

TECHNICAL PROGRAMME ADDENDUM

Optical Design and Engineering Conference 7100A

SESSION CHAIRS:

Session 1: Rolf Wartman, Carl Zeiss MicroImaging (Germany); **Ulrich Krüger**, JENOPTIK Laser Optik Systeme (Germany)

Session 2: Andrew Wood, Qioptiq (United Kingdom); **Simon Thibault**, ImmerVision (Canada)

Session 3: Richard Neil Youngworth, Light Capture, Inc. (USA); **Kevin F. Middleton**, Rutherford Appleton Lab. (United Kingdom)

Session 4: Laurent Mazuray, EADS Astrium (France)

Session 5: Françoise Cau, SAGEM SA (France)

Session 6: Michael A. Cutter, Surrey Satellite Technology (United Kingdom)

Session 7: Min Wang, Institut National d'Optique (Canada)

Session 8: Laurent Mazuray, EADS Astrium (France); **Andrew Wood**, Qioptiq (United Kingdom); **Rolf Wartman**, Carl Zeiss MicroImaging (Germany)

Session 1 Timing Update:

13.30 to 13.50: 7100A-01
13.50 to 14.05: 7100A-02
14.05 to 14.20: 7100A-03
14.20 to 14.35: 7100A-04
14.35 to 14.50: 7100A-05
14.35 to 15.05: 7100A-06

Withdrawn: 7100A-12, 13

Session 2: Presentation Time Change:

New times: 9.20: 7100A-18
9.35 7100A-17

Session 3: New Title: 7100A-31--The Delano Diagram, a powerful design tool

Session 4: Withdrawal—7100A-45

Session 7: Moved to Posters: 7100A-62

Session 7: New Presentation 11:00 hrs
(replacing paper 7100A-45):

11:00 - 11:20: **HOE-based ESPI Systems**, Emilia M. Mihaylova, Viswanath Bavigadda, Jallapuram M. Raghavendra, Vincent Toal, Dublin Institute of Technology (Ireland) 7100A-91

Poster Session Withdrawals: 7100A-70, 72, 75, 78, 82, 85, 87, 88, 90

Detectors and Associated Signal Processing Conference 7100B

Poster Session Withdrawals: 7100B-109

Advances in Optical Thin Films Conference 7101

Session 2: Withdrawal: 7101-10

Session 4: New Title: 7101-17

Advanced optical coatings for telecom and spectroscopic applications

Session 5: Withdrawal: 7101-24
7101-28

Session 9: Withdrawal: 7101-47

Session 9: Moved from posters to 14.40 (in place of 7101-47):

14:40 - 14:55 Design and monitoring of narrow bandpass filters composed of non-quarter-wave thicknesses, Ronald R. Willey, Willey Optical, Consultants (United States) [7101-54]

Session 10: Withdrawal: 7101-52

Poster Session: Withdrawals: 7101-63, 64, 70

Author/Affiliation Update:

Paper 7101-34

Author(s): Juan I. Larruquert, Mónica Fernández-Perea, Manuela Vidal-Dasilva, José A. Aznárez, José A. Méndez, Instituto de Física Aplicada-Consejo Superior de Investigaciones Científicas (Spain); Luca Poletto, Denis Garoli, Istituto Nazionale per la Fisica della Materia-CNR (Italy); Marco A. Malvezzi, Univ. degli Studi di Pavia (Italy) and CNISM (Italy); Angelo Giglia, Stefano Nannarone, Consiglio Nazionale delle Ricerche (Italy)
Paper 7101-65

Author(s): Stephanie Albert, Eleonore Barthelemy, Caroline Vigreux, Annie Pradel, Univ. Montpellier II (France); Marc Barillot, Thales Alenia Space (France)

Optical Fabrication, Testing and Metrology
Conference 7102

→ **ROOM CHANGE: W301**

The conference has been moved to a new room: **W301**

Session 1: Withdrawal: 7102-08

Session 6: Withdrawal: 7102-33

Moved to Posters: 7102-57

Session 7: Withdrawal: 7102-38

Poster Session: Withdrawals: 7102-40, 41, 42, 47, 50, 51, 53

Author Update:

Paper 7102-21

Reinhard Danzl, Franz Helml, Paul Rubert, Manfred Prantl, Alicona Imaging GmbH (Austria)

Illumination Optics
Conference 7103

Please note the update in conference schedule. An updated agenda follows.

