:00 p.m. **Invited**

Signal Reconstruction Techniques for Optical Pulse Characterization, *Christophe Dorrer; Lab for Laser Energetics, USA*. Optical pulse characterization techniques are reviewed in the framework of phase-space representations. The principle and field-reconstruction algorithms for spectrography, tomography, and interferometry are described.

STuD2 • 4:30 p.m.

Iterative Phase Retrieval from Wigner Distribution Projections, *Tatiana Alieva¹, José A. Rodrigo²; ¹Univ. Complutense de Madrid, Spain, ²Imaging and Vision Dept., Inst. de Óptica (CSIC), Spain*. The application of the Gerchberg-Saxton algorithm for phase recovery of optical field, which is an eigenfunction of the fractional Fourier transform, is considered. This analysis is useful for determination of the Laguerre-Gaussian mode topological charge.

STuD3 • 4:45 p.m.

Experimental Reconstruction of Wigner Distribution, *Tatiana Alieva¹, Alejandro Cámara¹, José A. Rodrigo², María L. Calvo¹; ¹Univ. Complutense de Madrid, Spain, ²Imaging and Vision Dept., Inst. de Óptica (CSIC), Spain*. Flexible optical setups for the phase-space tomography are discussed. The experimental reconstruction of the Wigner distribution of an optical beam separable in the Cartesian coordinates is demonstrated.

4:30 p.m.–5:30 p.m. **Minorities and Women in OSA (MWOSA) Tea**, *Sainte Claire Room, Sainte Claire Hotel*

For FiO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Tuesday, October 13

Fairfield

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AO

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AOTuD • System Simulation and Modeling I—Continued

LMTuD • Surface Processing and Panel Discussion on Femtosecond Laser Micromachining—Continued

CTuD • 3-D Imaging and PSF Design—Continued

STuD • Time-Frequency and Phase-Space Methods—Continued

AOTuD4 • 5:00 p.m.

Monte-Carlo Simulation of EAGLE, *Alastair G. Basden, Richard M. Myers, Timothy Butterley; Durham Univ., UK.* The EAGLE instrument for the E-ELT is a multi-IFU spectrograph that uses a MOAO system for wavefront correction. We present Monte-Carlo AO simulation results, comparisons with an analytical code and details of the simulation package.

5:00 p.m.

Panel Discussion: Challenges and Opportunities in Femtosecond Laser Microfabrication

Attend the closing technical session, which will begin with two invited speakers (see LMTuD1 and LMTuD2 on page 122) and will end with an exciting panel discussion, where leaders in the field share their perspective on the most significant recent advances and the most important challenges and opportunities in femtosecond laser microfabrication.

Panel participants include:

Alan Araj; *IMRA, USA*
Eric Mazur; *Harvard Univ., USA*
Andreas Ostendorf; *Ruhr Univ. Bochum, Germany*
Chris Schaffer; *Cornell Univ., USA*

CTuD4 • 5:00 p.m.

Wigner Analysis of 3-D Coherence Imaging. *Se Baek Oh, George Barbastathis; MIT, USA.* We interpret 3-D coherence imaging with Wigner analysis. The mutual intensity and the Wigner distribution function are associated with the Fourier slice theorem, where the 3-D manifold of 4-D space is sufficient for 3-D imaging.

CTuD5 • 5:15 p.m.

Invited

Illuminating Cameras. *Srinivasa Narasimhan; Carnegie Mellon Univ., USA.* Light sources and cameras are optical duals: sources emit light rays while the cameras capture them. This talk will argue that light sources can serve as better cameras advancing many computer vision technologies.

STuD4 • 5:00 p.m.

The Averaged Wigner Distribution Function and Subsurface Target Detection. *Markus E. Testorf, Nadege Thirion², Marc Sallard²; ¹Dartmouth College, USA, ²Univ. de Toulon et du Var, LSEET, France.* The Wigner function is used for detecting subsurface targets underneath a rough surface. The target is detected by averaging the Wigner functions of the scattered field obtained with different wavelength and source configurations.

6:00 p.m.–7:00 p.m. OSA Annual Business Meeting, Piedmont Room, Fairmont Hotel

6:00 p.m.–7:00 p.m. DLS Annual Business Meeting, California Room, Fairmont Hotel

7:00 p.m.–8:30 p.m. OSA Member Reception, Ballroom, Sainte Claire Hotel

7:00 p.m.–10:00 p.m. Laser Science Banquet, Gordon Biersch, 33 East San Fernando Street, San Jose, California, Phone: 408.294.6785

For FIO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Regency Ballroom

JOINT AO/COSI/LM

6:00 p.m.–7:30 p.m.

JTUC • Joint AO/COSI/LM Poster Session and Welcome Reception

AO Posters

JTUC1

Direct Slope Reconstruction Algorithm for Woofer-Tweeter Adaptive Optics Systems, Chaohong Li, Nripun Sredar, Hope Queener, Kevin M. Ivers, Jason Porter; *Univ. of Houston, USA*. We present a direct slope reconstruction algorithm to control dual-deformable mirror adaptive optics systems. A global response matrix was derived from the response matrices of each deformable mirror. Simulation results validated this control method.

JTUC2

Type II Woofer-Tweeter Control for NFIRAOS on TMT, Jean-Pierre Véran, Glen Herriot; *Herzberg Inst. of Astrophysics, Canada*. This paper presents a type II control architecture that will be used in NFIRAOS on TMT to control tip-tilt and the plate scale modes measured by the on-instrument wave-front sensors.

JTUC3

Open-Loop Shaping of a 4K MEMS with Fourier-Domain Pre-Compensation, Lisa A. Poyneer¹, Andrew Norton², Daren Dillon²; ¹Lawrence Livermore Natl. Lab, USA, ²UCO Lick Observatory, Lab for Adaptive Optics, Univ. of California at Santa Cruz, USA. We describe a computationally efficient Fourier-domain algorithm for influence function compensation and an improved voltage-phase calibration technique that together enable precise open-loop shaping of a 64x64 MEMS deformable mirror.

JTUC4

Implementing a Low Cost Upgrade of a Single Laser Guide Star Adaptive Optics System, Mark Harrison, Tim Morris, Richard Myers; *Ctr. for Advanced Instrumentation, Dept. of Physics, Durham Univ., UK*. We present a method of implementing a low cost upgrade of a single laser guide star adaptive optics system using a diffractive optical element to create and recombine multiple laser guide stars.

JTUC5

Application of Cavity Deformable Mirror in PW Laser Facility with U-Turn Reverser, Feng Jing, Dongxia Hu, Qihua Zhu, Wanjun Dai, Xudong Xie, Wei Zhou, Kainan Zhou, Junpu Zhao, Xiaojun Huang, Kun Zhang, Xuejun Jiang, Wu Deng; *Res. Ctr. of Laser Fusion, Chinese Acad. of Engineering Physics, China*. Deformable mirror is applied as cavity mirror for wavefront correction. We describe a new mathematical method to prove its feasibility and compare two different schemes of cavity deformable mirror in XG-PW facility with U-turn reverser.

JTUC6

Adaptive Optics Retinal Imaging System Using a Pyramid Wavefront Sensor, Sabine Chiesa, Christopher Dainty; *Applied Optics, School of Physics, Natl. Univ. of Ireland, Galway, Ireland*. A pyramid wavefront sensor based adaptive optics system for retinal imaging has been constructed. We demonstrate its dynamic range for sensing and first closed-loop results.

COSI Posters

JTUC7

Computational Confocal Scanning Tomography, Keith J. Dillon, Yeshaiahu Fainman; *Univ. of California at San Diego, USA*. We demonstrate a technique to perform computed tomographic reconstruction of a refractive and attenuative sample using a confocal laser scanning microscope that employs a spatial heterodyne to perform coherent detection of the entire aperture signal.

JTUC8

Six-Dimensional Joystick Based on Detection of Optical Spot, Meng-Che Tsai, Pin-Hao Hu; *ITRI, Industrial Technology Res. Inst., Taiwan*. We demonstrated a six-dimensional (6-D) joystick by using a CMOS sensor array to image the cross-spot from a LED. It is simple and cheap to sensor signals of 3-D planar and 3-D rotational motion.

JTUC9

Computer Generated a Three-Dimensional Holography from Two-Dimensional Photos, Nicholas Hageman, Xiaomin Jin; *California Polytechnic State Univ., USA*. We present 3-D holography from 2-D photos using computer generated hologram (CGH). The photo is segment into foreground/middle-ground/background. Matlab is used to create the CGH. Both single-laser/dual-laser setups are investigated for the 3-D image recovering.

JTUC10

Optical Imaging of Objects in Turbid Media Using Principal Component Analysis and Time Reversal Matrix Methods, Binlin Wu¹, Mohammad Alrubaiee¹, Wei Cai¹, Min Xu², Swapan K. Gayen¹; ¹City College of New York, CUNY, USA, ²Fairfield Univ., USA. Principal component analysis and time reversal matrix methods were used to develop approaches for imaging of targets in turbid media. The efficacy is demonstrated by imaging two targets embedded in intralipid-10% suspension in water.

JTUC11

EMCCD Based Photon Imaging in Ultra Low Light Level, Weiji He, Qian Chen, Guohua Gu, Juanfeng Huang; *Nanjing Univ. of Science and Technology, China*. An EMCCD based photon imaging strategy for ultra low light level scene was present. 3-D thresholding scheme was developed and experimentally tested for distinguishing photon events above noise.

JTUC12

Utilization of the Laser-Induced Breakdown Spectroscopy (LIBS) for Spectrochemical Analysis of Plant Samples with High Spatial Resolution, Jozef Kaiser¹, Radomír Malina¹, Jan Novotný², David Procházka¹, Karel Novotný², Lucie Krajačarová², Michaela Galiová², Markéta Holdá²; ¹Inst. of Physical Engineering, Faculty of Mechanical Engineering, Brno Univ. of Technology, Czech Republic, ²Dept. of Chemistry, Faculty of Science, Masaryk Univ., Czech Republic. The capability of laser-induced breakdown spectroscopy for elemental mapping of plant tissues is discussed in wider context. Comparison with another laser-ablation based method (LA-ICP-MS) and with synchrotron hard-X-ray radiation micro-radiography and micro-CT techniques is provided.

JTUC13

Computational Imaging in Machine Vision System for Automated Optical Inspection, Nak-Hoon Ko¹, Yoon-Suk Lee¹, Sang-Chul Jung¹, Dae-Chan Kim¹, Tae-Il Cho², Beom-Hoan O¹, Se-Geum Park¹, El-Hang Lee¹, Seung-Gol Lee¹; ¹Inha Univ., Republic of Korea, ²Samsung Electro-Mechanics Co., Ltd., Republic of Korea. This paper describes a virtual vision inspector which can numerically calculate an image to be acquired in a machine vision system for automatic optical inspection. This program will be useful for optimizing machine vision system.

JTUC14

Two-Photon Near-Infrared Cancer Imaging, Nikolay S. Makarov, Jean Starkey, Mikhail Drobizhev, Aleksander Rebane; *Montana State Univ., USA*. We present a way of optical detection of malignant cancer cell colonies by using multi-wavelength two-photon excited fluorescence from environmentally sensitive Styryl-9M dye, allowing distinguishing between samples containing no cells, normal cells and cancer cells.

LM Posters

JTUC15

Material Modifications with Ultrafast Bessel Beams, Veronique Zambon, Nathalie McCarthy, Michel Piché; *Ctr. d'Optique, Photonique et Laser (COPL) and Dept. de Physique, de Génie Physique et d'Optique, Univ. Laval, Canada*. Ultrafast Bessel beams produced by axicon focusing have a long collimation length that is advantageous for laser micromachining. We have used these beams to fabricate optical waveguides and micro-fluidic channels in transparent glass.

JTUC16

Scan Speed Dependence of Quill Writing with Ultrashort Laser Pulses in Fused Silica, Matthieu Lancry, Weijia Yang, Bertrand Poumellec, Bernard Bourguignon; *Univ. of Paris Sud, France*. We demonstrate that the quill writing phenomenon in ultrafast laser modification of fused silica is dependent on the scan speed. The phenomenon appears when the pulse overlapping is higher than 95%.

JTUC17

Femtosecond Laser Fabrication and Optical Studies of Microstructures in PMMA and PDMS, Kallepalli L. N. Deepak¹, Venugopal Rao Soma², Narayana Rao Desai¹; ¹School of Physics, Univ. of Hyderabad, India, ²Advance Ctr. of Res. in High Energy Materials (ACRHEM), Univ. of Hyderabad, India. Several microstructures, including gratings and holes, were fabricated in PMMA and PDMS using 100 fs pulses. Our results on the physical/optical studies such as fluorescence, Raman, diffraction efficiency etc. will be presented.

JTUC18

Dynamics of Femtosecond Laser Nanostructuring of Metals, Taek Yong Hwang, A. Y. Vorobyev, Chunlei Guo; *Inst. of Optics, Univ. of Rochester, USA*. We perform a systematic study on femtosecond laser-induced nanostructures on noble metals. Our study reveals the ultrafast dynamics of nanostructural formation on metals following femtosecond laser irradiation.

JTUC19

Q-Switched Operation of Yb-Fiber Laser Based on the Waveguide YAG:Cr³⁺ Saturable Absorber, Andrey Okhrimchuk¹, Alexander Shestakov², Vladimir Mezentsev¹, Vladislav Dvoryrin³, Evgeny Sholokhov⁴, Ian Bennion¹; ¹Aston Univ., UK, ²ELS Co., Russian Federation, ³Fiber Optics Res. Ctr., Russian Acad. of Sciences, Russian Federation, ⁴General Physics Inst., Russian Acad. of Sciences, Russian Federation. The waveguide saturable absorber is inscribed by femtosecond pulses in YAG:Cr³⁺ crystal. Q-switch operation of a fiber laser with such saturable absorber is demonstrated for the first time.

JTUC20

Femtosecond Laser Ablation on Dental Resins and Biomaterials - Analysis of Ablated Profile near an Interface Using Local Effective Intensity, Gustavo Nicolodelli, M. M. Costa, V. S. Bagnato; *Physical Inst. of São Carlos, Univ. of São Paulo, Brazil*. The purpose of this study was to evaluate the progression of ablation, near an interface separating two distinct media. We have used a method that correlates ablation with intensity, obtained from surface ablation data.

For FIO/LS presentations on Tuesday, see pages 56-75.

Fall OSA Optics & Photonics Congress

Fairfield

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Thank you for attending
FiO/LS/Fall Congress.

Look for your
post-conference survey
via email and let us
know your thoughts on
the program.

A O I M

AWA • Semiconductor Materials—Continued

AWA5 • 9:15 a.m.

Optoelectronic Properties of Germanium Islands Formed on Silicon Using Stranski-Krastanov Growth by MBE, *Latha Nataraj, Nathan Sustersic, Matthew Coppinger, Felipe Gerlein, James Kolodzey, Sylvain G. Cloutier; Univ. of Delaware, USA.* We report on the optoelectronic properties of bulk Germanium islands formed on silicon by Molecular Beam Epitaxy. More specifically, we will discuss the role of strains and doping in favoring efficient light-emission at telecommunication wavelengths.

AWA6 • 9:30 a.m.

Substantial Enhancement in the Optical Band Gap of ZnO Films Using Ca Dopant, *Kamakhya Prakash Misra, Atul Srivastava, R. K. Shukla, Anchal Srivastava; Univ. of Lucknow, India.* 12.72% enhancement in the band gap of ZnO thin films has been obtained using Ca dopant for the first time. The films, deposited by sol-gel method, are nanocrystalline and highly transparent in the visible region.

JO I N T

JWA • Joint AO/COSI/SRS Session—Continued

JWA4 • 9:30 a.m.

Invited

Adaptive Complex Field Control with an Array of Phase-Locked Fiber Collimators, *Mikhail Vorontsov, Thomas Weyrauch, A. Beresnev, Gary W. Carhart, Ling Liu, Konley Aschenbach; Inst. for Systems Res., Univ. of Maryland at College Park, USA.* We discuss development of a coherent fiber-array system composed of fiber collimators with built-in capabilities for adaptive control of the outgoing beam complex field characteristics including wavefront phase piston, tip and tilt and amplitude.

9:00 a.m.–12:00 p.m. **Export Regulation Fundamentals for the Optics and Photonics Industry**, *Sainte Claire Room, Sainte Claire Hotel*

10:00 a.m.–10:30 a.m. **Coffee Break**, *Imperial Ballroom, Fairmont Hotel*

10:00 a.m.–4:00 p.m. **Exhibit Hall Open**, *Imperial Ballroom, Fairmont Hotel*

NOTES

For FiO/LS presentations on Wednesday, see pages 76-99.

Fall OSA Optics & Photonics Congress

Fairfield

AO

10:30 a.m.–11:50 a.m.

AOWA • High Contrast Imaging and Point Spread Function Calibration II

Donald Gavel; Univ. of California at Santa Cruz, USA, Presider

AOWA1 • 10:30 a.m.

Broadband Correction for High Contrast Imaging Using Two Deformable Mirrors in Series, Tyler D. Groff¹, N. Jeremy Kasdin¹, Laurent Pueyo²; ¹Princeton Univ., USA, ²JPL, USA. Presented here is a wavefront control algorithm that achieves symmetric high contrast regions using electric field estimation from the science camera. This same algorithm is then extended to broadband suppression.

AOWA2 • 10:50 a.m.

Effects of Aberrations and Specimen Structure in Confocal and Two-Photon Microscopy, Richard D. Simmonds, Tony Wilson, Martin J. Booth; Dept. of Engineering Science, Univ. of Oxford, UK. Aberrations affect the image contrast of different specimen structures in microscopes. We have modeled and observed the intensity variation for different structures and the reduction in contrast of small objects within a large background signal.

AOWA3 • 11:10 a.m.

The Electric Field Conjugation: A Unified Formalism for Wavefront Correction Algorithms, Amir Giv'oni; JPL, USA. This paper introduces a unified formalism to describe many of the high contrast correction methods, namely, phase conjugation, classical speckle nulling and energy minimization. This unified formalism led to the Electric Field Conjugation (EFC) algorithm.

Belvedere

AOIM

10:30 a.m.–11:45 a.m.

AWB • Laser-Material Interactions

Peter Moulton; Q-Peak Inc., USA, Presider

AWB1 • 10:30 a.m.

Invited

Optical Hyperdoping; Using Lasers to Tailor the Optoelectronic Properties of Semiconductors, Mark Winkler, Meng-Ju Sher, Yu-Ting Lin, Eric Mazur; Harvard Univ., USA. Irradiating silicon and other semiconductors with intense femtosecond pulses in the presence of certain gases dramatically alters fundamental properties of the semiconductor and offers a new avenue for the development of optoelectronic devices.

AWB2 • 11:00 a.m.

Asymmetric Writing with Scanning Direction of Femtosecond Laser in Silica Glass, Bertrand Pommellec, Matthieu Lancry, Jean Claude Poulin; Univ. of Paris Sud, France. Surface topography in femtosecond irradiated samples that part of the shearing of the laser tracks change its sign with the change in scanning direction (pen effect or asymmetric writing), part not.

AWB3 • 11:15 a.m.

Femtosecond Laser Induced Micro-Structured Silver Containing Glass as an Engineered Nonlinear Optical Material, Jiyeon Choi^{1,2,3}, Matthieu Bellec², Kevin Bourhis², Arnaud Royon², Lionel Canioni², Thierry Cardinal³, Evelyne Fargin³, Vincent Rodriguez², Marc Dussauze⁴, Aurelien Delestre², Martin Richardson¹; ¹Townes Laser Inst., College of Optics and Photonics, Univ. of Central Florida, USA, ²CPMOH, Univ. Bordeaux, France, ³ICMCB, CNRS UPR9048, Univ. Bordeaux, France, ⁴ISM, Univ. Bordeaux, France. The creation mechanism of femtosecond laser produced silver microstructures in silver containing zinc phosphate glass is described. Laser induced depletion in a microstructure enables second harmonic generation exhibiting 2.44 times increased second-order susceptibility than quartz.

Club Regent

COSI

10:30 a.m.–12:00 p.m.

CWA • Polarization Sensing and Imaging

Kenny Kubala; FiveFocal, USA, Presider

CWA1 • 10:30 a.m.

Full Stokes Polarimetry in near Field, Janghwan Bae, David P. Haefner, Sergey Sukhov, Aristide Dogariu; CREOL and FPCE, College of Optics and Photonics, Univ. of Central Florida, USA. An optimization technique is demonstrated to correct for inherent errors in near-field polarimetry. Stokes analysis of electromagnetic fields in reflection geometry can be optimized based on the local degree of polarization.

CWA2 • 10:45 a.m.

Joint Estimation of Stokes Images and Aberrations from Phase-Diverse Polarimetric Measurements, John R. Valenzuela, Jeffrey A. Fessler; Univ. of Michigan, USA. A penalized likelihood algorithm for joint estimation of Stokes images and aberrations for a four channel polarimeter utilizing phase diversity is derived. System optimization is investigated using a Cramer-Rao bound. Simulation results are presented.

CWA3 • 11:00 a.m.

Polarization Estimation through Computational Sensing, Wei Wang, Timothy J. Schulz; Dept. of Electrical and Computer Engineering, Michigan Technological Univ., USA. A computational approach for estimating the degree of polarization from the speckle fluctuations of total intensity data is proposed. Maximum likelihood estimators are studied, and their performances are compared to algebraic estimators and Cramer-Rao bounds.

CWA4 • 11:15 a.m.

Snapshot Spectro-Polarimetry Using Disordered Materials, Thomas Kohlgraf-Owens, Aristide Dogariu; CREOL, College of Optics and Photonics, Univ. of Central Florida, USA. An optical field is characterized by both its spectral and polarization content. Both properties may be simultaneously estimated by analyzing intensity measurements after the interaction of the field with a disordered material.

Cupertino

JOINT AO/FiO

10:30 a.m.–12:00 p.m.

JWB • Advances in Adaptive Optics Imaging of the Living Retina I

Stephen A. Burns; Indiana Univ., USA, Presider

JWB1 • 10:30 a.m.

Off-Axis Estimation of Ocular Aberrations via Scanning Shack-Hartmann Wavefront-Sensor, Xin Wei, Larry N. Thibos; School of Optometry, Indiana Univ., USA. We developed a Scanning Hartmann Shack wavefront sensor by coupling the Shack Hartmann aberrometer with a scanning system. This instrument measures off-axis aberration of the human eye accurately and precisely in an efficient manner.

JWB2 • 10:45 a.m.

Optimal Correction of Subject Prescription on an Adaptive Scanning System for Retinal Imaging, David Merino, Austin Roorda; School of Optometry, Univ. of California at Berkeley, USA. The effect on image quality of subject's prescription on an AOSLO is assessed. Models considering different configurations available in literature have been studied. Factors to consider when implementing these configurations on real systems are addressed.

JWB3 • 11:00 a.m.

Invited

Adaptive Optics Psychophysics, Heidi Hofer; Univ. of Houston, USA. Adaptive optics allows imaging of individual photoreceptors *in vivo* and viewing of arbitrary stimuli nearly free of optical blur. Combining these abilities has created new opportunities to study the retinal and neural limits on vision.

Wednesday, October 14

For FIO/LS presentations on Wednesday, see pages 76-99.

Fall OSA Optics & Photonics Congress

Fairfield

AO

AOWA • High Contrast Imaging and Point Spread Function Calibration II—Continued

AOWA4 • 11:30 a.m.

Paramaterization of the Adaptive Optics Point Spread Function, *Julian C. Christou¹, Jack D. Drummond²; ¹Gemini Observatory, USA, ²AFRL, USA.* We demonstrate how an AO PSF can be parametrized by a model comprising Airy and Lorentzian components. We compare the PSF's measured FWHM with that estimated from the Airy component of the model fit.

Belvedere

AOIM

AWB • Laser-Material Interactions—Continued

AWB4 • 11:30 a.m.

Doping Dependence of the Femtosecond Laser Damage Thresholds in Silica Glasses, *Matthieu Lancry¹, Weijia Yang¹, Bertrand Poumellec¹, Peter Kazansky²; ¹Univ. of Paris Sud, France, ²Optoelectronics Res. Ctr., Univ. of Southampton, UK.* We observed that the first threshold (i.e. permanent isotropic index change) is not significantly dependent on the doping whereas it is the contrary for the second threshold (i.e. permanent linear birefringence).

Club Regent

COSI

CWA • Polarization Sensing and Imaging—Continued

CWA5 • 11:30 a.m.

Expanded Field of View Using Polarization Multiplexing, *Kyle M. Douglass¹, Thomas Kohlgraf-Owens¹, Jeremy Ellis¹, Cristian Toma¹, Abhijit Mahalanobis², Aristide Dogariu¹; ¹CREOL, College of Optics and Photonics, Univ. of Central Florida, USA, ²Lockheed Martin Corp., USA.* We introduce and demonstrate experimentally a method for expanding the field of view of an imaging system by multiplexing polarimetrically encoded images and decoding them with a limited number of measurements.

CWA6 • 11:45 a.m.

Reconstructing Anisotropic Polarizabilities from a Single Polarimetric Measurement, *David P. Haefner, Sergey Sukhov, Aristide Dogariu; CREOL, College of Optics and Photonics, Univ. of Central Florida, USA.* We show how several probability distributions can be restored from the distribution of one single observable. The method is directly applicable to polarimetric measurements with limited control over the experimental conditions.

Cupertino

JOINT AO/FiO

JWB • Advances in Adaptive Optics Imaging of the Living Retina I—Continued

JWB4 • 11:30 a.m.

Experimental Test of Simulated Retinal Images Using Adaptive Optics, *Pablo De Gracia, Carlos Dorronsoro, Lucie Sawides, Enrique Gamba, Susana Marcos; Inst. de Optica, Spain.* Ocular degradation is frequently assessed convolving images with the ocular point-spread-function, estimated from the wave-aberration. Comparisons of visual acuity measured using aberrated targets (viewed through adaptive-optics corrected aberrations) and under natural aberrations reveal consistent discrepancies.

JWB5 • 11:45 a.m.

High Resolution Wavefront Sensing and Mirror Control for Vision Science by Quantitative Phase Imaging, *Alaster J. Meehan, Phillip Bedgood, Brendan Allman, Keith A. Nugent, Andrew B. Metha; Univ. of Melbourne, Australia.* Quantitative Phase Imaging displays attractive features for ocular wavefront aberrometry. An adaptive-optics mirror control algorithm for ophthalmoscopy is demonstrated that takes advantage of its superior lateral resolution and similar accuracy compared to Hartmann-Shack systems.

12:00 p.m.–1:30 p.m. Lunch Break (on your own)

12:00 p.m.–1:30 p.m. JWC • Joint FiO/LS Poster Session, Imperial Ballroom, Fairmont Hotel

NOTES

For FiO/LS presentations on Wednesday, see pages 76-99.

Fall OSA Optics & Photonics Congress

Fairfield

AO

1:30 p.m.–3:30 p.m.

AOWB • Control Algorithms and Architecture
Richard Dekany; Caltech, USA, *Presider*

AOWB1 • 1:30 p.m. Invited

Control Design and Turbulent Phase Models in Adaptive Optics: A State-Space Interpretation. *Caroline Kulcsár¹, Henri-François Raynaud¹, Jean-Marc Conan², Carlos Correia², Cyril Petit²,¹Univ. of Paris, France, ²ONERA, France.* A unified LQG framework is used for analyzing explicit/implicit turbulence models for AO control. Behavior and modeling assumptions of several control laws are discussed, together with associated turbulent phase space reconstruction.

AOWB2 • 2:00 p.m. Invited

Predictive Fourier Wavefront Control: Theory and Observational Results. *Lisa Poyneer¹, Marcos van Dam², Jean-Pierre Véran³,¹Lawrence Livermore Natl. Lab, USA, ²W. M. Keck Observatory, USA, ³Herzberg Inst. of Astrophysics, Canada.* Astronomical observations at Keck and Gemini validate the fundamental frozen-flow model of Predictive Fourier Control, a computationally efficient and adaptive Kalman filtering technique for predictive wavefront control in adaptive optics.



Thank you for attending
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Look for your
post-conference survey
via email and let us
know your thoughts on
the program.

Belvedere

AOIM

1:30 p.m.–3:15 p.m.

AWC • Oxide Crystals
Peter G. Schunemann; BAE Systems, USA, Presider

AWC1 • 1:30 p.m. Invited

Hydrothermal Solubility and Crystal Growth of KBe₂BO₃F₂ (KBBF). *Joseph W. Kolis, Colin D. McMillen; Clemson Univ., USA.* KBBF was found to have a positive solubility dependence on temperature under hydrothermal conditions explored. The hydrothermal growth of KBBF single crystals up to 15 x 10 x 4 mm³ in size is demonstrated.

AWC2 • 2:00 p.m.

Light Absorption and Pyroelectrically Induced Optical Damage in Nominally Undoped and Magnesium-Doped Lithium Niobate Crystals. *Judith R. Schwesyg^{1,2}, Martin M. Fejer¹, Matthias Falk³, Carsten Langrock¹, Roger K. Route¹, Chris R. Phillips¹, Maria Claudia C. Kajiyama², Dieter H. Jundt³, Karsten Buse³,¹E. L. Ginzton Lab, Stanford Univ., USA, ²Inst. of Physics, Univ. of Bonn, Germany, ³Crystal Technology, Inc., USA.* This contribution deals with light absorption and temperature change induced optical damage due to the pyroelectric effect in undoped and magnesium-doped lithium niobate crystals. This effect is different from the photorefractive optical damage.

AWC3 • 2:15 p.m.

Vapor-Transport Equilibrated Lightly MgO-Doped Lithium Niobate for Nonlinear Optics. *Rostislav V. Roussev, Roger Route, Karel Urbanek, Robert L. Byer, Martin M. Fejer; Stanford Univ., USA.* We discuss several properties of lightly-MgO-doped near-stoichiometric lithium niobate in comparison with other ferroelectric nonlinear materials. Recent results on green light generation and potential advantages over 5 mol-% MgO-doped congruent lithium niobate are described.



Club Regent

COSI

1:30 p.m.–3:15 p.m.

CWB • Multi Aperture Systems
Ravindra Anant Athale; MITRE Corp., USA, Presider

CWB1 • 1:30 p.m. Invited

A Computational Compound Imaging System Based on Irregular Array Optics. *Jun Tanida, Keiichiro Kagawa, Keita Fujii, Ryoichi Horisaki; Osaka Univ., Japan.* A computational imaging system using compound-eye optics with irregularity can improve imaging performance especially for long distance objects. The system characteristics are analyzed and an efficient algorithm is implemented using a graphic processing unit.

CWB2 • 2:00 p.m. Invited

Multiscale Optical Systems. *David Brady; Duke Univ., USA.* Cameras capturing gigapixel or even terapixel images are enabled by lens systems combining single aperture objectives with arrays of smaller scale processing optics.



Cupertino

SRS

1:30 p.m.–3:15 p.m.

SWA • Phase Retrieval Methods
Charles L. Matson; AFRL, USA, Presider

SWA1 • 1:30 p.m. Invited

Intensity Diffraction Tomography. *Greg Gbur; Univ. of North Carolina at Charlotte, USA.* Over the past few years, a new technique known as intensity diffraction tomography has been developed which allows phase-less reconstruction of weakly scattering objects. We review the technique and discuss recent and future developments.

SWA2 • 2:00 p.m.

Phase Retrieval with a Translating Lyot Stop Coronagraph Mask in the JWST. *Thomas P. Zielinski, James R. Fienup; Institute of Optics, University of Rochester, USA.* A phase retrieval algorithm based on transverse translation diversity is investigated as a method for retrieving the phase of the field as seen through the JWST NIRCcam coronagraph using only existing hardware.

SWA3 • 2:15 p.m.
Paper Withdrawn

For FiO/LS presentations on Wednesday, see pages 76-99.

Fall OSA Optics & Photonics Congress

Fairfield

A O

AOWB • Control Algorithms and Architecture—Continued

AOWB3 • 2:30 p.m.

A Robust, Strehl Optimal Tomographic Wavefront Control Architecture for Multi-Conjugate and Multi-Object Laser Guide Star Adaptive Optics, *Luc Gilles, Brent L. Ellerbroek; Thirty Meter Telescope, Caltech, USA.* We report on a novel robust, Strehl optimal tomographic wavefront control architecture for multi-conjugate and multi-object laser guide star adaptive optics systems.

AOWB4 • 2:50 p.m.

Minimum Variance Control for the Woofer-Tweeter Concept, *Carlos Correia^{1,2}, Henri-François Raynaud², Caroline Kulcsár², Jean-Marc Conan¹; ¹ONERA, France, ²L2TI, Univ. Paris XIII, France.* Optimal minimum-variance control of the double stage woofer-tweeter concept in adaptive optical systems is addressed using a LQG approach. Results are shown for an infinitely-fast tweeter coupled to a slower woofer.

AOWB5 • 3:10 p.m.

Bulk Wind Estimator Performance for AO Systems, *Luke C. Johnson, Donald T. Gavel, Donald M. Wiberg; Ctr. for Adaptive Optics, Univ. of California at Santa Cruz, USA.* We use the Cramer-Rao lower bound to find that the error in a bulk wind estimator is dependent on both the signal-to-noise ratio at the wavefront sensor and the spatial frequency content of the wavefront.

Belvedere

A O I M

AWC • Oxide Crystals—Continued

AWC4 • 2:30 p.m. Invited

Periodically Poled Crystals for Mass-Market Applications, *Dieter Jundt; Crystal Technology, Inc., USA.* Optical properties of MgO:LN crystals grown from various melts were characterized. The gained knowledge allows production of wafers with reproducible quality and makes the material well suited for use in portable laser displays.

AWC5 • 3:00 p.m.

Epitaxial Nd:Sapphire Films - Candidate Solid State Laser Material for 1096nm Emission, *Raveen Kumaran¹, Scott E. Webster¹, Shawn Penson¹, Wei Li¹, Thomas Tiedje²; ¹Univ. of British Columbia, Canada, ²Dept. of Electrical and Computer Engineering, Univ. of Victoria, Canada.* Nd:Sapphire films grown by molecular beam epitaxy produce sharp emission lines due to identical-site doping not observed in bulk sapphire crystals. The 1096 nm line is a lasing candidate with an Nd:YVO₄-like emission cross section.

Club Regent

C O S I

CWB • Multi Aperture Systems—Continued

CWB3 • 2:30 p.m.

Parallel Optics for Improving System Matrix Condition, *Iftach Klapp, David Mendlovic; Tel Aviv Univ., Israel.* In many cases space variant (SV) image restoration is limited by the optical system matrix condition. We show how to improve this figure by the means of parallel optics for SV and space invariant cases.

CWB4 • 2:45 p.m.

Aberration Correction in Multiscale Lenses, *Nathan Hagen, David J. Brady; Duke Univ., USA.* Multiscale lens design splits the field into subregions and attempts to correct the local wavefront error in each subfield rather than the global error. We review design principles and aberration theory underlying the approach.

CWB5 • 3:00 p.m.

Experimentally Validated High-Resolution Imaging with Adaptive Multi-Aperture Folded Architecture, *Vikrant R. Bhakta, Manjunath Somayaji, Scott C. Douglas, Marc P. Christensen; Southern Methodist Univ., USA.* We present experimental results of imaging and digital super-resolution in a multi-aperture miniature folded imaging architecture called *Panoptes*. We prove the feasibility of integrating folded imagers within a steerable multi-aperture framework while maintaining thin profiles.

Cupertino

S R S

SWA • Phase Retrieval Methods—Continued

SWA4 • 2:30 p.m.

A New Phase-Correlation Based Gradient Registration Approach for Phase-Retrieval with DIC and DPC, *Shalin B. Mehta, Colin J. R. Sheppard; Optical Bioimaging Lab, Div. of Bioengineering, Natl. Univ. of Singapore, Singapore.* Phase-correlation robustly detects translations and rotations between images. We extend it for registration of images acquired using varied settings of differential interference contrast (DIC) and differential phase contrast (DPC) for phase-retrieval.

SWA5 • 2:45 p.m.

Paper Withdrawn

SWA6 • 3:00 p.m.

Using Phase Retrieval to Obtain the Complete Spatio-Temporal Intensity and Phase of Ultrashort Pulses, *Pamela R. Bowlan, Rick Trebino; School of Physics, Georgia Tech, USA.* Using a Gerchberg-Saxton-like phase retrieval algorithm, we recover the spatial phase from spatio-temporal measurements of focusing ultrashort pulses made using an unstable interferometer.

3:30 p.m.–4:00 p.m. Coffee Break/Exhibits, Imperial Ballroom, Fairmont Hotel

For FIO/LS presentations on Wednesday, see pages 76-99.

Fall OSA Optics & Photonics Congress

Fairfield

A O

8:00 a.m.–9:40 a.m.

AOTa • Adaptive Optics Systems II

Donald T. Miller; Indiana Univ., USA, Presider

AOTa1 • 8:00 a.m.

Remove Optical Vortices Using Continuous Phase Modulation, *Mingzhou Chen, Chris Dainty; Applied Optics, School of Physics, Natl. Univ. of Ireland, Galway, Ireland.* We introduce a method to remove optical vortices from strong scintillated laser beams by vortex dipole annihilation with a continuous phase modulation. Numerical simulations and an experimental setup are also presented.

AOTa2 • 8:20 a.m.

Experimental Validation of LTAO and MCAO Configurations with Optimal Control, *Anne Costille¹, Cyril Petit¹, Jean-Marc Conan¹, Caroline Kulcsár², Henri-Francois Raynaud², Thierry Fusco³; ¹ONERA, France, ²LETI, Univ. Paris XIII, France.* We present an experimental validation of LTAO and MCAO concepts in closed-loop in laboratory. We compare the performance of LQG based optimal control and classic integrator based control in closed-loop for these configurations.

AOTa3 • 8:40 a.m.

Performance Assessment of the Gemini South near Infrared Coronagraphic Imager (NICI) Adaptive Optics System, *Christ Ftaclas, Mark Chun, Zahed Wahhaj; Inst. for Astronomy, Univ. of Hawaii, USA.* We describe the NICI adaptive correction system and characterize its spatial and temporal correction spectra by combining multi-wavelength on-sky images, phase inversion on test source images and system capture data.

AOTa4 • 9:00 a.m.

Building an Open Loop Interaction Matrix for VOLT, *David R. Andersen, Michael Fischer, Jean-Pierre Véran; Herzberg Inst. of Astrophysics, Natl. Res. Council Canada, Canada.* We explore a method for building an interaction matrix for VOLT (the Victoria Open Loop Testbed) that bypasses problems associated with optically aligning an open loop wave-front sensor to the deformable mirror.

AOTa5 • 9:20 a.m.

Thermal Compensation in the LIGO Gravitational-Wave Interferometers, *Phil Willems; LIGO Project, Caltech, USA.* Gravitational-wave (GW) interferometers, such as LIGO, are susceptible to thermal aberrations that impair their performance. We describe thermal compensation in the LIGO GW interferometers, as well as future plans toward a fully adaptive system.

10:00 a.m.–10:30 a.m. Coffee Break, Regency and Imperial Ballroom Foyer, Fairmont Hotel

Belvedere

A I O M

8:00 a.m.–9:30 a.m.

AThA • Nanostructured Materials

Shaya Y. Fainman; Univ. of California at San Diego, USA, Presider

AThA1 • 8:00 a.m. Invited

Optical Metamaterials, *Xiang Zhang; Univ. of California at Berkeley, USA.* Abstract not available.

AThA2 • 8:30 a.m.

Preparation of Metallo-Dielectric Diffractive and Plasmonic Structures via Self-Assembly, *Filip Novotný, Jan Proška, Ivan Richter, Pavel Fiala; Czech Technical Univ. in Prague, Czech Republic.* Self-assembly is a prospective and cost-effective way how to obtain three-dimensional metallo-dielectric diffractive and plasmonic structures. We show utilization of self-assembly principle in preparation of highly ordered sub wavelength structures.

AThA3 • 8:45 a.m.

Colloidal Metallic Nanoparticles in Ionic Liquids: New Systems for Nonlinear Optical Applications, *Cassio E. A. Santos¹, Marcio A. R. Alencar¹, Luciane F. Oliveira², Carla W. Scheeren², Jairton Dupont², Jandir M. Hickmann¹; ¹Univ. Federal de Alagoas, Brazil, ²Univ. Federal do Rio Grande do Sul, Brazil.* Large nonlinear optical responses were observed of Ag and Au colloidal nanoparticles dispersed in ionic liquids. These hybrid organic-metallic materials are promising candidates to the development of nonlinear optical applications.

AThA4 • 9:00 a.m.

Photoluminescence Modification in Self-Assembled Fluorescent 3-D Photonic Crystals, *Harish N. Swaha Krishnamoorthy¹, Jung Hun Song², Ilona Kretzschmar², Vinod M. Menon¹; ¹Dept. of Physics, Queens College of CUNY, USA, ²Dept. of Chemical Engineering, City College of CUNY, USA.* Using time resolved luminescence measurements, we report 10% increase in spontaneous emission lifetime from a self-assembled 3-D photonic crystal fabricated using fluorescent polystyrene spheres with refractive index contrast of ~0.57.

AThA5 • 9:15 a.m.

Far Field and near Field Properties of Triangular Metal Nanoparticle and Nanopatterns of 3-Fold Rotational Symmetry, *Kin Hung Fung, Pratik Chaturvedi, Anil Kumar, Keng H. Hsu, Nicholas X. Fang; Univ. of Illinois at Urbana-Champaign, USA.* We study the relation between near-field enhancement and far-field extinction spectra of three-fold rotationally symmetric nanopatterns consisting of metal nano-triangles. Our symmetry analysis benefits the understanding of the plasmon resonance phenomena in these nanopatterns.

Club Regent

C O S I

8:00 a.m.–10:00 a.m.

CThA • New Imaging Concepts

Joseph N. Mait; ARL, USA, Presider

CThA1 • 8:00 a.m. Invited

Imaging Systems with Extreme Form Factors, *James R. Leger, J. Burch; Univ. of Minnesota, USA.* We discuss theoretical and practical aspects of far-field imaging systems that are completely contained on a plane or a line. Computational imaging can potentially enhance the resolution, optical throughput, and color correction of these systems.

CThA2 • 8:30 a.m. Invited

Nonlinear Imaging, *Alexandre S. Goy, Demetri Psaltis; Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland.* We address the general problem of imaging through Kerr focusing media when filamentation occurs. Amplification of weak phase patterns is possible through such media. This may find application in surface characterization or evanescent waves detection.

CThA3 • 9:00 a.m.

Transport of Intensity Imaging with Higher Order Derivatives, *Laura Waller, Lei Tian, George Barbastathis; MIT, USA.* We introduce and test a method for improving the accuracy of phase retrieval based on transport of intensity (TIE), by using intensity measurements at multiple planes to estimate and remove artifacts from higher-order axial derivatives.

CThA4 • 9:15 a.m.

Localization Precision of Three-Dimensional Superresolution Fluorescence Imaging Using a Double-Helix Point Spread Function, *Matthew Lew, Michael A. Thompson, Majid Badieirostami, W. E. Moerner; Stanford Univ., USA.* We localize a diffraction-limited fluorescent bead to 10-20 nm in three dimensions using a double-helix point spread function and use this method to track a fluorescently tagged protein in three dimensions within a live cell.

CThA5 • 9:30 a.m.

Coding and Signal Inference in Compressive Holography, *Kerkil Choi, Ryoichi Horisaki, Daniel L. Marks, David J. Brady; Duke Univ., USA.* Compressive sensing enables highly accurate signal reconstruction from fewer measurements than the number of samples in a signal to be estimated. This paper describes a theoretical framework for 3-D tomographic reconstruction from 2-D holographic measurements.

CThA6 • 9:45 a.m.

Experimental Demonstrations of Compressive Holography, *Sehoon Lim¹, Ryoichi Horisaki², Kerkil Choi¹, Daniel L. Marks¹, David J. Brady¹; ¹Duke Univ., USA, ²Osaka Univ., Japan.* We demonstrate 3-D object reconstruction from a single 2-D data plane using compressive holography in Gabor and Leith-Upatneiks geometries.

For FIO/LS presentations on Thursday, see pages 100-115.

Fall OSA Optics & Photonics Congress

Fairfield

A O

10:30 a.m.–11:30 a.m.

AOThB • System Simulation and Modeling II

Miska LeLouarn; European Southern Observatory, France, Presider

AOThB1 • 10:30 a.m.

An Auto-Regressive Model to Create Seeing Time Series, *Glen Herriot^{1,2}, Brent L. Ellerbroek², David A. Andersen¹, Matthias Schoeck², Tony Travoignon²; ¹Herzberg Inst. of Astrophysics, Natl. Res. Council Canada, Canada, ²Thirty Meter Telescope, Caltech, USA.* We present an auto-regressive model of atmospheric seeing versus time, based on three years' data from TMT candidate site Cerro Armazonas. The model reproduces time histories of r_o , including a floor, stable stretches, and excursions.

AOThB2 • 10:50 a.m.

Improving the Accuracy of the Ultra Fast Kolmogorov Phase Screen Generator, *Vinay B. Sriram¹, David Kearney², Ross Frick², Oskar Mencer¹; ¹Imperial College London, UK, ²Univ. of South Australia, Australia.* In this paper we characterize the ultra fast phase screen generator's accuracy for high turbulence levels. We then present modifications which preserve the performance and improve the accuracy of the algorithm at high turbulence levels.

AOThB3 • 11:10 a.m.

Hybrid Adaptive Optics Systems with Discrete-Time Atmospheric Turbulence Models, *Douglas P. Looze; Univ. of Massachusetts at Amherst, USA.* A discrete-time model of an AO system that incorporates the intra-frame effects of the DM but uses a discrete-time model of the atmospheric effects is presented.



Thank you for attending
FiO/LS/Fall Congress.
Look for your
post-conference survey
via email and let us
know your thoughts on
the program.

Belvedere

A I O M

10:30 a.m.–12:00 p.m.

ATHB • Applications of Nanophotonics

Presider to Be Announced

ATHB1 • 10:30 a.m. Invited

Nanophotonics for Information Systems, *Yeshiahu Fainman, Kazuhiro Ikeda, Dawn Tan; Univ. of California at San Diego, USA.* We explore lithography to pattern metals-dielectrics-semiconductors on various scales opening new capabilities in optics, where functionality and properties are enabled by the structure- composition and not just by the intrinsic properties of a bulk material.

ATHB2 • 11:00 a.m.

All-Optical Magnetometer Based on Magnetite Core-Polymer Shell Nanocomposite Material, *Alejandra Lopez-Santiago, Palash Gangopadhyay, Jayan Thomas, Robert A. Norwood, Nasser Peyghambarian; Univ. of Arizona, USA.* An all-optical magnetometer has been constructed based on magnetite core polymer shell nanocomposite material. A noise equivalent magnetic field sensitivity of 5 nT/ $\sqrt{\text{Hz}}$ was observed using a 1 μT 500 Hz control magnetic field.

ATHB3 • 11:15 a.m.

Selected Applications of Atomic Layer Deposition Dielectric Nanolaminates as Functional Optical Coatings, *Adriana Szeghalmi¹, Michael Helgert², Robert Brunner², Mario Bretschneider³, Stephan Senz¹, Ulrich Gösele¹, Mato Knez¹; ¹Max Planck Inst. of Microstructure Physics, Germany, ²Carl Zeiss AG, Germany, ³IFG Inst. for Scientific Instruments GmbH, Germany.* The paper discusses optical applications of atomic layer deposition. X-ray mirrors, antireflective coatings and band-pass filters were made for the visible spectral region. Coatings applied to two-dimensional shallow gratings produced tunable guided mode resonance filters.

ATHB4 • 11:30 a.m.

Degenerate Two-Beam Interaction by Hologram Grating in Nano-Colloid, *Sergej Mikhnov¹, Rudolph Litvinov¹, Eugene Ageev¹, Sergei Shestov², Leonid Zagrebin²; ¹Tomsk State Univ. of Control Systems and Radioelectronics, Russian Federation, ²Ctr. of Cell-Information Medicine, Ltd., Russian Federation.* Degenerate two-beam interaction on the light wavelength in colloid with spherical nano-particles is considered. The contributions of gradient light force and light scattering in local and non-local components of the dynamic grating are carried out.

ATHB5 • 11:45 a.m.

Time Domain Numerical Observation of Superluminal Pulse in Photonic Band-Gap Structures, *Tingyi Gu, Chun Jiang; Shanghai Jiaotong Univ., China.* In this paper, we systematically study the time domain properties of superluminal light in 1-D and 2-D band-gap photonic crystals, including band diagram, transmission, group velocity, energy velocity and dwell time.

Club Regent

C O S I

10:30 a.m.–12:15 p.m.

CThB • Pupil Encoding Methods

Aristide Dogariu; CREOL, College of Optics and Photonics, Univ. of Central Florida, USA

CThB1 • 10:30 a.m. Invited

Rewriting the Rules of Imaging Design in the New Era of Electro-Optics, *David G. Stork; Ricoh Innovations, USA.* Centuries-old rules of optics design and informal rules-of-thumb are becoming obsolete in the new era when digital image processing is included into the data path.

CThB2 • 11:00 a.m.

Pupil Phase Encoding for Mitigation of Laser-Induced Saturation in Imaging Sensors, *Joseph van der Gracht¹, Lei Zhang², Todd Torgersen³, Paul Pauca³; ¹HoloSpex, Inc., USA, ²Agiltron, Inc., USA, ³Wake Forest Univ., USA.* Wave-front coding can mitigate the harmful effects of unwanted laser illumination. The pupil phase element spreads out the focused beam and avoids detector saturation. We consider different classes of phase masks for this application.

CThB3 • 11:15 a.m.

Extending Depth-of-Field: Spherical Coding Versus Asymmetric Wavefront Coding, *Dirk Robinson, David G. Stork; Ricoh Innovations, USA.* We compare the image quality between asymmetric wavefront codings and the simple-to-manufacture spherical aberration over an extended focal range. We verify and explain the superior performance of the spherical aberration via simulation results.

CThB4 • 11:30 a.m.

Experimental Validation of Extended Depth-of-Field Imaging via Spherical Coding, *Michael D. Robinson¹, Vikrant Bhakta²; ¹Ricoh Innovations, USA, ²Souther Methodist Univ., USA.* We designed and built a spherical coded triplet imaging system and experimentally verified its extended depth-of-field imaging capabilities.

CThB5 • 11:45 a.m.

Computational Differential Interference Contrast (DIC) Microscopy for Quantitative Imaging, *Chrysanthe Preza¹, Joseph A. O'Sullivan²; ¹Univ. of Memphis, USA, ²Washington Univ. in St. Louis, USA.* We demonstrate that application of a regularized alternating minimization algorithm to DIC microscopy images results in quantitative imaging of the specimen's phase and amplitude information. The alternating minimization algorithm's robustness to noise is investigated.

CThB6 • 12:00 p.m.

Off-Axis Sensor Modulation Transfer Function Measurement Using Band-Limited Laser Speckle, *Xi Chen, Doug Fetting, Bob Gravelle, Donna Cao, Gennadiy Agranov; Aptina Imaging, USA.* We present a new methodology for measurement of off-axis sensor modulation transfer function using band-limited laser speckle and two-dimensional generalized sampling theorem. The effect of chief ray angle on sensor modulation transfer function is studied.

12:00 p.m.–1:30 p.m. Lunch Break (on your own)

For FiO/LS presentations on Thursday, see pages 100-115.

Fairfield

AO

1:30 p.m.–3:10 p.m.

AOTHC • Wavefront Sensing II

Mikhail Vorontsov; Inst. for Systems Res., USA, Presider

AOTHC1 • 1:30 p.m.

A Linear Model for Shack-Hartmann Sensors, Brent L. Ellerbroek; *Thirty Meter Telescope Project, Caltech, USA*. We describe a linear model for Shack-Hartmann sensors. For small wave-front aberrations, the model accounts for the effects of physical optics, extended sources, pixel sampling, and the pixel weights used to compute the gradients.

AOTHC2 • 1:50 p.m.

New Modal Wavefront Sensing Employing Binary Basis Functions, Feiling Wang¹, Christopher Spivey¹, Guixiong Zhong², Yuchuan Chen², Jing Zhao²; ¹Alethus LLC, USA, ²Agiltron Inc., USA. Recently, a modal wavefront sensing method, with the use of binary basis functions, was proposed. In this paper we examine some of the optical arrangements for its applications and present experimental results obtained.

AOTHC3 • 2:10 p.m.

Direct Wavefront Sensing in Adaptive Microscopy, Saad A. Rahman, Alexander Jesacher, Tony Wilson, Martin J. Booth; *Dept. of Engineering Science, Univ. of Oxford, UK*. Aberrations in high resolution microscopes can be corrected using adaptive optics. We investigate theoretically and experimentally wavefront sensing using backscattered light and show its benefits and limitations for application in adaptive confocal and multiphoton microscopes.

AOTHC4 • 2:30 p.m.

Scene Based Wavefront Sensing for Figure Control of Airborne and Space Optics, Allan Wirth, Andrew Jankevics, Frank Landers; *Xinetics / Northrop Grumman, USA*. Correlation wavefront sensing is applied to the problem of figure and alignment maintenance of imaging systems on airborne and space platforms. The design of the system and results of laboratory testing are presented.

Belvedere

AIOM

1:30 p.m.–3:15 p.m.

ATHC • Glass Synthesis and Properties

Jonathan Knight; Univ. of Bath, UK, Presider

ATHC1 • 1:30 p.m. Invited

Glass-Imprinting for Optical Device Fabrication, Junji Nishii; *Hokkaido Univ., Japan*. Development of thermally durable SiC molds enabled us to imprint fine periodic structures onto an oxide glass surface. Antireflection lenses, quarter wave plates operating in visible wavelength region, could be fabricated.

ATHC2 • 2:00 p.m.

Microlens Array Laser Sintered on Glass Sheets, Changyi Lai, Vitor M. Schneider; *Corning, Inc., USA*. A new technique based on the laser vitrification of cordierite ceramic powders is used to fabricate microlens arrays on a glass substrate. Crack free quasi-spherical lenses with good optical and surface quality are demonstrated.

ATHC3 • 2:15 p.m.

Low-Loss Tin Silica Glass-Ceramic Waveguides Doped by Rare-Earth Elaborated by Sol-Gel Route, Christophe Kinowski¹, Odile Robbe-Cristini¹, Van T. T. Tran¹, Katarzyna Woznica-Raulin¹, Sylvia Turrell¹, Bruno Capoen², Mohamed Bouazaoui², Franck Beclin², Maurizio Ferrari³, Shivakiran N. B. Bhaktha^{4,5}; ¹LASIR, France, ²PhLAM, France, ³LSPES, France, ⁴CSMFO Lab, Italy, ⁵Dept. di Fisica, Univ. di Trento, Italy. We present recent results obtained in developing glass-ceramic waveguide based on the sol-gel techniques and activated by rare earth ions. The fabrication protocols as well as the spectroscopic assessment are reported.

ATHC4 • 2:30 p.m. Invited

Progress on the Fabrication of On-Chip, Integrated Chalcogenide Glass (ChG)-Based Sensors, Laetitia Petit¹, Nathan Carlie¹, Bogdan Zdyrko¹, Igor Luzinov¹, Kathleen Richardson¹, Juejun Hu², Anu Agarwal², Lionel Kimerling², Troy Anderson³, Martin Richardson³; ¹Clemson Univ., USA, ²MIT, USA, ³CREOL, Univ. of Central Florida, USA. Optical sensor technologies for chemical detection have advanced over the past decade. We report progress on the material design, fabrication and performance of high-Q chalcogenide glass resonators utilizing cavity-enhancement for high sensitivity MIR chemical sensing.

Club Regent

COSI

1:30 p.m.–3:00 p.m.

CTHC • Imaging through Complex Media and Spectroscopy

Joe Van der Gracht; Holospec, Inc., USA, Presider

CTHC1 • 1:30 p.m.

Sub-Surface Interferometric near-Field Tomography, Dana C. Kohlgraf-Owens, David Haefner, Sergey Sukhov, Aristide Dogariu; *CREOL, College of Optics and Photonics, Univ. of Central Florida, USA*. We describe a straightforward method to recover the sub-surface topography of coated samples with sub-diffraction limited resolution. Experimental verification is accomplished using a near-field scanning optical microscope (NSOM) operated in dual mode.

CTHC2 • 1:45 p.m.

Imaging through the Air-Water Interface, Andrey V. Kanaev¹, John R. Ackerman¹, Erin F. Fleet², Dean A. Scribner³; ¹Global Strategies Group N A Inc., USA, ²NRL, USA, ³Northrop Grumman Mission Systems, USA. Imaging through turbulent air-water interface presents an arduous task and recently has attracted considerable attention. We studied a solution based on atmospheric distortion correction technique and proposed to augment the approach with polarimetric imaging.

CTHC3 • 2:00 p.m.

Video Enhancement through Automated Lucky-Region Fusion from a Stream of Atmospherically-Distorted Images, Mathieu Aubailly¹, Mikhail A. Vorontsov², Gary W. Carhart², Michael T. Valley²; ¹Univ. of Maryland, USA, ²ARL, USA, ³Sandia Natl. Labs, USA. An automated video enhancement technique based on "lucky-region" fusion is presented. The fusion parameter is automatically adjusted to imaging conditions based on analysis of source images. The technique is demonstrated experimentally on atmospherically-distorted image sets.

CTHC4 • 2:15 p.m.

Computational Depth-Variant Imaging for Quantitative Fluorescence Microscopy, Vimeetha Myneni, Chrysanthe Preza; *Univ. of Memphis, USA*. We show a performance analysis of a Depth-Variant Expectation Maximization algorithm previously developed for fluorescence microscopy concluding that a small number of point spread functions can be used for an accurate estimation result.

CTHC5 • 2:30 p.m.

Adaptive Feature-Specific Spectroscopy, Dineshbabu V. Dinakarababu, Michael E. Gehm; *Univ. of Arizona, USA*. We introduce the Adaptive Feature-Specific Spectrometer (AFSS), a chemical-detection methodology that uses an adaptively reconfigured set of signal projections to drastically shorten time-to-identification in low-SNR situations.

For FIO/LS presentations on Thursday, see pages 100-115.

Fall OSA Optics & Photonics Congress

Fairfield

A O

4:00 p.m.–5:30 p.m.

AOTHD • Wavefront Correction Technology

Malcolm Northcott; Aoptix Technologies, USA, Presider

AOTHD1 • 4:00 p.m. Invited

MEMS Wavefront Correctors, *Thomas Bifano*^{1,2}; ¹*Boston Univ., USA*, ²*Boston Micromachines Corp., USA*. Deformable mirrors made using MEMS processes have become commodity products. Newer capabilities include nanometer-scale predictive open-loop control and scaling to >4000 actuators, while maintaining exceptionally low size, weight, and power.

AOTHD2 • 4:20 p.m.

Optically Addressed MEMS Coupled Photodetector Spatial Light Modulator, *Bahareh Haji-Saeed*¹, *Jed Khoury*¹, *Kenneth Vaccaro*¹, *John Kierstead*², *Charles Woods*¹, *Andrew Davis*²; ¹*Sensors Directorate, AFRL, USA*, ²*Solid State Scientific Corp., USA*. We are in the process of developing an all optically driven deformable mirror device through integration of an array of photodetectors with an array of MEMS deformable mirrors.

AOTHD3 • 4:50 p.m.

Piezo Array Deformable Mirrors and New Associated Technologies: Spherical Shape and Tip/Tilt Mount, *Jean-Christophe Sinquin*, *Jean-Marie Lurçon*, *Pierre Morin*; *CILAS, France*. We recall the principles, performances and main technical advantages of CILAS Piezo Array Deformable Mirrors. Then we present two new associated technologies: the possible spherical shape of these mirrors and specific tip/tilt mount.

AOTHD4 • 5:10 p.m.

Fast, Robust Parameter Estimation and Open-Loop Control of Point-Actuated, Continuous-Facesheet Deformable Mirrors, *Curtis R. Vogel*¹, *Glenn Tyler*², *Rodolphe Conan*³, *Celia Blain*³; ¹*Montana State Univ., USA*, ²*Optical Sciences Co., USA*, ³*Univ. of Victoria, Canada*. We introduce robust order N algorithms to estimate model parameters and control DMs in open loop based on the Vogel-Yang model for deformable mirrors appearing in JOSA-A, 23, pp. 1074-1081, 2006.

Belvedere

A I O M

4:00 p.m.–6:00 p.m.

ATHD • Optical Fibers

Kathleen Richardson; Clemson Univ., USA, Presider

ATHD1 • 4:00 p.m. Invited

What's the Use of Silica Microstructured Fibers? *Jonathan Knight; Univ. of Bath, UK*. Photonic crystal materials offer opportunities to overcome the limitations of naturally-occurring optical materials. Recent developments in photonic crystal fibers formed from silica and air offer several examples.

ATHD2 • 4:30 p.m. Invited

Chalcogenide Glass Fibers and Their Applications, *Ishwar Aggarwal; NRL, USA*. IR transmitting chalcogenide glasses and fibers are being developed for numerous military, commercial and biomedical applications in the infrared region. Latest results regarding fabrication of the fibers, fiber properties and their applications will be presented.

ATHD3 • 5:00 p.m.

Optical Properties of Chalcogenide-Filled Silica-Air PCF, *Markus A. Schmidt*¹, *Nicolai Granzow*¹, *Lothar Wondraczek*², *Philip St. J. Russell*¹; ¹*Max Planck Inst. for the Science of Light, Germany*, ²*Dept. of Materials Science and Engineering, Univ. of Erlangen-Nuremberg, Germany*. Sub-micron strands of Ge₃As₅₂S₄₅ glass are incorporated into hollow channels in silica-air fibers. Band gap guidance is observed in a completely filled PCF. Coupling is observed between conventional fiber core and an adjacent chalcogenide strand.

ATHD4 • 5:15 p.m.

Highly Efficient 1300 nm Emission in Bismuth Doped AlGeP-Silica Fiber, *Richard S. Quimby*¹, *Roman L. Shubochkin*², *Theodore F. Morse*²; ¹*Worcester Polytechnic Inst., USA*, ²*Boston Univ., USA*. Bismuth doped AlGeP-silica fibers prepared by aerosol deposition have a 1300 nm emission band extending from 1100-1450 nm when pumped at 808 nm. The radiative efficiency was measured to be near unity.

ATHD5 • 5:30 p.m. Invited

Bi-Doped Fibers for NIR Lasers and Amplifiers: Opportunities and Challenges, *Evgeny M. Dianov; Fiber Optics Res. Ctr., Russian Acad. of Sciences, Russian Federation*. Recent results on Bi-doped glasses and optical fibers are reviewed. The absorption and luminescent properties of Bi-doped fibers and the results on creation of Bi-doped fiber lasers for a spectral region of 1140-1550nm are presented.

Club Regent

C O S I

4:00 p.m.–5:00 p.m.

CThD: COSI Panel Discussion

End the meeting with an exciting panel discussion. In addition to reviewing some of the highlights of the meeting, this will also provide a forum to review related funding programs such as DARPA MOSAIC and some of the recommendations made by recent initiatives such as the Computational Space Telescope study.

Panel participants include:

Ravindra Anant Athale; MITRE Corp., USA
David Brady; Duke Univ., USA
Aristide Dogariu; CREOL, College of Optics and Photonics, Univ. of Central Florida, USA
Michael A. Fiddy; Univ. of North Carolina at Charlotte, USA
Mark Allen Neifeld; Univ. of Arizona, USA
Rafael Piestun; Univ. of Colorado, USA

5:30 p.m.–8:00 p.m. Science Educators' Day, *McCaw Hall, Frances C. Arrillaga Alumni Center, Stanford Univ., 326 Galvez Street, Stanford, California 94305, Phone: 650.723.2021*

For FIO/LS presentations on Thursday, see pages 100-115.

FiO/LS/Fall Congress Key to Authors and Presiders

(Bold denotes presider or presenting author. Presentation numbers are listed in alphabetical order.)

- Abate, Adam R.—FTuY2
 Abell, Josh—FMH4
 Abi-Salloum, T. Y.—LSTuA2
 Abolghasem, Payam—LSWH4
 Abramochkin, Eugeny—FWW3
 Accardi, Anthony—CTuB5
 Achermann, Marc—LSWG, LSWJ4
 Ackerman, John R.—CThC2
 Acremann, Yves—LSMH2
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 Adams, Daniel E.—FWH7
 Adato, Ronen—FWP6
 Adhikari, Rana—JMB, JTuA1, JWC20
 Adibi, Ali—FTuB7, FWF6, FWZ2
 Adkins, Sean—AOTuB1
 Adler, Werner—FThP2
 Agarwal, Anu—AthC4
 Agarwal, Girish S.—FMG5, FWI6, JWD2, LSTuB4, LSTuK3
 Ageev, Eugene—AthB4
 Aggarwal, Ishwar—ATHD2
 Agranov, Gennadiy—CThB6
 Agrawal, Govind P.—FML4, FWU1
 Aguilar-Soto, Jose G.—FTuE1
 Aguilera-Gómez, Eduardo—JWC67
 Ahamad, Nur—FWT1
 Ahmed, Iftikhar—FThO4
 Ahmed, Nisar—FTuC3
 Ahn, Yeong-Hwan—FWC1
 Ahn, Yeonghwan—FWP
 Aiello, A.—FMF5
 Aitchison, J. S.—FThW1, FThW3, FThW7, LMTuC5
 Akbulut, Mehmetcan—FMD5, FWL1
 Akozbek, Neset—FThW2
 Al-Qasimi, Asma—FWU5
 Al-Zayed, Ayman S.—FTuW5
 Albert, Jacques—FWG, FWT1
 Albuquerque, Eudenilson L.—FTuX4
 Aleksoff, Carl C.—FThO5
 Alencar, Marcio A. R.—ATHA3
 Alibert, Olivier—FWJ2
 Alic, Nikola—FML2, FTuD2, FWK2, FWL
 Alieva, Tatiana—FWW3, STuD2, STuD3
 Alipour, Payam—FWZ2
 Aller-Carpentier, Emmanuel—AOTuC2
 Allman, Brendan—JWB5
 Allsop, T.—LMTuC6
 Almeida, Euclides C. L.—ATHC5
 Almeida, M. P.—JWD3
 Alonso, Benjamin—JWC10, LSWB4
 Alonso, Miguel A.—FWH1, FWQ2, FWW
 Alrubaiee, Mohammad—JTuC10
 Altepeter, Joseph B.—FWJ5
 Altug, Hatice—FMA4, FWP6
 Alù, Andrea—FMH6
 Amann, Markus C.—FTuW2
 Ambekar Ramachandra Rao, Raghu—FMK7
 Amitay, Zohar—LSTuG4
 Ammons, Mark—AOTuA4
 Ams, M.—LMTuC1
 An, S.—FWE2
 Andegeko, Yair—FMF7
 Andersen, David A.—AOTuB1
 Andersen, David R.—AOTuA4
 Anderson, E. H.—FTuZ2
 Anderson, Monte D.—JWC21
 Anderson, Matt E.—FThB7
 Anderson, Ryan—FMJ2
 Anderson, Troy—AthC4
 Anderson, Trevor—LSThD3
 Anguita, Jaime A.—FTuC5
 Ansmann, M.—JMA1
 Antonio-Lopez, Jose E.—FTuD6
 Apiratikul, Paveen—FTuI2
 Applegate, Brian E.—FThV4
 Arabi, Hesam—FWE2
 Arai, Alan—LMTuDp
 Arai, Jun—FTuF3
 Arain, Muzammil A.—FThS, JTuA4
 Archambault, Jean-Luc—FTuC2
 Archer, Rod—FTuA1
 Arjmand, Arghavan—LSWH4
 Arnold, Stephen—LSMG2
 Arnoldus, Henk F.—FMF3
 Arrizón, Victor—JWC2
 Arroyo Carrasco, M. L.—JWC59
 Artal, Pablo—LSWB4
 Artar, Alp—FMA4
 Artioukov, I. A.—FTuZ2
 Aschenbach, Konley—JWA4
 Aschieri, P.—FWD1
 Ashok, M.—LSTuG6
 Askari, Murtaza—FWF6
 Aslanov, Emil—JWC8
 Asman, Charles P.—FThD2
 Asobe, Masaki—JWE2
 Aspelmeyer, Markus—LSTuH1
 Aspuru-Guzik, A.—JWD3
 Assoufid, Lahsen—FThG, FThM2
 Athale, Ravindra Anant—CThD, CWB
 Attwood, David—FTuZ2, FThA1, FThT
 Aubailly, Mathieu—CThC3
 Audebert, Patrick—FMI2
 Aviña-Cervantes, Juan G.—JWC67
 Avlasevich, Yuri—FMH2
 Ayala, Oscar D.—FThP6
 Azad, Abul K.—FWO1
 Azevedo, Antonio—FWT3
 Baba, Yoshinobu—LSTuF4
 Badieirostami, Majid—CThA4, CTuD1
 Bae, Hee-Kyoung—FMJ6
 Bae, In-Ho—JWC11
 Bae, Janghwan—CWA1
 Bagheri, Saeed—CTuC5
 Bagnato, V. S.—JTuC20
 Baig, Mirza I.—FTuC7
 Bailey, Ryan C.—LSMC1, LSMG
 Bajt, Saša—LSThA3
 Baker, Henry—JWC34
 Baker, Katherine A.—FThP3
 Baker, Lane A.—LSMC2
 Baker, Sarah—FWR1
 Balakrishnan, Subramanian—JWC31
 Balasubramanian, T.—LSTuG6
 Baldelli, Steven—LSWH3
 Balla, Naveen K.—LSWK5
 Balle, S.—LSTuI4
 Banaee, Mohamad G.—FWT2, FWT5
 Bang, Ole—FTuD4
 Banks, Martin—FTuA2, FTuM2, FTuF
 Barbastathis, George—CThA3, CTuD4, FME7, FThB1, FThR3, JWC24
 Barbieri, M.—JWD3
 Barbosa, L. C.—FWF2
 Barclay, Paul E.—FThU1, FWJ4, LSTuD3
 Barea, Luis A. M.—FThO7
 Barnakov, Yu. A.—FTuN5
 Barnes, Michael D.—LSMB4, LSMF, LSTuA, LSTuJ, LSTuJ2, LSTuJ3
 Barnett, Stephen—CTuC2, JTuB4, JWD4
 Baronavski, Andrew—JWC28
 Barreiro, Julio—JWE1
 Barros, Gemima—FThS1
 Barsi, Christopher—FMF1, FThX4
 Bartal, Guy—FTuB2, FTuN2
 Barthélémy, Alain—FWI5
 Barthelemy, Pierre—FMC4
 Bartoli, Filbert—FTuY5
 Barton, Jennifer K.—FME7
 Barty, Anton—LSThA3
 Barty, Christopher—FMI1
 Barviau, B.—FWD1
 Basden, Alastair G.—AOTuD4, AOTuA5
 Bastiaans, Martin J.—FWQ1
 Bastin, Thierry—JWD2
 Basurto-Pensado, Miguel A.—FTuE1
 Batteiger, V.—LSTuB1
 Baum, Peter—LSWJ1
 Beausoleil, Raymond G.—FThE2, FThU1, FWJ4, FWZ5, LSTuD3
 Beckley, Amber M.—FThL2
 Beclin, Franck—AthC3
 Bedgood, Phillip—JWB5
 Beege, T.—LSMH1
 Begue, Nathan J.—LSWH1
 Bekker, Alexander—FWD5
 Beliaev, Alexander—FWT1
 Bellec, Matthieu—AWB3
 Bello-Jiménez, Miguel A.—FThD4
 Benner, W. H.—LSThA3
 Bennink, Ryan S.—JMA4, JMA7
 Bennion, Ian—JTuC19, LMTuA6, LMTuC6
 Benson, Oliver—FWE4
 Beresnev, A.—JWA4
 Bergh, Magnus—LSThA3
 Berglund, Andrew—LSWD4
 Berkner, Kathrin—CTuC6
 Berkovitch, Nikolai—FMH3
 Berland, Keith—LSThB1, LSThF
 Berova, Nina—LSMB1
 Bertilson, M.—FThA4
 Bertolotti, Jacopo—FMC4
 Bewersdorf, Joerg—LSThB2, LSThD
 Beye, M.—LSMH1
 Bhakta, Aditya—JWC24
 Bhakta, Vikrant R.—CThB4, CTuC4, CWB5
 Bhaktha, Shivakiran N. B.—ATHC3
 Bhattacharya, Dipten—AWA4
 Bholra, Bipin—FTuB4
 Bialczak, Radoslaw C.—JMA1
 Biamonte, J. D.—JWD3
 Bidlot, Jean-Raymond—FTuR1
 Bifano, Thomas—AOTuH1, FWA2
 Bijlani, Bhavin J.—LSWH4
 Biondini, Gino—FTuR3
 Bird, Mark—FTuQ4
 Biswas, Prasanta K.—AWA4
 Biswas, Roshni—FTuE5
 Biswas, Raka—JWC50
 Bizheva, Kostadinka—FTuQ4
 Black, Kvar C. L.—JWC76
 Blain, Celia—AOTuH4
 Blair, David A. D.—FWT1
 Blair, John—FTuN4
 Blair, Loudon—FTuC2
 Blake, Peter—FThN
 Bland-Hawthorn, Joss—FTuD2
 Blank, David A.—LSWC4, LSWI
 Blinov, Boris B.—JTuB5, JTuB6
 Bliokh, Konstantin Yu—FWP3
 Bliokh, Yuri P.—FWP3
 Bliss, David—AWA1
 Bloemer, Mark J.—FThW2, FWC6
 Blum, Christian—FWS6
 Bobier, William R.—JWC81

- Boccaletti, Anthony—AOTuC3
 Bockenbauer, Samuel—**JWC16**, LSTuF3
 Bogan, Michael J.—LSThA3
 Bohn, Paul—**LSTuF**, **LSTuF1**
 Bokoch, Michael—JWC16
 Bolognini, Néstor—JWC83
 Bondar, Anatolii M.—FThS6
 Bondu, François—**JMB4**
 Bones, Phil—**STuA3**, **STuD**
 Booth, Martin J.—AOThC3, AOWA2
 Bordonalli, Aldário C.—FTuC4, **FWF2**
 Born, Erik G.—JWC33
 Borondics, Ferenc—LSWJ3
 Borra, Ermanno F.—JWF2
 Borrego Varillas, Rocío—**JWC10**, **LSWB4**
 Bostedt, Christoph—LSThA3
 Botten, Lindsay C.—FWF5
 Bouazaoui, Mohamed—ATHC3
 Boucher, Yann G.—FThO3
 Boudouris, Bryan W.—LSWC4
 Bouma, Brett. E.—FWV3
 Bourguignon, Bernard—JTuC16
 Bourhis, Kevin—AWB3
 Boutet, Sébastien—**LSThA2**, LSThA3,
LSThC
 Bowlan, Pamela R.—**FTuO5**, **SWA6**
 Boyd, Robert W.—FMA2, JWD4
 Boyraz, Ozdal—**FTuE**
 Bozek, John D.—**LSTuL1**
 Brady, David J.—CThA5, CThA6, **CThD**,
 CTuA3, CTuA6, **CTuD**, **CWB2**,
 CWB4
 Braga, R. L.—FWF2
 Bragheri, F.—LSTuI4
 Bratkovski, Alex—FWC5
 Bres, Camille-Sophie—FWK2
 Bretschneider, Mario—ATHB3
 Brewer, C.—FTuZ2
 Briant, T.—LSTuK1
 Bristow, A. D.—LSWC3
 Brito, Jose M.—JWC63
 Brizuela, F.—FTuZ2
 Bromberg, Yaron—FMC2, FMG4, FThX3,
FWD3
 Brooks, Aidan F.—**JWC20**
 Brousseau, Denis—JWF2
 Brow, Richard K.—LMTuB4
 Brown, Dean P.—**FThL3**
 Brown, Jacob E.—**JWC84**
 Brown, Thomas G.—**FThL2**, FThL3
 Brune, M.—JWE4
 Brunner, Robert—ATHB3
 Bryant, George—AWA1
 Buchhave, Preben—FThR6
 Bueno, Juan M.—LSWB4
 Bun, Philippe—FThB4
 Bunghardt, Kaitlin—FTuQ4
 Bunk, Oliver—FThT1, LSTuL4
 Burch, J.—CThA1
 Burge, James H.—FThH3, **FThN1**
 Burke, Daniel—**AOTuC5**
 Burns, Stephen A.—FThQ2, **JWB**, **JWF1**
 Buse, Karsten—AWC2
 Busoni, Lorenzo—AOTuA3
 Butler, Anthony—STuA3
 Butler, Alex C.—**JWC14**
 Butterley, Timothy—AOTuD4, AOTuA5
 Byeon, Ji-Yeon—LSMC1
 Byer, Robert L.—AWC3
 Cai, Wei—JTuC10
 Cai, ZhiPing—FThO3
 Cakmakci, Ozan—**FThN2**, FTuT3
 Calef, Brandoch—STuC1, **STuC5**
 Caleman, Carl—LSThA3
 Calhoun, T. R.—LSWC1
 Calmano, Thomas—LMTuC2
 Calvo, María L.—STuD3
 Camacho, Ryan M.—LSTuE2
 Cámara, Alejandro—STuD3
 Campbell, Melanie C.—**FTuQ**, **FTuQ4**,
JWF2
 Camposeo, Andrea—**FThO1**, **LMTuB2**
 Canfield, Brian K.—FWM4
 Canioni, Lionel—AWB3
 Cao, Donna—CThB6
 Cao, Shaochun—**FTuW4**
 Capasso, Federico—LSTuH2
 Capoen, Bruno—ATHC3
 Carbillat, Marcel—AOTuC3
 Cardinal, Thierry—AWB3
 Carhart, Gary W.—CThC3, JWA4
 Carlie, Nathan—ATHC4
 Carmon, Tal—FThO5
 Carney, P. S.—FWH3
 Carr, Stephen—FWI2
 Case, Jason—FWO3
 Cassarly, William J.—FThN5
 Castellanos-Betran, Manuel A.—LSTuE3
 Castro, Jose—FMB3
 Cavalcanti, Eric G.—LSTuA4
 Cavalcanti, Gustavo O.—FWT3
 Cavillac, Patrick—FMI2
 Ceballos, Daniel E.—FWP3
 Celestre, Richard—FThT2
 Cerdán, Luis—LSWG4
 Cerrina, Franco—FTuS2
 Cerullo, G.—LMTuC3
 Cesa, Yanina—FWS6
 Cescato, Lucila H.—JWC4
 Cha, Myoungsik—FTuO3, JWC11
 Chabanov, Andrey A.—FMC5, **FTuJ**
 Chakravarty, Abhijit—FTuP5, JWC50
 Chamanzar, Maysamreza—**FTuB7**
 Chambaret, Jean Paul—**FMI2**
 Chan, James—FWS2
 Chan, Jasper—LSTuE2
 Chan, Sze-Chun—FMD3
 Chan, Wai L.—STuA4
 Chang, Gee-Kung—**FMD1**, **FTuC**
 Chang, Yu-Hsiu—JWC1
 Chang, Z.-C.—FWC2
 Chang-Hasnain, Connie J.—FThU5,
 FTuW2, FWL3
 Chao, W.—FTuZ2
 Chao, Yu-Faye—FThL4
 Chapman, Henry N.—LSThA3
 Charan, Shobhit—JWC69
 Charters, Robbie—FThE5
 Chaturvedi, Pratik—ATHA5
 Chaudhuri, Anabil—**FTuC6**, **FTuP**
 Chavez Boggio, Jose M.—FML2, **FTuD2**,
FWE
 Chemla, Fanny—AOTuA5
 Chen, Baosuan—FThX6
 Chen, Bin—FTuE4
 Chen, Chia-Chu—**FWG3**
 Chen, Chia-Hsu—JWC1, JWC82
 Chen, Hou-Tong—**FMA**, **FTuB1**, FWO1
 Chen, Mingzhou—**AOThA1**
 Chen, Nanguang—FThR4
 Chen, Peilin—JWC69, JWC72
 Chen, Qian—JTuC11
 Chen, Xi—**CThB6**, **FTuB4**
 Chen, Xuxing—FWK5
 Chen, Yuchuan—AOThC2
 Chen, Zhigang—**FThI3**, **FTuV5**, **FTuX2**,
JWC29
 Chen, Ziyang—FThX6
 Cheng, Yang-Chun—FTuS2
 Cheng, Yih-Shyang—**JWC5**
 Chergui, Majed—**LSTuC1**
 Chériaux, Gilles—FMI2
 Cherri, Abdallah K.—**FTuW5**
 Cherroret, Nicolas—FMC5
 Chettiar, Uday K.—FTuN3, FTuN7
 Chi, Wanli—FThR1, FThR5
 Chia, Thomas—FWA4
 Chien, Fan-Ching—**JWC69**, **JWC72**
 Chien, Hung-Chang—FMD1
 Chiesa, Sabine—**JTuC6**
 Chilkoti, Ashutosh—**FTuY3**
 Chillce, E. F.—FWF2
 Chipman, Russell A.—FThF1, **FThF**,
FThL1, **SC274**
 Chipouline, Arkadi—FMA3, FThC3,
 FThC6
 Chiragh, Furqan L.—FThK1
 Chiu, Daniel T.—**LSMG1**
 Cho, David—LSWE1
 Cho, Hyung Uk—**FThK2**
 Cho, Ha Na—LSTuC4
 Cho, Hyoung J.—FTuE1
 Cho, MinHaeng—**LSWI1**
 Choi, Hee Joo—**JWC11**
 Choi, Hyunyoung—**LSWJ3**
 Choi, Jae-Young—FThM2
 Choi, Jiyeon—AWB3
 Choi, Kerkil—**CThA5**, CThA6, CTuA6
 Choi, Ki-Man—FTuP2
 Choi, S. S.—FWC3
 Choi, Tae-Il—JTuC13
 Choi, Wonshik—FThB3
 Chou, Keng Chang—**LSWE3**, **LSWK**
 Chowdhury, Arshad—FMD1
 Christensen, Marc P.—CTuB4, CTuC4,
 CWB5, FThE6
 Christodoulides, Demetrios N.—FMC2,
 FMF4, LSMC3
 Christou, Julian—AOTuC1, AOTuC2,
AOWA4, **JWA**
 Chu, Kaiqin—**FThR5**
 Chu, Kengyeh K.—FWA2
 Chu, Yizhuo—**FWT5**
 Chubarova, E.—FThA4
 Chumanov, George—FMH4
 Chun, Mark—AOThA3
 Chung, Chia-Chao—JWC82
 Chung, Samuel—FWA1
 Chuntunov, Lev—LSTuG4
 Cingolani, Roberto—FThO1, LMTuB2
 Cirino, Giuseppe A.—**JWC4**
 Cleland, A. N.—JMA1
 Cloutier, Sylvain G.—**AWA5**
 Cocke, C. L.—LSTuI3
 Coen, S.—FWD1
 Cohadon, P.-F.—LSTuK1
 Cohen, Adam—FWM2
 Cohen, Offir—FWJ3
 Cojocar, Crina M.—FThI1, FTuS4
 Collier, John—**FMI3**
 Collini, Elisabetta—LSWC2
 Conan, Jean-Marc—AOThA2, AOWB1,
 AOWB4
 Conan, Rodolphe—AOThD4, **AOTuB2**
 Cone, Michael T.—**FWR5**
 Conley, Nicholas R.—CTuD1, LSWD2
 Contag, Chris—**FTuL1**
 Cookson, Christopher J.—FTuQ4
 Cooper, M. L.—FML2
 Coppey-Moisant, Maité—FThB4
 Coppinger, Matthew—AWA5
 Corbett, Brian—FThJ3
 Corkum, P. B.—LMTuA1
 Cornia, Alberto—**AOTuC3**
 Correia, Carlos—AOWB1, **AOWB4**
 Costa, M. M.—JTuC20
 Costela, Angel—**LSWG4**
 Costille, Anne—AOThA2
 Cotter, D.—FTuW1
 Coutts, David W.—JWC14
 Coyle, Kevin—CTuB4
 Cragg, George E.—LSTuJ4
 Craig, D. Q. M.—FMK2
 Craig, Ian M.—LSWB2
 Creeden, Daniel C.—AWA2
 Cristiani, I.—LSTuI4
 Crochet, Jared—LSWJ5
 Crognale, Claudio—**JWC48**
 Crozier, Kenneth B.—FThB2, FTuH3,
 FTuV2, FTuY2, **FWM1**, FWT2,
 FWT5, **FWY**
 Cryan, Martin J.—FMG1
 Cui, Bianxiao—**LSThB3**

- Cui, Cuicui—FMD3
 Cui, Meng—FWS4
 Cundiff, S. T.—LSWC3
 Currie, Marc—FThS3
 Cusnir, Nicolas—FThB7
- d'Aguzzo, Giuseppe—FTuS4
 da Costa, José A. P.—FTuX4
 Dahan, Maxime—LSThB4
 Dai, Lun—FTuB2
 Dai, Wanjun—JTuC5
 Dai, X.—LSWC3
 Dainty, Christopher—AOTH1, AOTuC5, JTuC6, JWA1
 Dal Negro, Luca—FML1, FML6, FTuB3, FWN
 Dam-Hansen, Carsten—JWC3
 Danielyan, Hakob—LSWK4
 Danner, Aaron J.—FTuN6
 Dantus, Marcos—FMF7, LMTuA4, LSW13
 Das, Bhargab—JWC6
 Das, Nilanjana—AWA4
 Das, Sumanta—FMG5, FWI6
 Davanco, Marcelo I.—FMG2
 Davila-Rodriguez, Josue—FMD2, FMD5
 Davis, Andrew—AOTH2
 Davis, Brynmor J.—FWH3
 Davis, J. P.—LSTuA2, LSTuI5
 Davis, Lloyd M.—FWM4
 Davis, Matthew J.—FWM3
 Dazzi, A.—FMK2
 de Araújo, Cid B.—AthC5, FThS1
 de Araujo, Renato—JWC43
 Deasy, Kieran—FMG3
 de Ceglia, Domenico—FThW2, FWC6
 DECIGO Working Group—JTuA5
 Deepak, Kallepalli L. N.—JTuC17
 Dégardin, Annick F.—FTuO6
 De Gracia, Pablo—JWB4
 Dekany, Richard—AOWB
 Dekker, P.—LMTuC1
 De Koninck, Yves—JWC73
 de la Cruz Gutierrez, Manuel—JTuB2
 Deléglise, S.—JWE4
 Delestre, Aurelien—AWB3
 Delfyett Jr., Peter J.—FMD2, FMD5, FWL1, FWL2, FWX4
 Demenikov, Mads—FThX2
 Deng, Cong—JWF1
- Deng, Wu—JTuC5
 de Oliveira, Júlio C R. F.—FTuC4
 D'Orazio, Antonella—FWC6
 Dereniak, Eustace L.—FThF4
 Derickson, Dennis J.—FMJ5
 DeRocco, Vanessa C.—LSThD3
 Derosa, Maria—FWT1
 Desai, Narayana Rao—JTuC17
 DeSoto, Michael G.—JWC75
 de Sterke, C. Martijn—FTuD4, FTuR5, FWF5
 Deutsch, Bradley—FTuL2
 Devaney, Nicholas—AOTuC5
 DeVree, Brian—JWC16
 Dexheimer, Susan L.—LSTuG3, LSTuG5
 Deych, Lev—FThC3, FThC6, LSTuA5
 Di Benedetto, Francesca—FThO1
 Di Giansante, Antonella—JWC48
 Diagaradjane, P.—FME1
 Dianov, Evgeny M.—AthD5
 Dias, F.—FTuR2
 Dickinson, Mary E.—FThV2
 Dickson, Colin—AOTuA5
 Diem, Max—FThV6
 Dierolf, Martin—FThF1, LSTuL4
 Dietrich, Matthew R.—JTuB5, JTuB6
 Dillon, Daren—JTuC3
 Dillon, Keith J.—JTuC7
 Dimakis, Emmanouil—FMH4
 DiMaria, Jeff—FMA5
 DiMauro, Louis—LSTuI2
 Dinakarababu, Dineshabu V.—CThC5
 Ding, Yiwu—FTuY1
 Dinu, Raluca—FThE3
 Dipper, Nigel—AOTuA5
 Ditmire, Todd—FTuK2
 Divliansky, I. B.—FML2
 Dixon, P. Ben—FMF8
 Djordjevic, Ivan B.—FTuP4
 Doerschuk, Peter—STuB3, STuB4
 Dogariu, Aristide—CThB, CThC1, CThD, CWA1, CWA4, CWA5, CWA6, FTuU3, FWY4
 Doherty, Andrew—JTuB1
 Dominguez-Caballero, Jose A.—FThB1
 Donahue, James P.—LSW12
 Donati, Silvano—FWG5
 Dong, Zhaogang—FWP5
 Donner, Tobias—LSTuE3
- Doris, Ng—FWN2
 Dorrier, Christophe—STuD1
 Dorransoro, Carlos—JWB4
 Dossou, Kokou B.—FWF5
 Dotsenko, I.—JWE4
 Douglas, Nick—FWM2
 Douglas, Scott C.—CTuB4, CWB5
 Douglass, Kyle M.—CWA5
 Douillet, Denis—FM12
 Douplik, Alexandre—FThP2
 Dowling, Jonathan P.—LSTuA3
 Drachev, Vladimir—FTuN3
 Drake, Tyler K.—JWC75
 Drapeau, Julie—JWF2
 Drezet, A.—FWP4
 Drobizhev, Mikhail—JTuC14
 Drummond, Jack D.—AOWA4
 Drummond, Peter D.—LSTuA4
 Du, Songtao—FThD1
 Duane, Peter—FTuV2
 Dubov, Mykhaylo—LMTuA6, LMTuC6
 Dubra, Alfredo—JWF4
 Dudley, Angela—FThB6
 Dudley, J. M.—FTuR2
 Dumeir, Pascal—JWC73
 Dumeige, Yannick—FThO3
 Dumelow, Thomas—FTuX4
 Duncan, D.—LSTuI5
 Duncan, Jacque—FTuQ3
 Duncan, Michael—FWO, FWV
 Dunlop, Colin—AOTuA5
 Dunn, Andrew K.—FME1, FME2, FTuY
 Dunn, Douglas S.—FTuF2
 Dunn, James—FTuS3
 Dunningham, J.—FThU3
 Dupont, Jairton—ATHA3
 Durand, Fredo—CTuB1
 Durfee, Charles G.—FWH7
 Dürr, Hermann A.—LSMH3
 Dussauze, Marc—AWB3
 Dusterer, Stefan—LSThA3
 Dvoyrin, Vladislav—JTuC19
 Dylov, Dmitry V.—FMF1, FTuR4, FWD2, FWD6
 Dynes, James F.—JWE2
- Early, Kevin T.—LSTuG, LSTuJ2, LSTuJ3
 Ebbesen, Thomas W.—FWP4
 Ebendorff-Heidepriem, Heike—FTuE3
- Ebisawa, Satoshi—JWC49, JWC52
 Efros, Alexander L.—LSTuJ4
 Eftekhar, Ali Asghar—FWZ2
 Egamov, Shukhrat—FWB3
 Egger, Robert—FTuV5, FTuX2
 Eggleton, Benjamin J.—FTuD4, FTuR5, FWK1
 Eichenfield, Matt—LSTuE2
 El-Emawy, Mohamed A.—FMB4, FMB5
 El-Ganainy, Ramy—LSMC3
 El-Hanany, Uri—LSTuG4
 Ellerbroek, Brent L.—AOTH1, AOTH1, AOTuD2, AOWB3
 Elliott, Lindsay C. C.—LSTuF1
 Ellis, Jeremy—CWA5
 Elser, Veit—LSThA1, LSThE
 Elshaari, Ali W.—FML3, FThU4
 Elsner, Ann E.—FME5, FThQ2
 Emmert, L.—FThS7
 Emrick, Todd S.—LSTuJ2, LSTuJ3
 Engheta, Nader—FMA7, FMH6, FTuN7
 English, Alex—FWC2
 Englund, Dirk—LSTuD4
 Eom, Tae Bong—JWC11
 Erickson, David—FWG1
 Erie, Dorothy A.—LSThD3
 Erramilli, Shyamsunder—FWP6
 Erzgräber, Hartmut—FThO6
 Esener, Sadik—FWR1
 Esposito, Simone—AOTuA3
 Essaian, Stepan—LSWK4
 Evans, Philip—JMA4
 Everitt, M.—FThU3
- Faber, C.—FWV1
 Fabian, Rotermund—FWC1
 Fainman, Yeshaiahu—ATHA, AthB1, FWB1, JTuC7
 Falk, Matthias—AWC2
 Fam, Adly T.—FTuE5
 Fan, Shanhui—FMH2
 Fang, Nicholas X.—ATHA5, FWB6
 Fannjiang, Albert—STuA5
 Faraon, Andrei—FWB5, LSTuD4
 Fargin, Evelyne—AWB3
 Fathi, Mohammad—FWG5
 Fathpour, Sasan—FML, FWZ1
 Fattal, David—FWJ4, FWT6
 Fauchet, Philippe M.—FML4
- Faulk, Ben—FWO3
 Favalora, Gregg E.—FTuT2
 Fayer, Michael D.—LSWF2
 Faylienejad, Azadeh—JWC79
 Fecko, Christopher J.—LSThB, LSThD1
 Fei, Yiyan—FTuY4
 Fejer, Martin M.—AWA, AWC2, AWC3, FThS7
 Feld, Michael—FThB3
 Ferguson, Daniel—JWF1
 Fernandes, Gustavo—FWZ4
 Fernandes, Luís A.—LMTuC5
 Fernandez-Cull, Christy—CTuA3
 Fernando, Harendra N. J.—FThJ3, FThK6
 Féron, Patrice—FThO3
 Ferrando, Albert—FWH4, FWP3
 Ferrari, Maurizio—ATHC3
 Ferreira, Mário F.—FThI5
 Fessler, Jeffrey A.—CWA2
 Fetting, Doug—CThB6
 Fiala, Jan—FWC7
 Fiala, Pavel—ATHA2, FWS3, JWC7
 Fiddy, Michael A.—CThD, CTuA, CTuB2
 Fienup, James R.—FThX5, LSThE3, STuC6, SWA2
 Figueira, David S. L.—FThO7
 Finer, Neil—FThP3
 Fischer, Baruch—FWD5
 Fischer, Michael—AOTH44
 Fischer, Peer—LSMB2
 Fitzke, Frederick—FThQ1
 Fleck, Andre—JWC81
 Fleet, Erin F.—CThC2
 Fleischer, Jason W.—FMF1, FMF4, FMF6, FThX4, FTuR4, FWD1, FWD2, FWD6, FWU
 Fleming, G. R.—LSWC1
 Fletcher, Luke B.—LMTuB4, LMTuC4
 Flores-Rosas, Ariel—FThD4
 Föhlisch, A.—LSMH1
 Fontana, Eduardo—FWT3
 Forbes, Andrew—FThB6
 Forbes, Greg—FThH1
 Ford, Joseph E.—FThP3, FWG2
 Foster, Mark A.—FTuW3
 Fourkas, John T.—LSWE2
 Fournet, Dominique—FM12
 Fournier, Florian R.—FThN5
 Frandsen, Lars H.—FThE1

- Frank, Matthias—LSThA3
 Franke-Arnold, Sonja—CTuC2, JTuB4, JWD4
 Fraser, Donald—STuC7
 Frateschi, Newton C.—FThO7
 Frattin, Dan—CTuB4
 Frawley, Mary—FMG3
 Frede, Maik—JTuA2
 Freudenthal, John—LSMF1
 Frick, Ross—AOTHB2
 Fritschel, Peter—JMB1
 Fritz, David—LSMD2, LSMH
 Fry, Edward S.—FWR5, FWX3
 Frydman, Judith—FWM2
 Ftaclas, Christ—AOTHa3
 Fu, Kai-Mei C.—FThU1, FWJ4, LSTuD3
 Fu, Xuelei—FMD3
 Fuerbach, A.—LMTuC1
 Fuesz, Peter—FThM4
 Fujii, Keita—CWb1
 Fujiwara, Masahide—FMD4
 Fukunaga, Yukihiro—JWC74
 Fukushima, Seiji—FThE4
 Fung, Kin Hung—ATHa5
 Furlan, Walter D.—FWW2
 Fürstenberg, Alexandre—JWC16, LSTuF3
 Fusco, Thierry—AOTHa2, AOTuA5, AOTuC3
 Gabrielyan, Gevorg—LSWK4
 Gaeta, Alexander L.—FTuW3, FWK
 Gaffney, Kelly J.—LSTuD, LSWF3
 Gagnon, Etienne—LSTuJ3
 Gaind, Vaibhav—FTuL3
 Galeano Zea, July A.—JWC70
 Galembeck, André—FThS1
 Galiová, Michaela—JTuC12, JWC18, JWC19
 Gamba, Enrique—JWB4
 Gan, Choon How—FWC4
 Gan, Xuetao—JWC32
 Gangopadhyay, Palash—ATHB2
 Gao, Y.—LMTuD2
 Gapontsev, Valentin—FThJ1
 García, Olga—LSWG4
 García-Casillas, Daniel—JWC36
 García March, M A.—FThI6
 Garcia-March, Miguel-Angel—FWH4
 García-Moreno, Inmaculada—LSWG4
 Garuccio, Augusto—FWI4
 Gat, Omri—FWD5
 Gaume, Romain—AWD3
 Gavel, Donald T.—AOTuA4, AOWA, AOWB5
 Gayen, Swapan K.—JTuC10
 Gaylord, Thomas K.—FMJ4, FTuE7, FTuX5, FWP2
 Gbur, Greg—FTuG, FTuG3, FWC4, SWA1
 Gehm, Michael E.—CThC5, FWX2
 Gelsinger, Paul J.—FME7
 Genack, Azriel—FTuJ2, FTuJ3
 Gendron, Eric—AOTuA5
 Genet, C.—FWP4
 Geng, Deli—AOTuA5
 Genty, G.—FTuR2
 George, Brandon—FMJ5
 George, Nicholas—FThR1, FThR5
 Georges, Patrick—FM12
 Georgescu, Ionut—LSTuI1
 Georgiev, Todor G.—CTuB3, STuA6
 Gerke, Timothy D.—LMTuB3
 Gerlein, Felipe—AWA5
 Gertsvolf, M.—LMTuA1
 Gerwe, David—STuC1
 Ghadarghadr, Shabnam—FTuV4
 Ghosh, Sankalpa—FWJ2
 Gibson, Stuart J.—STuB5
 Giessen, Harald—FMH1, FTuB
 Gill, John—CTuB4
 Gilles, Luc—AOWB3
 Gillet, Jeremie—JWD2
 Gillett, G. G.—JWD3
 Gilman, Samuel—FTuJ3
 Gineste, Jean-Michel—FWY5
 Ginsberg, N. S.—LSWC1
 Ginzburg, Pavel—FMH3
 Ginzburg, Vladislav—LSWK3
 Girkin, John—LSMG3
 Giuliani, G.—LSTuI4
 Give'on, Amir—AOWA3
 Gladden, Chris W.—FTuB2
 Gladysz, Szymon—AOTuC1, AOTuC2, AOTuC5
 Glebov, Leonid—FMF2, FWX5
 Glenn, Solomon S.—FWI2
 Gleyzes, S.—JWE4
 Gmitro, Arthur—FWR2, FWX
 Gnodtke, Christian—LSTuI1
 Goggin, M. E.—JWD3
 Goldberg, Kenneth—FThT2
 Goldring, Damian—FMJ8
 Goldsmith, Randall H.—LSWA4
 Gómez, Luis A.—FThS1
 Gómez-Vieyra, Armando—JWF4
 Gomila, D.—FThI6
 Gong, Wei—FThR4
 Gong, Yiyang—FML6, FTuB3
 Gonzalez, Leonel—AWA3
 Goodman, Doug S.—JMA7
 Goodwin, Peter M.—LSThF2
 Gorshkov, Alexey V.—FThS2
 Gösele, Ulrich—ATHB3
 Gowing, Laura—FTuQ4
 Goy, Alexandre S.—CThA2
 Grace, Edward J.—FThE8, FThI2, FWE3
 Granzow, Nicolai—ATHD3
 Gratadour, Damien—AOTuA5
 Gravel, Yann—FTuV1
 Gravelle, Bob—CThB6
 Green, Lekara—JWC13
 Greenfield, Elad—LSMC3
 Gregor, Markus—FWE4
 Grenier, Jason R.—LMTuC5
 Grice, Warren P.—JMA4, JMA7, JTuB3, JWE
 Grier, David—FWY2
 Grinvald, Eran—FMK3
 Grobnic, Dan—FTuD7, FTuE2
 Groeblicher, Simon—LSTuH1
 Groff, Tyler D.—AOWA1
 Grojo, D.—LMTuA1
 Grosberg, Alexander—FWY2
 Gross, Michel—FThB4
 Gu, Claire—FTuE4
 Gu, Guohua—JTuC11
 Gu, Tingyi—ATHB5
 Gu, Tingyi—FMB4, FMB5
 Gu, Yalong—FTuG3
 Gualda, Emilio J.—LSWB4
 Gualtieri, Ellen—LSMF2
 Guan, Weihua—FThJ2
 Guehr, Markus—LSTuI, LSTuL
 Guesalaga, Andres—AOTuA5
 Guha, Shekhar—AWA3
 Guintrand, Cyril L.—FTuI3
 Guizar-Sicairos, Manuel—LSThE3
 Guizard, Stéphane—LMTuA5
 Gunaratne, Tissa C.—LMTuA4
 Gündogan, Mustafa—FThU6
 Gunn, Erica—LSMF1
 Guo, Chunlei—JTuC18
 Guo, Hong—FWL4
 Guo, Peng—FTuW2, FWL3
 Guo, Yuan—LSWK2
 Gupta, Anurag—FWR6
 Gupta, Banshi D.—FWG4, FWT
 Gustafson, Scott B.—FME4
 Gustafsson, Mats—LSWA5
 Guttmann, Peter—FThG1
 Guzman, Dani—AOTuA5
 Guzman-Sepulveda, Jose R.—JWC41
 Haack, Karl—CTuB4
 Haefner, David P.—CThC1, CWA1, CWA6, FWY4
 Hagan, David J.—FThS5, LSTuG2
 Hageman, Nicholas—JTuC9
 Hagen, Nathan—CWB4
 Haggerty, Bryan P.—FThQ2
 Hahn, Megan A.—LSTuJ4
 Hajdu, Janos—LSThA3
 Haji-Saeed, Bahareh—AOTHd2, FTuH5, FWI1
 Halas, Naomi—JWC60
 Hall, Matthew A.—FWJ5
 Hall, Victoria—LSMF2
 Hammerer, Klemens—LSTuH1
 Hamner, C. R.—LSTuG5
 Han, Junbo—LSWH4
 Han, Ting—FThE5
 Hands, Philip J. W.—FTuM2
 Hänsch, T. W.—LSTuB1
 Hao, Feng—FTuB6
 Harada, Ken-Ichi—JWE2
 Harden, Sarah—LSMF2
 Harding, Philip J.—FWF4
 Harlow, Jennifer W.—LSTuE3
 Haroche, S.—JWE4
 Harris, S. E.—JMA2
 Harrison, Mark—AOTuA5, JTuC4
 Hart, Michael Lloyd—AOTuA3, AOTuD
 Harvey, Andrew—FThX2
 Harwell, Jennifer—FME7
 Hasan, Tayyaba—FThP1
 Hassey-Paradise, Ruthanne—LSMB4
 Hastings, Jerome—LSMD1
 Hata, Masato—FWN4
 Hau-Riege, Stefan P.—LSThA3, LSThA4
 Haubrich, David—FWX3
 Haus, Joseph W.—FThD4, SC235
 Häusler, Gerd—FWV1
 Hawkins, Aaron R.—FMJ7
 Hayasaki, Yoshio—LMTuA2
 Hayat, Alex—FMG6, FMH3
 Hayee, M. I.—FTuC3
 Hayes, David—JWD6
 He, Bin—FThD1
 He, Qiong Y.—LSTuA4
 He, Weiji—JTuC11
 He, Xehua—FWI4
 He, Zhusong—FWL6
 Healy, Andrew T.—LSWC4
 Healy, John J.—FWW1
 Heckel, John—FMH4
 Heckenberg, Norman R.—FWM3
 Heidmann, A.—LSTuK1
 Heim, Stefan—FThG1
 Helgert, Michael—ATHB3
 Helmerson, Kristian—FWS5, JWC60
 Helmy, Amr S.—LSWH4
 Hemberg, O.—FThA4
 Henderson, Marcus H.—JWC75
 Henry, David—AOTuA5
 Henson, John—FMA5, FMH4
 Herbster, Adolfo F.—FTuC4
 Herman, Peter R.—LMTuC5
 Hernandez, Maritza—JWE6
 Hernandez-Romano, Ivan—FTuD6, JWC41
 Herriot, Glen—AOTHb1, JTuC2
 Herrmann, Daniel—FTuK3
 Herrmann, M.—LSTuB1
 Hertel, Tobias—LSWJ5
 Hertz, Hans M.—FThA4
 Hess, Samuel—FThM1, LSWA2
 Hester, Brooke C.—JWC60
 Hickmann, Jandir M.—ATHa3
 Hickson, Paul—AOTuA2
 Hill, G. A.—FMK2
 Hill, Jarvis W.—JWC68
 Hillmyer, Marc A.—LSWC4
 Hirakawa, Yasuyuki—JWC74
 Hirano, Msaaki—FTuI4
 Ho, Phay—LSTuI3

- Ho, Seng-Tiong—FThC5, FThE3, FThK3, FThK4, FThK5, FThO4, FTuB4, FWN2, JWC53
- Hodgson, Keith O.—LSThA3
- Hoener, Matthias—LSThA3
- Hofer, Heidi—JWB3
- Hoffman, David M.—FTuM2
- Hoffman, Galen B.—FThE7
- Hoffnagle, John A.—FThH2
- Hofheinz, Max—JMA1
- Hofmann, Werner—FTuW2
- Hofmeister, William H.—FWM4
- Hofsten, O. v.—FThA4
- Hoghooghi, Nazanin—FMD5, FWL1
- Hogle, Craig W.—LSTuI3
- Holá, Markéta—JTuC12
- Holinga, George J.—LSWB1
- Holmberg, A.—FThA4
- Holt, Martin V.—FThM4
- Holy, Timothy—FThV1, JWC71
- Honjo, Toshimori—JWE2
- Horisaki, Ryoichi—CThA5, CThA6, CWB1
- Horning, Ji-Bin—JWC1
- Hossein-Zadeh, Mani—FThC4, FThU, LSTuB3
- Howell, John C.—FMF8
- Hrdlička, Aleš—JWC18
- Hsiao, Hsien-kai—FMJ1
- Hsu, Keng H.—AThA5
- Hu, Dongxia—JTuC5
- Hu, Honghua—LSTuG2
- Hu, Juejun—AThC4
- Hu, Pin-Hao—JTuC8, JWC1
- Hu, Yi—FThI3
- Hua, Hong—FTuA
- Huang, Juanfeng—JTuC11
- Huang, Simon—JWC29
- Huang, Sumei—LSTuB4, LSTuK3
- Huang, Xiaojun—FTuK4, JTuC5
- Huang, Yingyan—FThC5, FThE3, FThK3, FThK5, FThO4, FTuB4, FWN2, JWC53
- Huber, Günter—LMTuC2
- Huber, Robert—FWO4
- Hubert, Zoltan—AOTuA5
- Hughes, William L.—FWC2
- Huldt, Gösta—LSThA3
- Humble, Travis—JMA4
- Hunt, Alan J.—LSMG4
- Hunter, Jennifer—FTuQ2
- Huse, Nils—LSTuC4
- Hutsel, Michael R.—FTuE7
- Hvam, Jørn M.—FThE1
- Hwang, Taek Yong—JTuC18
- Hynes, James T.—LSWF1
- Ianoul, Anatoli—FWT1
- Ibarra-Escamilla, Baldemar—FThD4
- Ibarra-Manzano, Oscar G.—JWC67
- Ibrahim, Hany L.—FWU6
- Ice, Gene E.—FThM, FThM2
- Ignatovich, Philipp—FTuL2
- Ihee, Harry—LSMD4, LSTuC
- Iijima, Takahiro—JWC22
- Ikeda, Kazuhiro—AThB1
- Ikesue, Akio—AWD2
- Ilchenko, Vladimir S.—FThC1
- Imai, Masaaki—FTuC7
- Ingold, Kirk—JWC58
- Injeyan, Hagop—FThD2
- Isaka, Mitsuhiro—LMTuA2
- Ishibashi, Taka-aki—LSWK1
- Islam, Mohammed N.—SC326
- Isoyan, Artak—FTuS2
- Iturbe Castillo, Marcelo D.—JWC59
- Ivers, Kevin M.—JTuC1
- Iwan, Bianca—LSThA3
- Izatt, Joseph—FThQ4
- Jack, Barry—CTuC2, JTuB4, JWD4
- Jackson, Kate—AOTuB2
- Jacobson, Stephen C.—LSMC, LSMG5
- Jacques, Steven L.—FME4
- Jagtap, Vishal S.—FTuO6
- Jain, S. C.—FWG6
- James, Daniel F. V.—FWU5
- Jamula, Lindsey—LSTuC4
- Jana, Sunirmal—AWA4
- Jankevics, Andrew—AOTH4, FThD2
- Janssen, Peter—FMG, FTuR1, FWD
- Javaloyes, J.—LSTuI4
- Javidi, Bahram—FTuF1, FTuM
- Jen, Alex—FThE3
- Jeon, Tae-In—JWC26
- Jesacher, Alexander—AOTH3
- Jessup, Malcolm—JWC13
- Jevsevar, Kristen L.—JWC68
- Jha, Anand—JWD4
- Ji, Young Bin—JWC26
- Jia, Shu—FMF4, FMF6
- Jian, Fan—FTuS2
- Jiang, Chun—AThB5
- Jiang, Shibin—FTuD5
- Jiang, Xuejun—JTuC5
- Jiang, Yan—FWM2, LSWA4
- Jin, Dan—FThE3
- Jin, Xiaomin—JTuC9
- Jing, Feng—FTuK4, JTuC5
- Jing, Gaoshan—FTuY5
- Jingjing, Shi—JWC15
- Jobling, Scott M.—FThN4
- Jofre, Ana—FWO3
- Johnson, Adam M. F.—FThD2
- Johnson, Eric—FTuO1
- Johnson, Luke C.—AOTuA4, AOWB5
- Johnson, Robert—AOTuA1
- Johnson, Steven L.—LSMD3
- Johnston, Keith P.—FThP6
- Jones, Gina C.—FThD2
- Joo, Yang—JWC44
- Jordan, Andrew N.—FMF8
- Joseph, Joby—JWC6
- Joseph, Shiju—FWY5
- Joud, Fadwa—FThB4
- Jovanovic, N.—LMTuC1
- Ju, Jung Jin—JWC11
- Judge, Alexander C.—FTuD4, FTuR5
- Juette, Manuel F.—LSThB2
- Jundt, Dieter H.—AWC2, AWC4
- Jung, Sang-Chul—JTuC13
- Juodawlkis, Paul W.—FWL2
- Juodkazis, Saulius—LMTuB1
- Kachkovski, Alexei D.—LSTuG2
- Kagawa, Keiichiro—CWB1
- Kahen, Keith—LSTuJ4
- Kahn, Joseph—FTuP3
- Kahr, Bart—LSMB, LSMF1
- Kaindl, Robert A.—LSWJ3
- Kaiser, Jozef—JTuC12, JWC18, JWC19
- Kaiser, Robin—FMC1
- Kajiyama, Maria Claudia C.—AWC2
- Kakur, Pawan—FTuE6
- Kalasuwan, Pruet—FMG1
- Kalinowski, Ksawery—FThI1
- Kalinski, Matt K.—LSTuL2
- Kamada, Hidehiko—JWE2
- Kanaev, Andrey V.—CThC2
- Kanai, Yoshikazu—JWC22
- Kandel, Mikhail—FTuE5
- Kandpal, Hem C.—JWC27
- Kang, Inuk—FMD6, FTuW
- Kang, Yeon Sook—FTuO3
- Kanický, Viktor—JWC18, JWC19
- Kanseri, Bhaskar—JWC27
- Kapale, Kishore T.—JWC25, JWC84, LSTuA3
- Kapteyn, Henry C.—FTuS, FTuZ1, LSTuI3
- Kapur, Pawan—FThN3, FWG6
- Karadag, Yasin—FThU7
- Karagodsky, Vadim—FThU5
- Karaiskaj, D.—LSWC3
- Karamehmedović, Emir—FThR6
- Karlsson, Magnuss—FTuD2
- Karp, Jason H.—FWG2
- Kasdin, N. Jeremy—AOWA1
- Käsebier, Thomas—FThC3, FThC6
- Kash, Jeffrey—FWO2
- Kassal, I.—JWD3
- Kasyanenko, Valeriy M.—LSWI2
- Kato, Koichi—FThE4
- Katz, Barak—FThR2
- Katz, David F.—JWC75
- Katz, Ori—FMK3, FThX3
- Kaul, Rakesh—JWC12
- Kawakita, Masahiro—FTuF3
- Kawamura, Seiji—JTua5
- Kawate, Adin—JWC28
- Kazansky, Peter—AWB4
- Kazmi, S. M. Shams—FME2
- Kazovsky, Leonid—FMD, FTuC1
- Kearney, David—AOTHB2
- Keating, Christopher S.—LSWI2
- Kellerer, Aglae—AOTuA5
- Kelley, Anne M.—LSWE, LSWH2
- Kelly, Kevin—CThC6, CTuA5, FWB
- Kewish, Cameron M.—FThT1, LSTuL4
- Khajavikhan, Mercedes—FThD3
- Khaled, Elsayed Esam M.—FWU6
- Khalil, Munira—LSTuC3, LSWC, LSWF
- Khaydarov, John—LSWK4
- Khazanov, Efim—LSWK3
- Khilo, N.—FThB6
- Khoo, Eng-Huat—FThO4
- Khounsary, Ali—FThM2
- Houry, Jed—AOTHd2, FTuH5, FWI1
- Kibler, B.—FWD1
- Kierstead, John—AOTHd2, FTuH5, FWI1
- Kilby, Gregory—JWC58
- Kildishev, Alexander—FTuN3
- Kim, Byoung Joo—FTuO3
- Kim, Dong Jun—FMH5
- Kim, Donghyun—FMH5
- Kim, Dai-Sik—FTuN, FWC1
- Kim, Dae-Chan—JTuC13
- Kim, D. S.—FWC3
- Kim, Gun-Duk—FMJ6
- Kim, Hyunmin—FMK1
- Kim, Hyochul—FWB5
- Kim, Jungsang—FWR4
- Kim, Kyujung—FMH5
- Kim, Kyu Hyun—JWC75
- Kim, Seunghyun—FMJ2
- Kim, Sang Hoon—JWC26
- Kim, Seyoon—JWC54
- Kim, Sangin—JWC57
- Kim, Taehyun—FWR4
- Kim, Tae-Kyu—LSTuC4
- Kimble, H. Jeff—JWD1
- Kimerling, Lionel—ATHC4
- Kimori, Spencer—JWC34
- King, Jason K.—FWM4
- King, Newton—JWC13
- Kinkhabwala, Anika A.—FMH2
- Kinowski, Christophe—ATHC3
- Kinto Ramirez, Héctor—JWC55
- Kippenberg, Tobias J.—LSTuK2
- Kir'yanov, Alexander V.—FTuD3
- Kiraz, Alper—FThU6, FThU7
- Kirby, Andrew K.—FTuM2
- Kirk, Jay—FThE6
- Kirschbaum, Stefanie E. K.—LSThB2
- Kishore, Rani—JWC60
- Kissilak, Marsha L.—FTuQ4
- Kissick, David—LSMF2
- Kitur, J. K.—FTuB5
- Kivshar, Yuri S.—FThI1
- Kizek, René—JWC19
- Kjoller, K.—FMK2
- Klapp, Iftach—CWB3, STuA7
- Kley, Ernst-Bernhard—FThC3, FThC6
- Klimentov, Sergey M.—FTuD3
- Klimov, Victor I.—LSTuG7

- Kluzik, Raphael—JTuA2
 Knauer, M. C.—FWV1
 Knez, Mato—ATHB3
 Knight, Jonathan—ATHC, AthD1, FTuD,
 FWF1
 Knoernschild, Caleb—FWR4
 Knowlton, William B.—FWC2
 Knünz, S.—LSTuB1
 Ko, Nak-Hoon—JTuC13
 Kobilka, Brian K.—JWC16
 Koch, Karl W.—FWF3
 Kohlgraf-Owens, Dana C.—CThC1
 Kohlgraf-Owens, Thomas—CWA4,
 CWA5
 Kohli, Meenakshi—JWC25
 Kolehmainen, Ville P.—STuA2
 Kolis, Joseph W.—AWC1
 Kolodzey, James—AWA5
 Komarala, Vamsi K.—FWB7
 Komatsu, Shinichi—JWC49, JWC52
 Komine, Hiroshi—FThD2
 Kondratenko, V. V.—FTuZ2
 Koo, S. M.—FWC3
 Koopmans, Bert—LSWJ2
 Korkiakoski, Visa—AOTuD1
 Korotkova, Olga—FTuG1, FTuG3, FTuU
 Korth, William Z.—JTuA4
 Koshel, R. John—FWR
 Kost, Alan—FMB
 Kostuk, Raymond K.—FMB3, FME7
 Kottos, Tsampikos—FMC, FTuJ1
 Kovanis, Vassilios—LSTuA7
 Kracht, Dietmar—JTuA2
 Krajcarová, Lucie—JTuC12, JWC19
 Kranitzky, C.—FWV1
 Krapf, Diego—JWC68, LSWD3
 Krauskopf, Bernd—FThO6
 Krauss, Todd—LSTuJ4
 Krausz, Ferenc—FTuK3
 Kreisler, Alain J.—FTuO6
 Kretschmar, Ilona—ATHA4
 Krishnamurthy, Subramanian—LSWB3
 Krishnamurthy, Vivek—FThC5
 Krishnan, S.—FME1
 Krol, Denise M.—LMTuB4, LMTuC4
 Krolikowski, Wieslaw—FThI1
 Krous, Erik—FThS7
 Kuang, Wan—FMJ, FWC2
 Kubala, Kenny—CWA
 Kudlinski, A.—FWD1
 Kuhlicke, Alexander—FWE4
 Kuhlmann, Marion—LSThA3
 Kuhlmeier, Boris T.—FTuD4, FTuR5
 Kuhn, A.—LSTuK1
 Kularatne, Sumith A.—FTuL3
 Kulcsár, Caroline—AOTHa2, AOWB1,
 AOWB4
 Kulhandjian, H.—FTuE5
 Kulikov, Kirill—JWC65
 Kumar, Anil—ATHA5
 Kumar, Amrinder—FThN3
 Kumar, Arun—FThW6, JWC40
 Kumar, Prem—FMG, FWJ5, LSWB3
 Kumar, Ranjeet—JWC62
 Kumar, T. K. S.—JWC66
 Kumaran, Raveen—AWC5
 Kumaran Nair Valsala Devi, Adarsh—
 LSTuG4
 Kundu, Susmita—AWA4
 Kuo, Bill Ping Piu—FWK2
 Kupke, Renate—AOTuA4
 Kuramochi, E.—FWV2
 Kuranov, Roman—FThP6
 Kurdyukov, Vladimir V.—LSTuG2
 Kurz, Nathan—JTuB5, JTuB6
 Kuzin, Evgeny A.—FThD4
 Kuzucu, Onur—FTuW3
 Kwiat, Paul G.—FThN4, JMA3, JTuB,
 JWE1
 Kwiecien, Pavel—FTuO7
 Kwon, Min-Suk—FThW4
 Kyoung, J. S.—FWC3
 Laage, Damien—LSWF1
 Lahini, Yoav—FMC2, FMG4, FWD3
 Lahiri, Mayukh—FWH2, FWU4
 Lai, Changyi—ATHC2
 Lai, Yicheng—FThK3, FThK5
 Laing, Anthony—FMG1
 Lakshminarayanan, Vasudevan—JWC79,
 JWC81
 Lалуe, J.-Y.—FWP4
 Lam, Edmund Y.—STuA4
 Lam, Kit S.—FTuY4
 Lambert, Andrew J.—STuB, STuC,
 STuC4, STuC7
 Lamhot, Yuval—LSMC3
 Lan, Tzu-Hsiang—FWT4
 Lancry, Matthieu—AWB2, AWB4,
 JTuC16, LMTuA5
 Landers, Frank—AOTHc4
 Landry, James P.—FTuY4
 Langrock, Carsten—AWC2
 Langston, Peter—FThS7
 Lanyon, B. P.—JWD3
 Lanzara, Alessandra—LSWJ3
 Lardenois, S.—FTuW1
 Lardière, Olivier—AOTuB2
 Larin, Kirill—FThV2, SC340
 Larina, Irina V.—FThV2
 Lasser, H.—FThM3
 Latas, Sofia C. V.—FThI5
 Laux, E.—FWP4
 Lawall, John R.—FWI2
 LCGT Collaboration—JTuA5
 Leach, Jonathan—CTuC2, JTuB4, JWD4
 Le Blanc, Catherine—FMI2
 Leblond, Herve—FThI4
 Lederer, Falk—FMA3
 Lee, Byoung-Su—FWE5
 Lee, Byoung-Ho—JWC54
 Lee, Chee Wei—FThK3
 Lee, Chang-Hee—FTuP1, FTuP2
 Lee, Dongjoo—JWC17
 Lee, El-Hang—JTuC13
 Lee, Eui Su—JWC26
 Lee, Hak-Soon—FMJ6
 Lee, Hong-Shik—FWE5
 Lee, Hsiao-lu D.—CTuD1, LSWD2
 Lee, Joyce—FMF4
 Lee, Jin-Hyoung—FTuN4
 Lee, Jeunghoon—FWC2
 Lee, Jonathan Y.—FML4
 Lee, Kyu Jin—JWC44, JWC56, JWC57
 Lee, Marissa K.—LSWD2
 Lee, Sang Shin—FMD7
 Lee, Sang-Shin—FMJ6, FWE5
 Lee, Soonil—FWC1
 Lee, Seung Gol—JTuC13
 Lee, Wan-Gyu—FMJ6
 Lee, Yoo Seung—FMD7
 Lee, Yoon-Suk—JTuC13
 Leger, James R.—CThA1, FThD3
 Lehnert, Konrad W.—LSTuE3
 Leigh, Matthew A.—JWC28
 LeLouarn, Miska—AOTHb, AOTuD3
 Lencina, Alberto—JWC83
 Leniec, Monika—FThB5
 Leon, Erich De—FME7
 Leone, Stephen R.—LSTuL3
 Le Roux, Brice—AOTuB3
 Lester, Luke F.—FMB4, FMB5, FThK1,
 LSTuA7
 Levene, Michael J.—FThP5, FTuL,
 FTuY6, FWA4, FWA5
 Levi, A. F. J.—LSTuA6
 Levin, Anat—FThR, FThX1
 Levin, Carly—JWC60
 Levina, Larissa—FThS5
 Levitt, Jonathan M.—FMK3
 Levoy, Marc—JWA3
 Levy, Ronen—FMJ8
 Lew, Matthew—CThA4, CTuD1
 Lewis, Steffan A. E.—FWE3
 Li, Chun-Fang—FTuX3, FWH5
 Li, Chaohong—JTuC1
 Li, Er-Ping—FThO4
 Li, Guoqiang—FTuH1, FTuO
 Li, H.—FTuN5
 Li, Hongpu—FWK5
 Li, Jieda—FThE6
 Li, Jensen—FTuN2
 Li, Jingjing—FWC5, FWT6
 Li, Kaccie Y.—FWX1
 Li, Qin—JWC15
 Li, Rui—FML6
 Li, Wei—AWC5
 Li, Wen—LSTuI3
 Li, Xin—FMF3
 Li, Xiangyu—FThO4
 Li, Yan—FThK1
 Li, Zhiyong—FWT6
 Liang, Yan—LSThB1
 Liapis, Andreas C.—FMA2
 Lidke, Diane S.—LSThF2
 Lienau, Christoph—FMH, FWP1
 Lifshitz, Efrat—LSMC3
 LiKamWa, Patrick—FTuE1
 Lim, Boo-Taek—FMJ6
 Lim, Hwan Hong—FTuO3, JWC11
 Lim, Sehoon—CThA6
 Lim, Yongjun—JWC54
 Lima, Francinete—FTuX4
 Limouse, Charles—LSWD4
 Limpert, Jens—FThJ4
 Lin, Chang-Yi—FThK1
 Lin, Chien-I—FWP2
 Lin, Hong—JWC33
 Lin, Kung-Hsuan—JWC82
 Lin, Po-Heng—JWC82
 Lin, Shie-Hen—JWC5
 Lin, Yu-Ting—AWB1
 Lin, Yang-Cheng—JWC1
 Lin, Ziliang—JWE5
 Lin, Zhiwei—LSW12
 Litvinov, M.—FThA4
 Linzon, Yoav—FThF6
 Lipovskii, Andrey A.—ATHC5
 Lipson, Michal—FTuW3, FWY3
 Liška, Miroslav—JWC18, JWC19
 Litchinitser, Natalia M.—FTuE5
 Little, D. J.—LMTuC1
 Littlejohn, David—LSMG3
 Litvinov, Rudolph—ATHB4
 Liu, Boyang—FThE3, FThK3, FThO4
 Liu, Chian—FThM2
 Liu, Chongyang—FWN2
 Liu, Chien-Sheng—JWC82
 Liu, Huikan—FMA6
 Liu, Jun—FThE3
 Liu, Ling—JWA4
 Liu, Na—LSWD2
 Liu, Rui—FWS2
 Liu, Shuangqiang—FWL6
 Liu, Sheng—JWC32
 Liu, Wenjun—FThM2
 Liu, Weiming—FTuX3
 Liu, Xue—FThV3, FTuH2
 Liu, Zhijun—FWZ4
 Liu, Zhongqiang—JWC76
 Lo, Victor L.—STuB2
 Lock, Robynne—LSTuI3
 Loh, Ter-Hoe—JWC53
 Löhmus, Madis—FTuO5
 Lombard, E.—FWP4
 London, Richard A.—LSThA3
 Longmore, Andy—AOTuA5
 Loomis, Nick—FThB1
 Looze, Douglas P.—AOTHB3
 Lopez-Cortes, Daniel—JWC41
 López-Mariscal, Carlos—FWM, FWS5
 Lopez-Santiago, Alejandra—ATHB2
 Lord, Samuel J.—CTuD1, LSWD2
 Lou, Cibo—FThI3
 Lou, Qihong—FThD1

- Louradour, Frederic—FWI5
 Louri, Ahmed—FWL5
 Love, Gordon D.—FTuM2
 Low, Philip S.—FTuL3
 Lozhkarev, Vladimir—LSWK3
 Lozovoy, Vadim V.—FMF7, LMTuA4, LSWI3
 Lu, Y. F.—LMTuD2
 Lucero, Erik—JMA1
 Luchansky, Matthew S.—LSMC1
 Luckasevic, Kelly M.—JWC76
 Lugani, Jasleen—FWJ2
 Lukofsky, David—FThS3
 Lumeau, Julien—FMF2
 Lumsdaine, Andrew—CTuB3, STuA6
 Lundeen, Jeffrey S.—FWJ3
 Luna, Carlos E.—STuC1
 Lundström, U.—FThA4
 Luo, Jingdong—FThE3
 Luo, Juntao—FTuY4
 Luo, Xuan—CTuC3
 Luo, Yuan—FME7
 Lurçon, Jean-Marie—AOTHd3
 Luther, B. M.—FTuZ2
 Luther-Davies, Barry—FThE5
 Luzinov, Igor—ATHC4
 Lynch, Candace—AWA1, AWD
 Lynn, David G.—LSThB1
- Ma, Guohong—FTuX3
 Ma, Hyungjin—FWB6
 Ma, Jing—FThF5
 Ma, Lijun—JMA5
 Ma, Li L.—FThP6
 Ma, Ren-Min—FTuB2
 Mabuchi, Hideo—LSWD4
 Maccagnano-Zacher, Sara—LSTuJ4
 MacFarlane, Duncan—FWR3, JWC9
 Machan, Jason—FThD2
 Mackey, Ruth—AOTuB4
 Madden, Steve—FThE5
 Madec, Pierre-Yves—AOTuD3
 Mafi, Arash—FThW, FWF3, JWC38
 Mägi, Eric C.—FTuD4, FTuR5
 Magnusson, Robert—FTuH4, FTuY1, FWI3, JWC44, JWC56, JWC57
 Mahalanobis, Abhijit—CWA5
 Mahjouri-Samani, M.—LMTuD2
 Mahler, Tom—FMC6
- Mahou, Pierre—FWJ3
 Maia, Filipe R. N. C.—LSThA3
 Maier, Stefan A.—FTuB6, SC324
 Maikisch, Jonathan S.—FMJ4
 Maire, Jérôme—AOTuC4
 Mait, Joseph N.—CThA, CTuA3
 Majumdar, Arka—FWB5, LSTuD4
 Makarov, Nikolay S.—JTUC14
 Makarova, Maria—FML6
 Makhlouf, Houssine—FWR2
 Malacara-Hernández, Daniel—JWF4
 Maleki, Lute—FThC1
 Malina, Radomír—JTUC12, JWC18
 Malomed, Boris A.—FThF6
 Mance, Jason—LSTuG3
 Mandridis, Dimitrios—FMD2, FWL1, FWL2, FWX4
 Mangalaraja, R. V.—LSTuG6
 Manning, R. J.—FTuW1
 Mansano, Ronaldo D.—JWC4
 Manson, Neil B.—LSTuD3
 Manuel, Anastacia M.—FThH3
 Marc, Sorel—FMC2
 Marchesini, Stefano—LSThA3
 Marciante, John R.—FThD5, FThJ2, FTuD5
 Marconi, Mario C.—FTuS2, FTuZ2
 Marcos, Susana—JWB4
 Marcus, Rudolph A.—LSTuJ1
 Marega Jr, Euclides—JWC4
 Marin, Emmanuel—JWC40
 Markosyan, A.—FThS7
 Marks, Daniel L.—CThA5, CThA6, CTuA6
 Marks, Tobin J.—FThE3
 Marmo, Jay—FThD2
 Marques, Paulo V. S.—LMTuC5
 Marshall, G. D.—LMTuC1
 Marteaud, Michel—AOTuA5
 Martin, Michael C.—LSWJ3
 Martín, Virginia—LSWG4
 Martinez, Patrice—AOTuC2
 Martinez-Corral, Manuel—FTuF1
 Martínez-Niconoff, Gabriel—JWC2
 Martinez Vazquez, R.—LMTuC3
 Martini, Giuseppe—FWG5
 Martinis, John—JMA1
 Masajada, Jan—FThB5
 Maser, Jörg—FThM4
- Mathieu, François—FMI2
 Matsko, Andrey B.—FThC1
 Matsun, Charles L.—SWA
 Matsukevich, Dzmitry N.—JWD6
 Matthews, Dennis—FWS2
 Matthews, Jonathan C. F.—FMG1
 Maunz, Peter—JWD6
 Maurya, Mahendra K.—JWC45
 Mavalvala, Nergis—LSTuB, LSTuH3
 Max, Claire E.—AOTuA4
 Maxwell, G. D.—FTuW1
 May-Arrijoa, Daniel A.—FTuD6, FTuD6, FTuE1, JWC41
 Maylin, Matthew I. S.—STuB5
 Mazur, Eric—AWB1, FWA1, LMTuA, LMTuDp
 McCarthy, Nathalie—JTUC15, JWC73
 McClellan, Michael—FThD2
 McCusker, James—LSTuC4
 McCusker, Kevin T.—JMA3
 McDowell, Emily—FWS4
 McEldowney, Scott—FThF1, FThL
 McFarlane, Michelle—JWC78
 McGuire, James P.—FTuT3
 McHale, Kevin—LSWD4
 McInerney, John G.—FThJ3, FThK6
 McKinney, Wayne R.—FThT2
 McKinstrie, Colin J.—FTuR
 McMillan, James F.—FML5
 McMillen, Colin D.—AWC1
 McNally, Jim—FThG1
 McNaught, Stuart J.—FThD2, FThJ
 McNeil, Michael R.—JWC68
 McNulty, Ian—FThA
 McPhedran, Ross C.—FWF5
 Measor, Philip—FMJ7
 Medic, Milja—FWJ5
 Meech, S. R.—FMK2
 Meehan, Alaster J.—JWB5
 Mehta, Dalip S.—JWC62
 Mehta, Gaurav—FTuE5
 Mehta, Monal R.—FMK7
 Mehta, Shalin B.—FMK6, SWA4
 Meiselman, Seth—LSTuA2
 Mel'nikov, Igor V.—FThI4, FTuD3
 Mele, Elisa—FThO1
 Melis, Anastasios—FMB2
 Mencer, Oskar—AOTHb2
 Méndez, Cruz—JWC10, LSWB4
- Méndez Otero, Maribel M.—JWC59
 Mendlovic, David—CWB3, STuA7
 Menezes, Leonardo de S.—ATHC5
 Menon, Rajesh—FThA2
 Menon, Vinod M.—ATHA4
 Menoni, Carmen S.—FThS7, FTuS2, FTuZ2
 Menzel, Andreas—FThT1, LSTuL4
 Menzel, Christoph—FMA3
 Merano, M.—FMF5
 Merigan, William H.—FTuQ2
 Merino, David—FWX1, JWB2
 Mertz, Jerome—FWA2
 Messersmith, Phillip B.—FTuL4, JWC76
 Mestre, Michael—FThU6, FThU7
 Metcalfe, Michael B.—FWI2
 Metha, Andrew B.—JWB5
 Meunier, Jean-Pierre—JWC40
 Meystre, Pierre—LSTuE1, LSTuH
 Mezentsev, Vladimir—JTUC19, LMTuA6, LMTuC6
 Mezosi, G.—LSTuI4
 Miao, Jianwei—LSThE1
 Michalache, Dumitru—FThI4
 Migacz, Justin—FWR4
 Mihailov, Stephen—FTuD7, FTuE2
 Mikaberidze, Alexey—LSTuI1
 Mikhnov, Sergej—ATHB4
 Milanfar, Peyman—JWA2
 Milián, Carles—FWP3
 Millane, Rick P.—STuB2, STuC
 Miller, Darren—FThF4
 Miller, David A. B.—CTuC1
 Miller, Donald T.—AOTHa, JWF3
 Millot, G.—FWD1
 Milner, Thomas E.—FThP6
 Milojkovic, Predrag—CTuB4
 Min, Changjun—FThW5
 Mironov, Sergey—LSWK3
 Misawa, Hiroaki—LMTuB1
 Mishra, Vinod—FThN3
 Mishra, Vandana—FWG6
 Misra, Kamakhya P.—AWA6
 Mitchell, M.—LMTuD2
 Mitra, Anirban—FTuL2
 Mitra, Arnab—JWC30
 Mittleman, Daniel M.—STuA4
 Miyoshi, Norio—JWC74
 Mlodzianoski, Michael J.—LSThB2
- Mochi, Iacopo—FThT2
 Mochrie, Simon—LSThC2
 Moerner, W. E.—CThA4, CTuD1, FMH2, FWM2, JWC16, LSTuF3, LSWA1, LSWA4, LSWD2
 Mohnkern, Lee—AWA2
 Mohseni, M.—JWD3
 Mokhov, Sergiy V.—FMF2, FWX5
 Molinelli, C.—LSTuK1
 Möller, Thomas—LSThA3
 Momeni, Babak—FTuB7, FWZ2
 Monken, Carlos H.—JMA6
 Monnier, John D.—FMJ1
 Monro, Tanya—FTuE3
 Monroe, Christopher—JWD6
 Montera, Dennis—AOTuA1
 Mookherjee, S.—FML2
 Moon, Han Seb—JWC11
 Moon, Jin-Young—FWC1
 Moore, Nicole J.—FWH1
 Moore, Richard O.—FTuR3
 Morandotti, Roberto—FMC2, FMG4, FThF6, FWD3
 Moreno, M.—FThI6
 Morgan, Jessica I. W.—FTuQ2
 Morin, Pierre—AOTHd3
 Moritz, Tobias—FWS2
 Moro, Slaven—FTuD2
 Morris, Tim—AOTuA5, JTUC4
 Morrison, Gregory—FThT2
 Morrissey, F. X.—LSTuG3
 Morrissey, Michael J.—FMG3, FThC2
 Morse, Theodore E.—ATHD4
 Mortier, Michel—FThO3
 Mosallaei, Hossein—FTuV3, FTuV4
 Moses, Edward I.—FTuK1
 Moshchalkov, Victor—FTuB6
 Mosk, Allard P.—FTuU2, FWF4, FWS6
 Mouillet, David—AOTuC3
 Moulton, Peter—AWB
 Mouradian, Levon—FWI5
 Mourou, Gérard—FMI2
 Moustakas, Theodore D.—FMH4
 Mozharov, Sergey—LSMG3
 Mudrakola, Harsha V.—LSThB3
 Mueller, Guido—JMB3, JTUA4
 Mugnier, Laurent—AOTuC3
 Mukhamedgalieva, Anel F.—FThS6
 Mukherjee, Jayanta—FThJ3

- Mullen, Klaus—FMH2
Muller, Matthew S.—FME5, FThQ2
Müller, Waltraud—FThG1
Mulvihill, Alex—JWC46
Mun, Sil-Gu—FTuP2
Munday, Jeremy—LSTuH2
Muradoglu, Metin—FThU7
Murakami, Yoshihisa—JWC22
Murnane, Margaret M.—FTuZ1, LSTuI3
Murphy, Thomas E.—FTuL2
Murphy, Timothy O.—JWC28
Murshid, Syed H.—FTuP5, JWC50, LSTuF2
Musser, Joseph A.—FWR5, FWX3
Muyo, Gonzalo D.—FThX2
Myers, Richard M.—AOTuA, AOTuA5, AOTuD4, JTuC4
Myneni, Vimeetha—CThC4
Myslivets, Evgeny—FWK2
- Naderi, Nader A.—LSTuA7
Naderian, Azadeh—JWF2
Nadler, Brett R.—FWG2
Nagasono, M.—LSMH1
Najdek, David—FWS3
Nalawade, Sandipan—JWC37
Narasimhan, Srinivasa—CTuD5
Narducci, Francesco A.—LSTuA1, LSTuA2, LSTuI5
Narimanov, E. E.—FTuN5
Nataraj, Latha—AWA5
Natarajan, S. R.—LMTuC6
Nath, Ashish Kumar—JWC12
Ne-Te Loh, Duane—LSThA1
Neeley, M.—JMA1
Neifeld, Mark Allen—CThD, CTuA2, CTuC
Nemet, Greg—LSWK4
Nemirovsky, Yoni—LSMC3
Neshev, Dragomir N.—FThI1
Neto, Luiz G.—JWC4
Neumann, Joerg—JTuA2
Neves, Antonio A. R.—LMTuB2
Nevet, Amir—FMG6, FMH3
Newhouse, Rebecca—FTuE4
Newport, David—FWY5
Ng, Keh-Ting—JWC53
Ng, Wei-Ren—FWX2
Nguyen, D.—FThS7
- Nguyen, Dat—FWX4
Nic Chormaic, Sile—FMG3, FThC2
Nichols, Geoffrey—STuC4
Nicolodelli, Gustavo—JTuC20
Nielsen, Martin M.—LSTuC2
Niinimäki, Kati—STuA2
Nilsson, D.—FThA4
Nilsson, Josefín—JWC78
Ning, Yongqiang—JWC15
Nishida, Yoshiki—JWE2
Nishii, Junji—ATHC1
Nitkowski, Arthur—FWY3
Nkenke, Emeka—FThP2
Noad, Julian—FTuW4
Noda, Toshihiko—FMD4
Noek, Rachel—FWR4
Noginov, M. A.—FTuB5, FTuN5
Noh, Jong Wook—FMJ2
Nootz, Gero—FThS5
Nordin, Gregory P.—FMJ2
Nordlander, Peter—FTuB6
Nordon, Alison—LSMG3
Norfolk, Andrew W.—FThI2
Northcott, Malcolm—AOTHd
Norton, Andrew—JTuC3
Norwood, Robert A.—ATHB2
Notomi, Masaya—FWV2
Novikova, Irina—FThS2
Novotný, Filip—ATHA2
Novotný, Jan—JTuC12, JWC18
Novotný, Karel—JTuC12, JWC18, JWC19
Novotný, Lukas—FTuL2
Nugent, Keith A.—JWB5
Numata, Hidetoshi—JWC39
Nuñez Quintero, Jesus A.—JWC42
Nuzzo, Valeria—FWA1
Nývlt, Martin—FWS3, JWC64
- O, Beom-Hoan—JTuC13
O'Brien, Jeremy—FMG1
O'Connell, A. D.—JMA1
O'Connor, Shane—FMJ5
Odelius, Michael—LSWF3
Odoi, Michael Y.—LSTuJ2, LSTuJ3
Oh, K—FWE2
Oh, Se Baek—CTuD4
Oh, Sang-Min—FTuP2
O'Hara, John F.—FWO1
O'Hara, Ken—LSTuA8
- Ohnuki, Masayuki—FThF4
Ohta, Jun—FMD4
Ojeda-Castañeda, Jorge—FWQ3
Oka, Kazuhiko—FThF4
Okano, Fumio—FTuF3
Okawachi, Yoshitomo—FTuW3
Okhrimchuk, Andrey G.—JTuC19, LMTuA6
Oliveira, Juliano R. F.—FTuC4
Oliveira, Luciane F.—ATHA3
Oliveira, Sergio C.—FWT3
Oliveira, Tâmara R.—FThS1
Olmschenk, Steven—JWD6
Olson, Eben—FTuY6
Olvera-Santamaría, Miguel A.—JWC2
Orenstein, Meir—FMG6, FMH3, JWD5
Orszag, Miguel—JWE6
Orth, Antony—FTuH3
Osellame, R.—LMTuC3
Ostendorf, Andreas—LMTuD, LMTuDp
Österberg, Ulf—FThS3
Ostrovsky, Andrey S.—JWC2
Ostrovsky, Dan—FWJ2
O'Sullivan, Joseph A.—CThB5
Otendal, M.—FThA4
Ou, Fang—FThE3, FThO4
Ou, Haiyan—FThE1
Oulton, Rupert F.—FTuB2
Ozdur, Ibrahim—FMD5, FWL1, FWL2, FWX4
Ozharar, Sarper—FWL1, FWX4
- Padgett, Miles—CTuC2, JTuB4, JWD4
Padhy, Bibhuti Bhushan—JWC37
Padilha, Lazaro A.—FThS5, LSTuG2
Padmore, Howard A.—FThT2
Pagliara, Stefano—FThO1
Paiella, Roberto—FMA5, FMH4
Paillard, Jean Luc—FMI2
Painter, Oskar J.—LSTuE2
Palombo, Nola J.—JWC33
Palomino Ovando, Martha Alicia—JWC55
Pan, Xiaochuan—STuA1
Pandiyani, Krishnamoorthy—FTuO3
Pang, Lin—FWB1
Paniccia, Mario—FWN3, FWZ
Panoiu, Nicolae C.—FML5
Pant, Ravi—FTuD4, FTuR5
Paranjape, Amit S.—FThP6
- Parekh, Devang—FTuW2, FWL3
Park, Doo-Jae—FWC1
Park, H. R.—FWC3
Park, J.—FME1
Park, Jongchul—FTuJ3
Park, Junghyun—JWC54
Park, J. S.—FML2
Park, N. K.—FWC3
Park, Se-Geun—JTuC13
Park, Sungnam—LSWF3
Park, Won—FTuN4
Parra, Sonia—FWA5
Parthasarathy, Ashwin—FME2
Patchkovskii, Serguei—LSTuI3
Pate, Dinesh—FThS7
Patel, Darayas N.—JWC13
Patel, Monika—FWJ5
Pauca, Paul—CThB2
Paufique, Jerome—AOTuD3
Paul, Thomas—FMA3
Pavani, Sri Rama Prasanna—CTuD1, CTuD2, FMK5
Payne, Ben—FMC3, FMC6
Payne, Christine—LSThF1, LSWA
Payne, J. D.—FME1
Peceli, Davorin—LSTuG2
Pedaci, F.—FTuZ2
Pedersen, Christian—FThR6
Peetrig, Benno L.—FThQ2
Peña, Abe—FMC5
Penson, Shawn—AWC5
Perry, John M.—LSMG5
Perry, Susan—FTuY5
Persano, Luana—FThO1
Pertsch, Thomas—FMA3, FThC3, FThC6
Peruzzo, Alberto—FMG1
Pervak, Vladimir—FTuK3
Pestov, Dmitry—FMF7, LSWI3
Peteanu, Linda—LSTuG1
Petek, Hrvoje—LSWG1, LSWJ
Peterhänsel, S.—FWV1
Petermann, Klaus—LMTuC2
Petersen, Paul Michael—JWC3
Petit, Cyril—AOTHa2, AOWB1
Petit, Laeticia—ATHC4
Petrig, Benno L.—FME5
Petroff, Pierre—FWB5
Petrov, Nikolai I.—JWC8
Petschulat, Jörg—FMA3
- Peyghambarian, Nasser—ATHB2, FTuT1
Pfeiffer, Franz—FThT1, LSTuL4
Pfrommer, Thomas—AOTuA2
Phillips, Brian S.—FMJ7
Phillips, Chris R.—AWC2
Phillips, Nathaniel B.—FThI, FThS2
Phipps, M. Lisa—LSThF2
Piché, Michel—JTuC15
Picozzi, A.—FWD1
Piestun, Rafael—CThD, CTuD1, CTuD2, CTuD3, FMK5, JWA, LMTuB3
Piksarv, Peeter—FTuO5
Pinkse, Pepijn W. H.—FWF4
Piracha, Mohammad Umar—FWX4
Pires, Henrique D. L.—JMA6
Pisignano, Dario—FThO1, LMTuB2
Plant, Jason J.—FWL2
Plascencia-Mora, Hector—JWC67
Platonenko, Victor T.—LSMH4
Plönjes, Elke—LSThA3
Pochet, Michael C.—LSTuA7
Podolskiy, V. A.—FTuB5
Pogorelsky, Igor—LSMH4
Politi, Alberto—FMG1
Pollak, Thomas M.—AWA2, AWA3
Polo, Marco—LMTuB2
Polyanskiy, Mikhail N.—LSMH4
Pomeranz, Leonard A.—AWA3
Ponomareko, A. G.—FTuZ2
Ponticorvo, Adrien—FME2
Porter, Jason—FThQ3, JTuC1
Potma, Eric Olaf—FMK1
Pottiez, Olivier—FThD4
Poulin, Jean Claude—AWB2
Poumellec, Bertrand—AWB2, AWB4, JTuC16, LMTuA5
Poustie, A. J.—FTuW1
Poutous, Menelaos—FTuO1
Povinelli, Michelle—FThF5
Powell, B. J.—JWD3
Poyneer, Lisa—AOTuB, AOTuC4, AOWB2, JTuC3
Pozi, Francesca—FMC2
Prasad, Sudhakar—CTuC3
Prasada Rao, T.—LSWG3
Prater, C.—FMK2
Preble, Stefan F.—FML3, FThU4
Preston, Alex—JMB3
Preza, Chrysanthe—CThB5, CThC4

- Prieto, Camilo—JWC10
 Proška, Jan—ATHA2
 Procházka, David—JTUC12, JWC18
 Przhonska, Olga V.—LSTuG2
 Psaltis, Demetri—CThA2
 Ptasinski, Joanna—FWB1
 Pu, Jixiong—FThX6
 Pu, Minhao—FThE1
 Pueyo, Laurent—AOWA1
 Puncken, Oliver—JTUA2
 Purohit, Gagandeep—JWC37
 Puvanakrishnan, P.—FME1
- Qavi, Abraham J.—LSMC1
 Qi, Xiaofeng—JWF1
 Queener, Hope—JTUC1
 Quimby, Richard S.—ATHD4
 Quinlan, Franklyn—FMD2, FWL1
 Quirin, Sean—CTuD3
- Rabien, Sebastian—AOTuA3
 Raday, Omri—FWN3
 Radic, Stojan—FML2, FTuD2, FTuI1, FWK2
 Rahman, Saad A.—AOTHc3
 Rai, Amit—FMG5
 Raimond, J. M.—JWE4
 Raineri, Fabrice—FTuS4
 Raj, Rama—FTuS4
 Rajalingam, Dakshinamurthy—JWC66
 Rajan, Dinesh—CTuB4
 Rajarajan, Petchimuthu—JWC12
 Rajeev, P. P.—LMTuA1
 Rajeswaran, Manju—LSTuJ4
 Rakich, Andrew—FThH4
 Ram, Dole—FThN3
 Ramadan, Tarek A.—FWZ3
 Raman, Chandra—LSWD4
 Ramírez Martínez, Daysi—JWC59
 Ramos Mendieta, Felipe—JWC55
 Ramos-Gonzales, R. E.—FWF2
 Ramponi, R.—LMTuC3
 Randone, Enrico—FWG5
 Rangarajan, Prasanna V.—CTuCa
 Ranitovic, Predrag—LSTu3
 Rao, Devulapalli V.—FThF3, FThV5
 Rarity, John G.—FMG1
 Raskar, Ramesh—CTuA1, CTuB
 Rasras, Mahmoud S.—FWN1
- Rath, Shyama—JWC27
 Rativa, Diego—JWC43, JWC77
 Ravi, Koustuban—FThK5
 Rawal, Swati—FThX6
 Raynaud, Henri-François—AOTHa2, AOWB1, AOWB4
 Rayner, D. M.—LMTuA1
 Reading, M. M.—FMK2
 Reano, Ronald M.—FThE7
 Rebane, Aleksander—JTUC14
 Reichman, Wilbur—LMTuCa
 Reid, Margaret D.—LSTuA4
 Reinspach, J.—FThA4
 Reis, David A.—LSMD
 Reitze, David H.—FTuK, JTUA, JTUA4
 Rekawa, Senajith B.—FThT2
 Ren, Xiaofan—LSTuJ4
 Resch, Kevin J.—JWD
 Rey, Gilles—FMI2
 Rha, Jungtae—JWF
 Rhee, Seuk-Joo—FTuN4
 Rhodes, William T.—FWW1
 Rhyner, Steven J.—FTuF2
 Ribak, Erez N.—AOTHc5, AOTuB4
 Rice, J. H.—FMK2
 Rich, Wade—FThP3
 Richardson, Kathleen—ATHc4, ATHd
 Richardson, Martin—ATHc4, AWB3, FTuS1, FTuZ
 Richter, C.—FWV1
 Richter, Ivan—ATHa2, FTuO7, FWC7
 Rickenstorff-Parrao, Carolina—JWC2
 Ritcey, Anna M.—JWF2
 Ritsch-Martel, Monika—CTUC2, FTuU1, FWI
 Rivenson, Yair—CTuA4
 Rivera, Jose G.—JWC76
 Robbe-Cristini, Odile—ATHc3
 Robert, Aymeric—LSThA, LSThC1
 Robinson, Dirk—CThB3, CTuCa
 Robinson, Ian—LSThE2
 Robinson, Michael D.—CThB4
 Rocca, Jorge J.—FTuS2, FTuZ2
 Rockstuhl, Carsten—FMA3
 Rodas, Maria—FMG1
 Rodrigo, José A.—STuD2, STuD3
 Rodriguez, Vincent—AWB3
 Rogers, Lachlan J.—LSTuD3
 Rolland, Jannick P.—FThH4, FThN2, FThN5, FTuT3
- Romero, Carolina—LSWB4
 Romero, Jacqueline—CTUC2, JTUB4, JWD4
 Rong, Haisheng—FWN3
 Roorda, Austin—FThQ, FWX1, JWB2
 Roppo, Vito—FThI1, FThW2, FTuS4
 Rose, Volker—FThM4
 Rosen, Joseph—FThR2, FThX
 Rosenblum, Serge—JWD5
 Roso, Luis—JWC10, LSWB4
 Rossi, Vincent M.—FME4
 Rost, Jan-Michael—LSTu1
 Roth, Zachary—FTuO1
 Rotschild, Carmel—LSMC3
 Rouse, Andrew—FWR2
 Rousset, Gérard—AOTuA5, AOTuCa
 Roussev, Rostislav V.—AWC3
 Route, Roger K.—AWC2, AWC3, FThS7
 Rowan, Sheila—JTUA3
 Roy Choudhury, Kaushik—LSTuA6
 Royon, Arnaud—AWB3
 Ruan, Yinlan—FThE3
 Rubinsztein-Dunlop, Halina—FWM3
 Rubtsov, Grigory I.—LSWI2
 Rubtsov, Igor V.—LSWI2
 Rudolph, W.—FThS7
 Rumpf, Raymond—FTuO1
 Ruschin, Shlomo—FMJ8
 Russell, Laura—FMG3, FThC2
 Russell, Philip S. J.—ATHD3
 Rutkowska, Katarzyna A.—FThF6
 Ryan, Andrew T.—JMA7
- Saalmann, Ulf—LSTuI1
 Saari, Peeter—FTuO5
 Saathoff, G.—LSTuB1
 Saavedra, Carlos—JWC63
 Saavedra, Genaro—FWW2
 Saillard, Marc—STuD4
 Sakata, Hironobu—FThS4
 Sakdinawat, Anne—FThA3
 Saleh, Bahaa E. A.—FWJ1
 Saleh, Mohammed F.—FWJ1
 Salem, Mohamed F.—FWU1
 Salem, Reza—FTuW3
 Salit, Kenneth—LSWB3
 Salit, Mary—JTUA6, LSWB3
 Saltiel, Solomon—FThI1
- Sampson, Philip C.—FWM4
 Samuel, Reichel—LSWD2
 San Román, Julio—JWC10
 Sánchez Sánchez, Mauro—JWC47
 Sanchez-Mondragon, Jose J.—FTuD6, JWC41
 Sanchez-Mondragón, Javier J.—JWC67
 Sandhu, Arvinder—LSTu3
 Sandoghdar, Vahid—LSTuD1
 Sandoz, Patrick—JWC70
 Sank, D.—JMA1
 Sankaranarayanan, Ramasubramanian—JWC31
 Santhosh Kumar, M C.—LSWG3
 Santori, Charles—FThU1, FWJ4, LSTuD3
 Santos, Cassio E. A.—ATHA3
 Santra, Robin—LSTu3
 Saraf, Meirav—LSMC3
 Sarangan, Andrew—SC235
 Sarepaka, Rama Gopal V.—FThN3
 Sargent, Edward H.—FThS5
 Sarkisov, Sergey—JWC13
 Sasagawa, Kiyotaka—FMD4
 Sass, Lauryn E.—LSThD3
 Sastikumar, Dillibabu—JWC12
 Sastre, Roberto—LSWG4
 Sato, Shinya—FTuC7
 Sauvage, Jean-François—AOTuCa
 Savchenkov, Anatoliy A.—FThC1
 Sawides, Lucie—JWB4
 Saykally, Richard J.—LSWB5
 Sayrin, C.—JWE4
 Scalora, Michael—FThW2, FTuS4, FWC6
 Schaake, Jason—JMA4
 Schaeffel, Frank—JWC80
 Schaffer, Chris—LMTuB, LMTuDP
 Scheeren, Carla W.—ATHA3
 Scherman, Michael S.—JWC68
 Scherz, Andreas—LSThE3
 Scheuer, Jacob—FMJ3
 Schlau-Cohen, G. S.—LSWC1
 Schlotter, W. F.—LSMH1
 Schmid, Karl—FTuK3
 Schmid, Tobias—FThH4
 Schmidt, Carsten—FThC3, FThC6
 Schmidt, Holger—FMJ7
 Schmidt, Michael—FThP2
 Schmidt, Markus A.—ATHD3
 Schmidt, Regine—FMG3
- Schmitt, Robert—FTuO4
 Schmitz, Holger—LMTuA6
 Schneeberger, Timothy—AOTuA1
 Schneider, Gerd—FThG1
 Schneider, Jochen R.—LSThA3
 Schneider, Vitor M.—ATHC2
 Schnelle, Sebastian K.—FWM3
 Schoeck, Matthias—AOTHB1
 Schoenlein, Robert—LSTuCa
 Scholes, Gregory D.—LSWC2
 Schonbrun, Ethan F.—FThB2, FTuH3, FTuY2
 Schoonover, Robert W.—FWH3, FWH6
 Schotland, John—STuB1
 Schouten, Hugo F.—FWU2
 Schowengerdt, Brian—FTuM3, FTuT
 Schreiber, Thomas—FThJ4
 Schulz, Timothy J.—CWA3
 Schülzgen, Axel—FTuD1
 Schunemann, Peter G.—AWA2, AWA3, AWC
 Schwab, Keith—LSTuB2
 Schwartz, Benjamin J.—LSWB2, LSWH
 Schwartz, J. A.—FME1
 Schwefel, Harald G. L.—FThO2
 Schwesyg, Judith R.—AWC2
 Scire, A.—LSTuI4
 Scribner, Dean A.—CThC2
 Seaman, Aden—FTuQ4
 Sears, Christopher—FTuK3
 Segev, Mordechai—LSMC3, LSTuG4
 Seibert, M. M.—LSThA3
 Seidel, David—FThC1
 Seidelin, Jeppe D.—FThR6
 Sendowski, Jacob—FWK3
 Sensarn, S.—JMA2
 Sension, Roseanne J.—LSWI4
 Senz, Stephan—ATHB3
 Seo, JaeTae—FWB4
 Seo, M. A.—FWC3
 Shaddock, Daniel—JMB2
 Shaffner, Thomas—JWC34
 Shah, Jay D.—LMTuA4
 Shah Hosseini, Ehsan—FWZ2
 Shaheen, Nicholas J.—FME6
 Shahraam, Afshar V.—FTuE3
 Shahriar, Selim M.—FThV3, FTuH2, JTUA6, LSWB3
 Shainline, Jeffrey M.—FWZ4

- Shakher, Chandra—JWC62
 Shalae, Vladimir—FTuN3
 Shanthi, Michael S. L.—LSTuG6
 Shapira, Ofer—FTuX, FWE1
 Shapiro, David A.—LSThA3
 Shapiro, Jeffrey H.—JWE3
 Sharma, Ginni—CTuD2
 Sharma, Pallavi—JWC66
 Sharma, Vandana—LSTuI3
 Sharpe, Andrew W.—JWE2
 Shay, Lisa—JWC58
 Shchegrov, Andrei—LSWK4
 Shcherbakov, Alexandre S.—JWC47
 Shealy, David L.—FThH2
 Shemirani, Mahdieh—FTuP3
 Shemo, David M.—FThF1
 Shen, Yuen-Ron—LSWE1
 Sheng, Yunlong—FThB, FTuV1
 Shenoy, M. R.—FTuE6, FWG6
 Sheppard, Colin J. R.—FMK6, FThR4, LSWK5, SWA4
 Sher, Meng-Ju—AWB1
 Sheridan, John T.—FWW1
 Sherwood, Gizelle A.—LSTuG1
 Shestakov, Alexander—JTuC19
 Shestov, Sergei—AthB4
 Shevchenko, Yanina—FTuV, FWT1
 Shi, Chao—FTuE4
 Shi, Jielong—FTuX3
 Shi, Zhimin—FMA2, FWC
 Shields, Andrew J.—JWE2
 Shih, Min-Hsiung—FWC2
 Shih, Yanhua—FWI4
 Shinn, M.—FThS7
 Shivanand,—FMA6
 Shokooh-Saremi, Mehrdad—FTuH4, FWI3
 Sholokhov, Evgeny—JTuC19
 Shostka, Nataliya V.—JWC61
 Shostka, Vladimir I.—JWC61
 Shreve, Andrew P.—LSTuG1
 Shu, Deming—FThM2
 Shu, Gang—JTuB5, JTuB6
 Shubochkin, Roman L.—AthD4
 Shukla, R. K.—AWA6
 Shvedov, Vladlen G.—JWC61
 Shwartz, Sharon—LSTuG4
 Si, Ke—FThR4
 Siahmakoun, Azad—JWC46
 Siebenmorgen, Jörg—LMTuC2
 Siegel, David A.—LSWJ3
 Siemers, Troy J.—JWC34
 Silberberg, Yaron—FMC2, FMG4, FMK3, FThX3, FWD3
 Silcox, John—LSTuJ4
 Siltanen, Samuli—STuA2
 Simmonds, Richard D.—AOWA2
 Simpsons, Garth J.—LSMF2, LSWB, LSWH1
 Simpson, Randy—FThD2
 Singh, Amandeep—FThN3
 Singh, Ganga Sharan—FThN3
 Singh, Kehar—JWC6
 Singh, Nahar—FTuE6, FWG6
 Singh, Narendra—JWC69
 Singh, Surendra—JWC30, JWC66
 Sinha, Kanupriya—FWJ2
 Sinha, Ravindra K.—FTuX6
 Sinquin, Jean-Christophe—AOTH3
 Sirbul, Donald J.—FWR1
 Siviloglou, Georgios A.—FMF4
 Škereň, Marek—FWS3, JWC64
 Skipetrov, Sergey E.—FMC5, FTuJ4
 Skoglund, P.—FThA4
 Skryabin, Dmitry—FWD4
 Slatery, Oliver—JMA5
 Sliney, David—FTuQ1
 Slominsky, Yurii L.—LSTuG2
 Slutsky, Boris—FWB1
 Small, Eran—FWD3
 Smelser, Christopher W.—FTuD7, FTuE2
 Smestad, Greg. P.—FMB1
 Smirnov, Vadim—FMF2, FWX5
 Smith, Brian J.—FWJ3
 Smith, Barbara S.—JWC68
 Smithson, Robert L.—FTuF2
 Smulakovsky, Vladimir—FWD5
 Snigirev, Anatoly—FThG2
 So, Peter T. C.—LSWK5
 Sobhani, Heidar—FTuB6
 Soghomonyan, Suren—LSWK4
 Soh, Yeng Chai—FWP5
 Sokolov, Alexei V.—FMK4
 Sola, Íñigo—JWC10
 Solís, Irais V.—JWC67
 Sollee, Jeff—FThD2
 Solomon, Christopher J.—STuB5
 Soltani, Mohammad—FTuB7
 Soma, Venugopal Rao—JTuC17
 Somayaji, Manjunath—CWB5
 Somorjai, Gabor A.—LSWB1
 Song, Hahn Young—JWC56, JWC57
 Song, Jung Hun—AthA4
 Song, Seok—JWC44, JWC56
 Sonnenschein, Yannick—FTuB6
 Sooryakumar, R.—FThE7
 Sooudi, Ehsan—FThK6
 Sorel, M.—LSTuL4
 Sorgenfrei, F.—LSMH1
 Sorger, Volker J.—FTuB2
 Spanner, M.—LMTuA1
 Spears, Kenneth G.—LSWI4
 Spence, David J.—JWC14
 Spencer, John S.—JWC68
 Spiller, Eberhard—LSThA3
 Spinhirne, James—AOTuA1
 Spivey, Christopher—AOTHc2
 Sprenger, Benjamin—FThO2
 Squier, Jeff A.—FWH7
 Sredar, Nripun—JTuC1
 Srinivasan, Kartik—FMG2
 Srinivasan, Pradeep—FTuO1
 Srinivasarao, Mohan—LSMF3
 Srinam, Vinay B.—AOTHB2
 Srivastava, Atul—AWA6
 Srivastava, Anchal—AWA6
 Srivastava, Triranjita—FThW6
 Staforelli, Juan P.—JWC63
 Staliunas, Kestutis—FThI1
 Starkey, Jean—JTuC14
 Starling, David J.—FMF8
 Stay, Justin L.—FTuX5
 Stefanov, Andre—FMG1
 Steier, William H.—FMD7
 Steinberg, Ben Z.—FMJ3
 Steiner, Jason—FWR1
 Steinvurzel, Paul—FTuY2
 Stelzle, Florian—FThP2
 Stepanov, Serguei—JWC36, JWC42
 Stephenson, Gregory B.—FThM4
 Stern, Adrian—CTuA4, FTuF1
 Sterpone, Fabio—LSWF1
 Stich, Dominik—LSWJ5
 Stintz, Andreas—FMB4, FMB5
 Stirnemann, Guillaume—LSWF1
 Stites, Ronald W.—LSTuA8
 Stöhr, Joachim—LSThE3
 Stoian, Razvan—LMTuA3
 Stolow, Albert—LSTuL3
 Stork, David G.—CThB1, CThB3
 Stroebele, Stefan—AOTuD3
 Stürwald, Stephan—FTuO4
 Subramaniam, Vinod—FWS6
 Suck, Sarah—FThB4
 Suda, Ryosuke—FThF4
 Sudeep, Pallikkara K.—LSTuJ2, LSTuJ3
 Sukhov, Sergey—CThC1, CWA1, CWA6, FWY4
 Sukhovatkin, Vladimir—FThS5
 Sullivan, Amy C.—FThE
 Summers, Christopher J.—FTuN4
 Sun, Bo—FWY2
 Sun, Can—FTuR4, FWD2, FWD6
 Sun, Lei—FTuD5
 Sun, Ting—CThC6, CTuA5
 Sun, Xiankai—FTuX1
 Sun, Yung-Shin—FTuY4
 Sunahara, Roger K.—JWC16
 Sussman, Dafna—FTuQ4
 Sustersic, Nathan—AWA5
 Sutton, Mark—LSThC3
 Suwal, O. K.—FWC3
 Suyama, Kengo—JWC52
 Svoboda, Jakub—JWC7
 Swaha Krishnamoorthy, Harish N.—AthA4
 Swartzlander, Jr., Grover A.—FTuG2
 Swedov, Igor M.—FThS6
 Szameit, Alexander—LSMC3
 Szeghalmi, Adriana—AthB3
 Szöke, Abraham—LSThA3
 Taberner, Juan—JWC80
 Tabibi, Bagher—FWB4
 Tadanaga, Osamu—JWE2
 Tahara, Taihei—LSWG2
 Tahtali, Murat—STuC2
 Taira, Yoichi—JWC39
 Takahashi, Hiroshi—FThE4
 Takesue, Hiroki—JWE2
 Takeyama, Norihide—JWC22
 Takita, Akihiro—LMTuA2
 Takman, P.—FThA4
 Talbot, Gordon—AOTuA5
 Talla Mbe, J. H.—JWC23
 Talmi, Amos—AOTHc5
 Tamkun, Michael M.—LSWD3
 Tamma, Vincenzo—FWI4
 Tamma, Venkata A.—FTuN4
 Tan, Dawn—AthB1
 Tanabe, Setsuhisa—AWD1
 Tanabe, T.—FWV2
 Tanaka, Daiki—FWN4
 Tanaka, Kazuki—FTuE4
 Tananaev, Georgy—JWC8
 Tang, Hong X.—LSTuH4, LSTuK
 Tang, Kuo-Chun—LSWI4
 Tang, Lingling—FThU2
 Tang, Sing Hai—FTuX3
 Tang, Xiao—JMA5
 Tangermann-Gerk, Katja—FThP2
 Tanida, Jun—CWB1
 Taniyama, H.—FWV2
 Tanner, David B.—JTuA4
 Tanzilli, Sebastian—FWJ2
 Tassev, Vladimir—AWA1
 Tatic-Lucic, Svetlana—FTuY5
 Tautz, Raphael—FTuK3
 Tavella, Franz—FTuK3
 Tavernarakis, A.—LSTuK1
 Taylor, Antoinette J.—FWO1
 Taylor, Douglas—FWS2
 Tebaldi, Myrian—JWC83
 Teich, Malvin C.—FWJ1
 Terry, Neil—FME6
 Terry, Nathan B.—LSTuA7
 Tessier, Gilles—FThB4
 Tessieres, Régis—FThH3
 Testorf, Markus—CTuB2, FWQ, STuA, STuD4
 Teufel, John D.—LSTuE3
 Thakur, Harnet—JWC37
 Thanthvari, Sulakshana—LSTuA3
 Thapa, Damber—JWC81
 Thériault, Gabrielle—JWC73
 Thibault, Pierre—FThT1, LSTuL4
 Thibault, Simon—JWE2
 Thibos, Larry N.—JWB1
 Thiess, Helge—FThM3
 Thirion, Nadege—STuD4
 Thomas, Jayan—AthB2
 Thompson, John R.—JWC34
 Thompson, Kevin P.—FThH4, FTuT3
 Thompson, Michael A.—CThA4, CTuD1, LSWD2

- Thompson, Mark G.—FMG1
 Thompson, Nancy—**LSThD2**
 Thurman, Samuel T.—**STuC3**
 Thyagarajan, Krishna—FTuE6, **FWJ2**,
 FWG6
 Thylen, Lars—FWC5
 Tian, Lei—CThA3, **FThB1**
 Tian, Zhenhua—**JWC15**
 Tidemand-Lichtenberg, Peter L.—FThR6
 Tiedje, Thomas—AWC5
 Tien, Chung-Hao—FWT4
 Timneanu, Nicusor—LSThA3
 Tippie, Abbie E.—**STuC6**
 Tischler, Jonathan Z.—FThM2
 Tiwari, Umesh K.—**FTuE6**, **FWG6**
 Tobar, Michael—**LSTuB5**
 Todd, Stephen—AOTuA5
 Tokuda, Takashi—FMD4
 Tolmachev, Alexei I.—LSTuG2
 Toma, Cristian—CWA5
 Tomes, Matthew—FThO5
 Torgersen, Todd—CThB2
 Torres, Richard—FThP5, FTuY6
 Torres, Sergio—JWC63
 Torres-Cisneros, Miguel—JWC41, JWC67
 Toth, Csaba—**FWA**
 Toulouse, Jean—FTuI3
 Toussaint, Jr., Kimani C.—FMK7, FWB2
 Tran, Van T. T.—ATHC3
 Trouillon, Tony—AOTHB1
 Trébaol, Stéphane—FThO3
 Trebino, Rick—FTuO5, JWC17, SWA6
 Tremblay, Eric J.—FWG2
 Treusch, Rolf—LSThA3
 Tripathi, Santosh—**FWB2**
 Tripathi, Saurabh M.—**JWC40**
 Trita, A.—LSTuI4
 Trull, Jose F.—FThI1, FTuS4
 Tsai, Hsiu-Ming—**FThL4**
 Tsai, Meng-Che—**JTuC8**, JWC1
 Tsai, Tsung-Han—FThL4
 Tschentscher, Thomas—LSThA3
 Tseng, Shih—FThV3, FTuH2
 Tsuda, Hiroyuki—FThE4, FWN4
 Tu, Yanfei—**FWK4**
 Tuchin, Valery V.—SC340
 Tunnell, J. W.—**FME1**
 Tünnermann, Andreas—FMA3, FThC3,
 FThC6, FThJ4
 Tuohimaa, T.—FThA4
 Turaga, Diwakar—FThV1, **JWC71**
 Turner-Foster, Amy C.—FTuW3
 Turrell, Sylvia—ATHC3
 Twieg, Robert J.—LSWD2
 Tyler, Glenn—AOTHd4
 Udem, Th—LSTuB1
 Ukai, Kazuhiko—**FTuM1**
 ul Hoda, Faisal—FTuC7
 Urbanek, Karel—AWC3
 Urbanski, Lukasz—FTuS2
 U'Ren, Alfred B.—**FWJ**
 Ussery, Daryl—JWC44, **JWC56**
 Utzinger, Urs—**FME**
 Vaccaro, Kenneth—AOTHd2
 Vaccaro, Patrick H.—**LSMB3**
 Vafadar, Bahereh—STuA3
 Vahala, Kerry J.—**LSTuB1**, LSTuB3,
LSTuE, LSTuE2
 Vakoc, Ben—**FWV3**
 Valente, Marty—**FThH**
 Valentine, Jason—**FTuN2**
 Valenzuela, John R.—**CWA2**
 Valley, Marcy M.—FThD2
 Valley, Michael T.—CThC3
 Vallini, Felipe—FThO7
 Valtna-Lukner, Heli—FTuO5
 Vance, Calvin—JWC13
 van den Broek, Johanna M.—FWS6
 van der Gracht, Joseph—**CThC**, **CThB2**
 van der Spoel, David—LSThA3
 van Dijk, Thomas—**FWU2**
 Van Dorpe, Pol—FTuB6
 van Exter, Martin P.—FMF5, JMA6
 van Marcos, Dam—AOWB2
 van Ooijen, Erik D.—FWM3
 Van Stryland, Eric W.—**FMF**, FThS5,
 LSTuG2
 VanNasdale, Dean A.—FME5, FThQ2
 Vanner, Michael—LSTuH1
 Varcoe, Benjamin—**FThU3**
 Varela, Oscar—JWC10
 Vasilyeu, Ruslan—FThB6
 Vázquez de Aldana, Javier R.—LSWB4
 Veisz, Laszlo—FTuK3
 Veit, K.—FWV1
 Veltkamp, Christian—JTuA2
 Venkataraman, D.—LSMB4
 Venugopalan, Vasani—**FThP4**, **FThV**
 Vera, Alice—AWA2
 Vera, Esteban—JWC63
 Veraksa, Alexey—FThV5
 Véran, Jean-Pierre—AOTHa4, **AOTuC**,
 AOTuC4, AOWB2, **JTuC2**
 Verdonck, Patrick—JWC4
 Verellen, Niels—FTuB6
 Verevkin, Aleksandr—FTuE5
 Véronaud, Christophe—AOTuD1
 Verlot, P.—LSTuK1
 Veronis, Georgios—**FThW5**
 Veselago, Victor—**FMA1**
 Vettenburg, Tom—FThX2
 Vidal, Fabrice—AOTuA5
 Vijande, Javier—FWH4
 Vilaseca, Ramon—FThI1, FTuS4
 Vincenti, Maria Antonietta—FThW2,
FWC6
 Vinogradov, A. V.—FTuZ2
 Visser, Taco D.—FWH6, FWU2
 Vodopyanov, Konstantin—**FMK2**
 Vogel, Curtis R.—**AOTHd4**
 Vogt, U.—FThA4
 Vohnsen, Brian—JWC43, **JWC77**
 Vollmer, Frank—**LSMG2**
 Vorobyev, A. Y.—JTuC18
 Vorontsov, Mikhail—**AOTHc**, CThC3,
JWA4
 Vos, Willem L.—FWF4, FWS6
 Voss, Paul—**JMA**
 Vučković, Jelena—**FML6**, FTuB3, FWB5,
 JWE5, LSTuD4, **SC322**
 Vyas, Reeta—**JWC30**
 Wachulak, Przemyslaw W.—FTuS2
 Wagadarikar, Ashwin A.—**CTuA6**
 Wahhaj, Zahed—AOTHa3
 Wakaki, Moriaki—FThS4, **JWC22**
 Waller, Laura—**CThA3**, **FThR3**
 Walmsley, Ian A.—FWJ3, JTuB2
 Wampler, Ronald—LSMF2
 Wan, Wenjie—**FMF1**
 Wanapun, Debbie—LSMF2
 Wang, Feiling—**AOTHc2**
 Wang, Feng—LSWE1
 Wang, H.—JMA1
 Wang, Hongfei—**LSWK2**
 Wang, Jian—FThE2
 Wang, Jing—**FTuJ2**
 Wang, Kang—STuB3
 Wang, Lianqi—**AOTuD2**
 Wang, Lijun—JWC15
 Wang, L. J.—FThO2
 Wang, Qi—FTuX3
 Wang, Qian—**FThK4**, FThO4, FWN2,
 JWC53
 Wang, Quan—JWC16
 Wang, Quan—**LSTuF3**
 Wang, Shih-Yuan—FWC5
 Wang, Tianyi—FThP6
 Wang, Ting—FTuP4
 Wang, Wei—**CWA3**
 Wang, Wenjie—FThI1
 Wang, Xi—FMK4
 Wang, Xiao—FTuK4
 Wang, Xiaosheng—FTuV5
 Wang, Xin—FWI3
 Wang, Xiaosheng—JWC29
 Wang, Xiaoyong—LSTuJ4
 Wang, Yiliang—FThE3
 Wang, Yu—**FTuY5**
 Wang, Y.—FTuZ2
 Wang, Yadong—**FWN2**
 Wang, Yung-Hsing—**JWC1**
 Wang, Ye—LSWB3
 Ward, Jonathan M.—FThC2
 Warnasooriya, Nilanthi—FThB4
 Warren, Warren S.—**FWA3**
 Warren-Smith, Stephen—FTuE3
 Warwick, Tony—FThT2
 Washburn, Adam L.—LSMC1
 Watkins, Amy—FMG3
 Watson, Edward—FTuF1
 Watts, Richard—STuA3
 Wawro, Debra—FTuY1
 Wax, Adam—FME6, **FMK**, JWC75
 Webb, Kevin J.—FMA6, FTuL3
 Webb, Roderick P.—**FTuI**, **FTuW1**
 Weber, Mark—FThD2
 Weber, Ryan—LSWD2
 Webster, Scott—FThS5, **LSTuG2**
 Webster, Scott E.—AWC5
 Weegink, Kristian—FWM3
 Wei, Feng—LSWK2
 Wei, Jean—AWA3
 Wei, Wei—**FWL4**
 Wei, Xin—**JWB1**
 Wei, Yongqiang—FWN2
 Weigel, Aubrey V.—JWC68, **LSWD3**
 Weill, Rafi—**FWD5**
 Weiss, S. B.—FThD2
 Weitz, David A.—FTuY2
 Wells, Nathan P.—LSThF2
 Wells, Nathan P.—LSWC4
 Wen, Zhiying—**STuC7**
 Weninger, Keith R.—**LSThD3**
 Wenner, J.—JMA1
 Wereley, Steve—**LSMC4**
 Werner, James H.—**LSThF2**, LSTuG1
 Weßels, Peter—JTuA2
 Westall, Carol A.—JWC78
 Weyrauch, Thomas—JWA4
 Whelan, Maurice—FWY5
 Whitaker, John F.—FWG3
 White, Andrew G.—**JWD3**
 White, G. R.—LSTuI5
 White, Madeline C.—JWC33
 White, Tom P.—FWF5
 Whitfield, J. D.—JWD3
 Wiberg, Andreas O. J.—FWK2
 Wiberg, Donald M.—AOWB5
 Wiecezorek, Sebastian—FThO6
 Wiederrecht, Gary—**LSWG5**
 Wiersma, Diederik S.—**FMC4**
 Wikner, David A.—CTuA3
 Wildeman, Jurjen—LSTuG1
 Willey, Chester—**FWR3**, **JWC9**
 Willems, Phil—**AOTHa5**
 Williams, Charles—**FMD2**
 Williams, David R.—FTuQ2, JWF4
 Williams, Stanley—FWC5
 Willner, Alan E.—FThE2, FWK3, FWZ5
 Wilson, Bridget S.—LSThF2
 Wilson, Tony—AOTHc3, AOWA2
 Winarski, Robert P.—FThM4
 Winick, Kim A.—FMJ1
 Winkelmann, Lutz—**JTuA2**
 Winkler, Mark—AWB1
 Wirth, Allan—**AOTHc4**
 Witcher, Jonathan—LMTuB4, **LMTuC4**
 Withford, M. J.—**LMTuC1**
 Woaf, P.—JWC23
 Woer, Munib—FTuV2
 Woerdman, J. P. (Han)—**FMF5**

- Wolf, Emil—**FTuO2**, FWH2, **FWU3**, FWU4
Wondraczek, Lothar—AThD3
Wong, Chee Wei—FML5
Wong, Shing-Wa—FTuC1
Wong, Wesley—**FWS1**
Woods, Bruce W.—LSThA3
Woods, Charles—AOTHD2, FTuH5, FWI1
Wornell, Gregory—CTuB5
Woznica-Raulin, Katarzyna—AThC3
Wright, Tom—**JWC78**
Wu, Binlin—**JTuC10**
Wu, Benny—LSThE3
Wu, Bing—STuA3
Wu, Chengbiao—LSThB3
Wu, Hao—FWL6
Wu, Jing—**FTuV3**
Wu, Pingfan—**FTuF2**
Wu, Qiaofeng—**FThV4**
Wu, Qi—FTuN4
Wu, Wei—LSWE1
Wu, Xiaoxia—FWK3
Wu, Ziran—FWX2
Wurth, W.—LSMH1
- Xiao, Fajun—FTuV5
Xiao, Lei—FThO3
Xiao, Min—FWB7, JWC35
Xiao, Shumin—**FTuN3**
Xiao-Li, Yinying—FThE2, **FWZ5**
Xie, Xudong—**FTuK4**, JTuC5
Xin, Hao—FWX2
Xin, Yongchun—FThK1
Xiong, W.—LMTuD2
Xu, J.—FThI3
Xu, Jun—FWB6
Xu, Jingjun—FWK4
- Xu, Jimmy—FWZ4
Xu, Lina—**CThC6**
Xu, Lei—FTuP4
Xu, Min—JTuC10
Xu, Michelle Y.—**FThW1**, **FThW3**, **FThW7**
Xu, Ningning—**FWB7**
Xu, Yan-yan—LSWK2
Xu, Zhimin—**STuA4**
- Yadav, Ram A.—JWC45
Yadav, Tarun K.—JWC45
Yakimenko, Vitaly—LSMH4
Yamashita, Shinji—FTuC1
Yamauchi, Kazuto—**FThG3**
Yamilov, Alexey G.—**FMC3**, **FMC6**
Yang, Changhui—**FWS4**
Yang, Haw—**LSTuD2**, **LSWD1**
Yang, J.—FThI3
Yang, Kai—**FMB4**, FMB5
Yang, Qiguang—**FWB4**
Yang, Tianhe—**FThO5**
Yang, Weijia—AWB4, JTuC16
Yang, Weijian—**FTuW2**
Yang, Wei J.—FWL3
Yang, X.—FTuW1
Yanik, Ahmet Ali—FMA4, **FWP6**
Yao, Xiao Jie—JWC16
Yapp, Cal—AWA1
Yariv, Amnon—FTuX1, FWK3
Yashchuk, Valeriy V.—FThT2
Ye, Winnie N.—**FTuV2**
Yeaton-Massey, David—JWC20
Yegnanarayanan, Siva—FTuB7
Yeh, Alvin T.—FThV4
Yelleswarapu, Chandra S.—FThF3, **FThV5**
Yen, She-Hwa—FTuC1
- Yerçi, Selçuk—FML6, FTuB3
Yesayan, Garegin—FWI5
Yi, Fei—**FThE3**, **FThK**
Yi, Jong Chang—FThK2
Yildiz, Ahmet—**LSThF3**, **LSWD**
Yilmaz, Tolga—FWX4
Yin, G. Y.—JMA2
Yin, Lianghong—**FML4**
Yokoyama, Eisuke—**FThS4**
Yoon, Yeon-Taek—**FWE5**
Yorulmaz, Saime C.—FThU6, FThU7
Yoshie, Tomoyuki—**FThO**, FThU2
Young, Michael E.—FMA7
Younger, Eddy—AOTuA5
Yu, Haiwu—FTuK4
Yu, Siyuan—FMG1
Yu, William—FWB4
Yu, Xudong—JWC35
Yu, Zongfu—FMH2
Yuan, Ping—FWE6
Yuan, Sheng—**FThT2**
Yuan, Zhiliang—**JWE2**
Yue, Yang—FThE2, FWZ5
Yum, Honam—JTuA6
Yun, Wenbing—**FThT3**
Yuna, Ping—FWL6
Yurke, Bernard—FWC2
Yvind, Kresten—FThE1
- Zacarés, Mario—FWH4, FWP3
Zadak, Avi—**FWK3**
Zagrebina, Leonid—AThB4
Zair, Amelle—JWC10
Zaitsev, Oleg—**LSTuA5**
Zam, Azhar—**FThP2**
Zambon, Veronique—**JTuC15**
Zambri, Roberta—FThI6, **FWY1**
- Zawilski, Kevin T.—AWA3
Zdyrko, Bogdan—AThC4
Zeldovich, Boris Y.—FMF2, **FWH**, FWX5
Zeng, Xiaoming—FTuK4
Zentgraf, Thomas—FTuB2, FTuN2
Zepf, Matt—**FTuZ3**
Zewe, Kelly—LSTuG1
Zeytunyan, Aram—**FWI5**
Zgu, G.—**FTuN5**
Zhai, Zhaohui—FWK4
Zhan, Qiwen—**FThF2**, SC235
Zhang, Deming—FMB3
Zhang, Guoquan—FWK4
Zhang, Heyi—FWI4
Zhang, Jin—FTuE4
Zhang, Jing—FWE6, **JWC35**
Zhang, Kun—JTuC5
Zhang, Kai—LSThB3
Zhang, Ke—LSWD4
Zhang, Lei—CThB2
Zhang, Lin—**FThE2**, FWZ5
Zhang, Mathew—FThE5
Zhang, Peng—FThI3, FTuE1, FTuX2, FTuV5, **FWE**, JWC32
Zhang, Sheng—FTuJ3
Zhang, Xiang—**AThA1**, FTuB2, **FTuN1**, FTuN2
Zhang, Xuenan—FWE6
Zhang, Xiang—**FWL5**, LSWE1
Zhang, Yanpeng—FWB7
Zhang, Yundong—**FWE6**, **FWL6**
Zhang, Ying—FWP5
Zhang, Yuhua—FWX1
Zhang, Yan—JWC15
Zhao, Jing—AOTHC2
Zhao, Jianlin—FThI3, FTuV5, JWC32
Zhao, Junpu—JTuC5
- Zhao, Yue—FMJ7
Zheng, Yili—STuB4
Zhong, Guixiong—AOTHC2
Zhong, Shan—**FTuC2**
Zhong, Zhangyi—JWF1
Zhou, Jun—FThD1
Zhou, Kainan—FTuK4, JTuC5
Zhou, Kaimeng—LSMG5
Zhou, Shuyun—LSWJ3
Zhou, Wei—FThE7
Zhou, Wei—JTuC5
Zhou, Xiao-Qi—FMG1
Zhou, X.—JWE4
Zhou, Xibin—LSTuI3
Zhou, Y. S.—LMTuD2
Zhu, Diling—LSThE3
Zhu, Qihua—FTuK4
Zhu, Qibiao—FTuX3
Zhu, Qihua—JTuC5
Zhu, Xiangdong—FTuY4
Zhu, Xin—LMTuA4
Zhu, Yizheng—FME6
Zhu, Zipeng—LSWJ5
Zielinski, Thomas P.—**SWA2**
Zinter, Joseph P.—FWA5
Zlatanovic, Sanja—FML2, FWR1
Zolotoyabko, Emil—LSTuG4
Zorba, Vassilia—**LMTuD1**
Zou, Weiyao—JWF1
Zuegel, Jonathan D.—FTuD5
Zuo, Yanlei—FTuK4

FiO/LS/OSA Fall Optics & Photonics Congress Program and Exhibit Guide Addendum

LASER SCIENCE SYMPOSIUM ON UNDERGRADUATE RESEARCH: Please see the 6-page program in your registration bag for more information on this symposium, including the updated schedule. Note that the posters will remain in the Cupertino Room until 6:00 p.m.

Short Course Cancellations

SC326 Patent Fundamentals
SC322 Silicon Nanophotonics
SC340 Tissue Optics and Optical Coherence Tomography

What's Hot in Optics Today?

Presentation updates:

- **Seeing the (Almost) Invisible: Using Novel Nonlinear Optical Effects for Image Contrast in Biology and Medicine**, *Chris Schaffer; Cornell Univ., USA*
- **Design Events—Solar Technology: Design, Fabrication, and Testing**, *R. John Koshel; Photon Engineering LLC and College of Optical Sciences, Univ. of Arizona, USA*
- **What's Hot in Information Acquisition, Processing and Display**, *David Brady; Duke Univ., USA*
- **What's Hot in Photonics and Opto-Electronics**, *Juerg Leuthold; Univ. of Karlsruhe, Germany*
- **More to Retinal Wiring than Meets the Eye**, *Alex Wade; Smith-Kettlewell Eye Res. Inst., USA*

Technical Group Meetings

- On Sunday, from 7:00 p.m.–8:30 p.m. in the Empire Room at the Fairmont Hotel, join the Fabrication, Design, and Instrumentation Division meeting for a special guest presentation on NIF.
- On Tuesday, from 7:00 p.m.–8:00 p.m. in the Empire Room at the Fairmont Hotel, attend the joint meeting of the Optical System Design and Characterization and Polarization Technical Groups.
- On Wednesday, from 4:00 p.m.–5:00 p.m. in the Cupertino Room at the Fairmont Hotel, join the OSA Imaging Sensing and Pattern Recognition Technical Group for an informal discussion of results presented at the COSI and SRS topical meetings and at FiO. Light refreshments will be served.

Student Programming

The presentation by Featured OSA Traveling Lecturer: Irving Bigio scheduled for Tuesday has been cancelled. The "Painless Publishing" session is now from 9:00 a.m.–10:00 a.m. The "Career Focus: Policy in Science" session is now from 10:30 a.m.–12:00 p.m.

Withdrawn Presentations

AO: AOTuC3, AOTHb3
FiO: FTuY5, JWC61, JWC78, JWE6, FWC6, FWL6, FThO1
LM: LMTuB2
LS: LSTuA1, LSTuI4, LSWA5, LSWJ1, LSWJ4, LSWK4, LSThD2

Session Updates

- AWA ends at 10:00 a.m.
- AWB ends at 12:00 p.m.
- AWC ends at 3:30 p.m.
- AWD ends at 6:00 p.m.
- AThA ends at 9:45 a.m.
- AOTHa ends at 10:00 a.m.
- AOTHb ends at 11:50 a.m.
- CWB ends at 3:30 p.m.
- CThC ends at 3:15 p.m.
- FTuM ends at 3:30 p.m.
- JWE ends at 5:45 p.m.
- FThO begins at 1:45 p.m.
- LSWD ends at 12:30 p.m.
- LSWJ starts at 4:30 p.m.
- SWA ends at 3:30 p.m.

Program Additions

LS invited presentation LSWD5, **Local Structural Flexibility of Nucleic Acid Probed by a Wide Field Single Molecule FRET Imaging Technique**, *Tae-Hee Lee; Pennsylvania State Univ., USA* will be presented at 12:00 p.m. **Abstract:** A simple method to probe local structural flexibility of nucleic acid based on a wide field single molecule FRET imaging technique will be presented. Applications to DNA duplexes, ribosome complexes and nucleosomes will also be presented.

FiO invited presentation FTuF3, **Problems in Physically Based Simulations of Real-World Environments**, *Donald P. Greenberg; Program of Computer Graphics, Cornell Univ., USA* will be presented at 11:30 a.m. **Abstract:** For the design of buildings, advertising for the automotive industry, or interior design, physically-based simulations must be accurate representations of real-world environments. This heavily illustrated graphical talk identifies the unsolved research areas necessary to reach this goal and shows several compelling applications.

The talk that was originally FTuF3 is now FTuM4, **3-D TV Based on Integral Method Using Extremely High-Resolution Video System**, *Masahiro Kawakita, Jun Arai, Fumio Okano; NHK Science & Technical Res. Labs, Japan*, and will be presented at 3:00 p.m.

Presentation Schedule Updates

AWB2, **Asymmetric Writing with Scanning Direction of Femtosecond Laser in Silica Glass**, is now AThC4 and will be presented by Matthieu Lancry on Thursday at 2:30 p.m.

AThC4, **Progress on the Fabrication of On-Chip, Integrated Chalcogenide Glass (ChG)-**

Based Sensors, is now AWB2 and will be presented at 11:00 a.m. on Wednesday.

AWB3, **Femtosecond Laser Induced Micro-Structured Silver Containing Glass as an Engineered Nonlinear Optical Material**, begins at 11:30 a.m.

AWB4, **Doping Dependence of the Femtosecond Laser Damage Thresholds in Silica Glasses**, begins at 11:45 a.m.

AThC5, **Ultrafast Dephasing Time Measurements in a Niobic-Silicate Nanocomposite Using Incoherent Light**, begins at 2:45 p.m.

AThD2, **Chalcogenide Glass Fibers and Their Applications**, is now AWD4 and will be presented at 5:30 p.m. on Wednesday.

FThU6, **Direct Measurement of High Q-Factors in Individual Salt-Water Microdroplets by Photothermal Tuning Spectroscopy**, is now FThU7 and will be presented at 5:45 p.m.

FThU7, **Reversible Photothermal Tuning of Single Salt-Water Microdroplets on a Superhydrophobic Surface**, is now FThU6 and will be presented at 5:30 p.m.

Presenter Changes

- *Julian Christou; Gemini Observatory, USA* will present AOTuC1, **Differential Photometry through PDF Deconvolution and AOTuC2, Statistical Signal Enhancement in Adaptive-Optics Observations of Exoplanets.**
- *Caroline Kulcsár; LETI, Univ. Paris XIII, France* will present AOTHa2, **Experimental Validation of LTAO and MCAO Configurations with Optimal Control.**
- *David A. Andersen; Herzberg Inst. of Astrophysics, Natl. Res. Council of Canada, Canada* will present AOTHb1, **An Auto-Regressive Model to Create Seeing Time Series.**
- *Jeffrey Livas; NASA Goddard Space Flight Ctr., USA* will present JMB2, **LISA: Detecting Gravitational Waves from Space.**
- *Edvard Watson; AFRL, USA* will present FTuF1, **Three-Dimensional Sensing, Visualization, and Display by Integral Imaging.**
- *Peter (Jeff) Wisoff; Lawrence Livermore Natl. Lab, USA* will present FTuK1, **Status of the National Ignition Facility.**
- *Kishor T. Kapale; Western Illinois Univ., USA* will present JWC25, **On Simultaneous**

Measurement of Polarization and Orbital Angular Momentum of Light

• C. Faber; *Univ. of Erlangen-Nuremberg, Germany* will present **FWV1, Deflectometry Challenges Interferometry: 3-D-Metrology from Nanometer to Meter.**

• Pierre Thibault; *Paul Scherrer Inst., Switzerland* will present **FThT1, Multi-Modal Scanning X-Ray Microscopy.**

• Diego Krapp; *Colorado State Univ., USA* will present **LSWD3, Tracking Single Potassium Channels in Live Mammalian Cells.**

• *Univ. of Florida, USA* will present over session **FMI.**

Author Updates

Corrected reference 2 for **AOTbB3P**: [2] R. Holzlöhner, S. M. Rochester, D. Bonaccini Calia, D. Budker, J. M. Higbie, and W. Hackenberg, "Optimization of cw sodium laser guide star efficiency", to appear in *Astronomy and Astrophysics*, preprint: arXiv 0908.1527 <http://arxiv.org/abs/0908.1527>

Updated author information for **JTuC8, Six-Dimensional Joystick Based on Detection of Optical Spot**: Meng-Che Tsai, Pin-Hao Hu,

Yung-Hsing Wang; *ITRI, Industrial Technology Res. Inst., Taiwan.* Yung-Hsing Wang will present.

Updated author order for **JWC28, Atmospheric Propagation of Fiber and Solid State Lasers in Maritime Environments:**

Matthew A. Leigh, Timothy O. Murphy, Andrew Baranowski, Adin Kawate; *Envisioneering, Inc., USA.* Matthew Leigh will present.

Updated author information for **LSTuC1, Sub-Picosecond Intersystem Crossings and Structural Dynamics: Combined Ultrafast Optical and X-Ray Absorption Studies:**

C. Milne¹, S. Johnson², V. T. Pham¹, A. El Nahhas¹, R. van der Veen¹, P. Beaud², Ch. Bressler¹, M. Chergui¹; ¹Lab of Ultrafast Spectroscopy, Ecole Polytechnique Fédérale de Lausanne, Switzerland, ²Swiss Light Source, Paul Scherrer Inst., Switzerland. Steve Johnson will present.

Presider Updates

• Kathleen Richardson; *Clemson Univ., USA* will preside over session **AWA.**

• Martin M. Fejer; *Stanford Univ., USA* will preside over **ATHD.**

• David H. Reitze; *Univ. of Florida, USA* will preside over session **FMI.**

• Neil Terry; *Duke Univ., USA* will preside over session **FMK.**

• Se Baek Oh; *MIT, USA* will preside over session **FTuH.**

• Edward Watson; *AFRL, USA* will preside over **FTuM.**

• Roberta Zambrini; *IFISC (UIB-CSIC), Univ. Illes Balears, Spain* will preside over session **FWS.**

• Benjamin Varcoe; *Univ. of Leeds, UK* will preside over session **FThC.**

• Thomas Schreiber; *Fraunhofer Inst. Optik Feinmechanik, Germany* will preside over session **FThD.**

• Urs Utzinger; *Univ. of Arizona, USA* will preside over **FThP.**

• Andrew Harvey; *Heriot-Watt Univ., UK* will preside over session **FThR.**

• Peter Herman; *Univ. of Toronto, Canada* will preside over session **LMTuC.**

POSTDEADLINE PRESENTATIONS: Please see the postdeadline papers book for times and locations of postdeadline paper presentations. AO, AIOM, COSI and SRS postdeadline papers will be presented throughout the week in various oral sessions.

New Exhibitors:

Laser Quantum

Table 16

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A special thanks to the American Institute of Physics for their sponsorship of Wednesday's FiO Coffee Breaks.

American Institute of Physics



OSA's 93RD ANNUAL MEETING

FRONTIERS IN OPTICS 2009

FALL 2009 OSA OPTICS & PHOTONICS CONGRESS

Adaptive Optics: Methods, Analysis and Applications (AO)

Advances in Optical Materials (AIOM)

Computational Optical Sensing and Imaging (COSI)

Signal Recovery and Synthesis (SRS)

Postdeadline Papers

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Fall OSA Optics & Photonics Congress

• Wednesday, October 14, 2009 •

Advances in Optical Materials

Belvedere Room, Fairmont San Jose Hotel

8:00 a.m.–10:00 a.m.

AWA • Semiconductor Materials

Kathleen Richardson; Clemson Univ., USA, Presider

AWA7P • 9:45 a.m.

Molecularly Engineered Semiconductor Cluster Nanocomposites with Large Nonlinear Responses and Low Losses, *Ronald M. Kubacki; Ionic Systems Inc., USA*. Materials can now be molecularly engineered specifically for advanced photonics. Nanocomposites enable passive waveguides with less than 0.5 dB/m loss and active sections with large (i.e. > 1,000) non linear optical responses.

Belvedere Room, Fairmont San Jose Hotel

1:30 p.m.–3:30 p.m.

AWC • Oxide Crystals

Peter G. Schunemann; BAE Systems, USA, Presider

AWC6P • 3:15 p.m.

Tape Cast Composite Ceramic Er:YAG Laser, *Nikolay Ter-Gabrielyan¹, Larry D. Merkle¹, Mark Dubinskii¹, E. R. Kupp², Gary L. Messing²; ¹US ARL, USA, ²Penn State Univ., USA*. Laser operation of tape cast composite ceramic Er:YAG rod is demonstrated at 1645 nm with slope efficiency of 56.9% under the resonant pumping. This is believed to be the first reported composite ceramic Er:YAG laser.

Computational Optical Sensing and Imaging

Club Regent Room, Fairmont San Jose Hotel

1:30 p.m.–3:30 p.m.

CWB • Multi Aperture Systems

Ravindra Anant Athale; MITRE Corp., USA, Presider

CWB6P • 3:15 p.m.

Dual-Band Imaging System Based on a Compact Coaxial Folded Optic Architecture, *R. L. Morrison¹, R. A. Stack¹, Gary Euliss², R. A. Athale², B. F. Necioglu², R. W. Horstmeyer², Colin Reese³; ¹Distant Focus Corp., USA, ²MITRE Corp., USA, ³U. S. Army RDECOM CERDEC Night Vision and Electronic Sensors Directorate, USA*. We present an unconventional coaxial architecture for simultaneous acquisition of images in two discrete spectral bands. The approach is realized by taking advantage of a novel annular-folded lens design previously developed under the DARPA/MONTAGE program.

Signal Recovery and Synthesis

Cupertino Room, Fairmont San Jose Hotel

1:30 p.m.–3:30 p.m.

SWA • Phase Retrieval Methods

Charles L. Matson; AFRL, USA, Presider

SWA7P • 3:15 p.m.

High Dynamic Range Image Capture with Plenoptic 2.0 Camera, *Todor G. Georgiev¹, Andrew Lumsdaine², Sergio Goma³; ¹Adobe Systems, USA, ²Indiana Univ., USA, ³Qualcomm, USA*. We demonstrate high dynamic range (HDR) imaging with the Plenoptic 2.0 camera. Multiple exposure capture is achieved with a single shot using microimages created by microlens array that has an interleaved set of different apertures.

Fall OSA Optics & Photonics Congress

• Thursday, October 15, 2009 •

Adaptive Optics: Methods, Analysis and Applications

Fairfield Room, Fairmont San Jose Hotel

8:00 a.m.–10:00 a.m.

AOThA • Adaptive Optics Systems II

Donald T. Miller; Indiana Univ., USA, Presider

AOThA6P • 9:40 a.m.

A Calibration Unit for the Rayleigh Laser Guide Stars at the LBT, Christian Schwab¹, Andreas Quirrenbach¹, Wolfgang Gässler², Diethard Peter²; ¹Landessternwarte, ZAH, Univ. Heidelberg, Germany, ²Max Planck Inst. for Astronomy, Germany. We describe the calibration scheme and optical design of a calibration unit for the off-axis laser guide stars at LBT's ARGOS facility. Artificial stars with the desired wavefront are created using a computer generated hologram.

Fairfield Room, Fairmont San Jose Hotel

10:30 a.m.–11:50 a.m.

AOThB • System Simulation and Modeling II

Miska LeLouarn; European Southern Observatory, France, Presider

AOThB3P • 11:10 a.m.

Optimization of cw and Pulsed Sodium Guide Star Lasers, Ronald Holzlöhner¹, Simon Rochester², Domenico Bonaccini Calia¹, Dmitry Budker², James M. Hight³, Wolfgang Hackenberg¹; ¹European Southern Observatory (ESO), Germany, ²Univ. of California at Berkeley, USA, ³Bucknell Univ., USA. We present the results of extensive Bloch equation numerical simulations, both for cw and for various pulsed laser formats and applications.

Advances in Optical Materials

Belvedere Room, Fairmont San Jose Hotel

8:00 a.m.–9:45 a.m.

AThA • Nanostructured Materials

Shaya Y. Fainman; Univ. of California at San Diego, USA, Presider

AThA6P • 9:30 a.m.

100-Fold Enhancement of Fluorescence Imaging by Two-Dimensional-Grating-Coupled Surface Plasmon Resonance, Kenji Kintaka¹, Xiaoqiang Cui¹, Keiko Tawa¹, Junji Nishii^{1,2}; ¹Natl. Inst. of Advanced Industrial Science and Technology, Japan, ²Hokkaido Univ., Japan. Silver-coated two-dimensional periodic structures were fabricated for high-efficiency excitation of surface plasmon resonance. The fluorescence image of labeled proteins on the periodic structure was 100 times as bright as that on a flat glass plate.

Belvedere Room, Fairmont San Jose Hotel

1:30 p.m.–3:15 p.m.

AThC • Glass Synthesis and Properties

Jonathan Knight; Univ. of Bath, United Kingdom, Presider

AThC6P • 3:00 p.m.

Characterization of Eu²⁺-Doped SrMgAl₂SiO₇ as a Novel Blue-Emitting Phosphor Synthesized through Sol-Gel Method, Reza Salimi, Hassan Sameie, Ali A. Sabbagh Alvani, Ali A. Sarabi, Fathollah Moztarzadeh, Mohammadreza Tahriri; Amirkabir Univ. of Technology, Islamic Republic of Iran. Phase-forming process, thermal behavior of components and luminescence properties of novel blue-emitting phosphor, SrMgAl₂SiO₇:Eu²⁺ were investigated. Narrow emission peak at 421 nm and nanocrystallite (30.6 nm) of final products, were attributed to the sol-gel process.

Computational Optical Sensing and Imaging

Club Regent Room, Fairmont San Jose Hotel

1:30 p.m.– 3:15 p.m.

CThC • Imaging through Complex Media and Spectroscopy

Joe Van der Gracht; Holospex, Inc., USA, Presider

CThC7P • 3:00 p.m.

A Multi-Depth Image Restoration Based on a Quartic Phase Coded Lens, Ludovic J. Angot, Po-Chang Chen, Chuan-Chung Chang; Industrial Technology Res. Inst., Taiwan. A phase coded lens design using a quartic form derived from the spherical aberration of traditional optical systems and a method for image restoration of objects located at different distances are provided.

Key to Authors and Presiders

(Bold denotes Presider or Presenting Author)

- Adam, Roman—PDPA1
Adamo, Giorgio—**PDPB1**
Aeschlimann, Martin—PDPA1
Afek, Itai—**PDPA9**
Almeida, Euclides—PDPC5
Alonso, Miguel A.—**PDPC4**
Ambar, Oron—PDPA9
Amberg, Philip—PDPB5
Angot, Ludovic J.—**CThC7P**
Arie, Ady—PDPA5
Assoufid, Lahsen—**PDPB**
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PDPA4
Bravo-Abad, Jorge—**PDPB4**
Brener, Igal—PDPB8
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- Dai, Lun—PDPB7
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Euliss, Gary—**CWB6P**
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Fischer, Peer—**PDPC2**
Fratz, Markus—PDPC2
Furch, Federico J.—**PDPA2**
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Gayer, Ofer—PDPA5
Georgiev, Todor G.—**SWA7P**
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Gladden, Chris—PDPB7
Goban, Akihisa—PDPA7
Goma, Sergio—SWA7P
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- Hackenberg, Wolfgang—AOTHB3P,
PDPA4
Hewak, Dan W.—PDPB1
Higbie, James M.—AOTHB3P
Ho, Ron—PDPB5
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Holzlohner, Ronald—**AOTHB3P**, PDPA4
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Horstmeyer, R W.—CWB6P
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Jia, Yaoshun—**PDPB2**
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Johnson, Anthony—PDPA3
- Kapteyn, Henry C.—PDPA1
Kimble, H. Jeff—PDPA7
Kimerling, Lionel C.—PDPC6
Kintaka, Kenji—**ATHA6P**
Knight, Jonathan—**ATHC**
Knight, Kenton—PDPB1
Krishnamoorthy, Ashok V.—PDPB5
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Kupp, E R.—AWC6P
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LeLouarn, Miska—**AOTHB**
Lexau, Jon—PDPB5
Li, Guoliang—PDPB5
Li, Jingjing—**PDPC3**
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Luo, Ying—PDPB5
Luther, Bradley M.—PDPA2
- Ma, Ren-Min—PDPB7
MacDonald, Kevin F.—PDPB1
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Mathias, Stefan—PDPA1
Matson, Charles L.—**SWA**
Matthews, Jonathan C. F.—**PDPA6**
Meehan, Shaun P.—PDPA2
Mekis, Attila—PDPB5
Merkle, Larry D.—AWC6P
Messing, Gary L.—AWC6P
Miao, Xiaoyu—**PDPB8**
Miller, Donald T.—**AOTH6P**
Mookherjea, Shayan—PDPB3
Moro, Slaven—PDPB3
Morrison, R L.—CWB6P
Mota, Claudia B.—PDPC5
Moztarzadeh, Fathollah—ATHC6P
Murnane, Margaret M.—PDPA1
- Narimanov, Evgenii—PDPB6
Necioglu, B F.—CWB6P
Nembach, Hans—PDPA1
Nishii, Junji—ATHA6P
Nunes, Frederico D.—PDPC5
- O'Brien, Jeremy L.—PDPA6
O'Donnell, Kevin A.—PDPA5
- Oulton, Rupert F.—PDPB7
- Papp, Scott B.—**PDPA7**
Park, Jung S.—**PDPB3**
Passmore, Brandon—PDPB8
Peter, Diethard—AOTH6P
Petruccelli, Jonathan C.—PDPC4
Pinckney, Nathaniel—PDPB5
Pinguet, Thierry—PDPB5
Politi, Alberto—PDPA6
Porat, Gil—**PDPA5**
- Quarles, Gregory—**PDPC**
Quirrenbach, Andreas—AOTH6P
- Radic, Stojan—PDPB3
Raj, Kannan—PDPB5
Reagan, Brendan A.—PDPA2
Reese, Colin—CWB6P
Richardson, Kathleen—**AWA**
Rocca, Jorge J.—PDPA2
Rochester, Simon—AOTHB3P
- Sabbagh Alvani, Ali A.—ATHC6P
Saciloti, Marco—**PDPC5**
Salimi, Reza—ATHC6P
Sameie, Hassan—ATHC6P
Sámson, Zsolt L.—PDPB1
Sarabi, Ali A.—ATHC6P
Schneider, Claus M.—PDPA1
Schwab, Christian—**AOTH6P**
Shaner, Eric—PDPB8
Shaw, Justin M.—PDPA1
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Silva, T. J.—PDPA1
Smolyaninov, Igor—PDPB6
Soljačić, Marin—PDPB4
Sorger, Volker J.—**PDPB7**
Squier, Jeff—PDPC7
Sraj, Ihab—PDPC7
Stack, R A.—CWB6P
Sundheimer, Michael—PDPC5
- Tahriri, Mohammadreza—**ATHC6P**
Tawa, Keiko—ATHA6P
Taylor, Luke R.—PDPA4
Ter-Gabrielyan, Nikolay—AWC6P
Thacker, Hiren—PDPB5
Tsai, Hsiu-Ming—**PDPC1**
- U'Ren, Alfred B.—**PDPA8**
- Van der Gracht, Joe—**CThC**
van Enk, Steven J.—PDPA7
Vangala, Shivashankar—PDPB8
- Xu, Yong—PDPB2
- Zentgraf, Thomas—PDPB7
Zhang, Xiang—PDPB7
Zheludev, Nikolay I.—PDPB1
Zheng, Xuezhe—**PDPB5**
Zlatanovic, Sanja—PDPB3