- The conference will begin at 13.00 hours on Tuesday, 2 September.
- Presentation 7103-04 has moved to 11.50 on 3 September during Session 3.
- Withdrawn: 7103-10, 11, 18, 22, 25

Tuesday 2 September

Opening Remarks: Tues. 13.00 to 13.05

Tina E. Kidger, Kidger Optics Associates (United Kingdom); **Stuart R. David**, Optical Research Associates (USA)

SESSION 1: Optimisation

Room: W118: Tues. 13.05 to 15.30

Session Chair: **Andreas L. Timinger**, Optics and Energy Concepts AG (Germany)

13.05: **Optimization and sensitivity analysis using response surface modeling**, Egbert Lenderink, Philips Lighting B.V. (Netherlands) [7103-01]

13.50: **SSL design with LED binning tolerances**, R. John Koshel, College of Optical Sciences/The Univ.

of Arizona (United States) and Photon Engineering (United States) [7103-02]

14.15: **TIR optics for non-rotational symmetric illumination design**, André Domhardt, Simon Weingaertner, Univ. Karlsruhe (Germany); Udo Rohlfing, Hochschule Darmstadt (Germany); Karsten D. Klinger, Uli Lemmer, Univ. Karlsruhe (Germany) [7103-03]

14.40: **Illumination design with virtually reflecting/refracting surfaces**, Udo Rohlfing D.V.M., Hochschule Darmstadt (Germany); André Domhardt, Univ. Karlsruhe (Germany) [7103-05]

15.05: **Illumination Optics System Optimization and Integration Solutions**, Quanxin Ding, Hua Liu,

Luoyang Institute of Electro-Optical Equipment
(China) [7103-06]

Coffee Break: 15.30 to 15.50

SESSION 2: Sources and Coupling

Room: W118: Tues. 15.50 to 17.40

Session Chair: **Stuart David**, Optical Research Associates (USA)

15.50: **A new method for designing, improving and measuring hollow light guides** (*Invited Paper*), Paola Belloni, Hochschule Furtwangen Univ. (Germany) and Consultant (Germany) and Consultant (Germany); Daniel Vazquez, Antonio Alvarez, Eusebio Bernabeu, Univ. Complutense de Madrid (Spain) [7103-07]

16.25: **Recent advances in mixing rods**, William J. Cassarly, Optical Research Associates (United States) [7103-08]

16.50: **An LED multiplexer with improved efficiency**, Joshua M. Cobb, Corning Inc. (United States) [7103-09]

17.15: **Predicting solutions towards improved high power white LED light sources: a combined theoretical and experimental study**, Christian Sommer, Franz P. Wenzl, Ladislav Kuna, Ernst Zinterl, Joachim R. Krenn, JOANNEUM RESEARCH Forschungsgesellschaft GmbH (Austria); Paul Hartmann, Peter Pachler, Marko Schweighart, Stefan Tasch, TridonicAtco Optoelectronics GmbH (Austria) [7103-12]

Wednesday 3 September

SESSION 3: Applications I

Room: W118: Wed. 08.30 to 12.15

Session Chair: **Joshua M. Cobb**, Corning Inc. (USA)

08.30: **High-efficiency free-form condenser overcoming rotational symmetry limitations**, Juan C. Miñano, Pablo Benitez, Univ. Politécnica de Madrid (Spain) and Light Prescriptions Innovators Europe, S. L. (Spain); Jose Blen, Asuncion Santamaria, Univ. Politécnica de Madrid (Spain) [7103-13]

09.15: **Modeling EUVL illumination systems**, Daniel G. Smith, Nikon Research Corp. of America (United States) [7103-14]

09.40: **Sensitivity of an illumination system to lamp flicker**, Henning Rehn, OSRAM GmbH (Germany) [7103-15]

Coffee Break: 10.05 to 10.35

10.35: **Novel technique for solar power illumination using Plastic Optical Fibres (POF)**, Jagadissen Munisami, Demetrios Kalymnios, London Metropolitan Univ. (United Kingdom) [7103-16]

11.00: **Highly efficient photometrics tailoring by means of optimised bell-shaped microlenses**, Michele Manca, National Nanotechnology Lab. (Italy) [7103-27]

11.25: **LED illumination optics: patent survey and**

applications, Jyh-Long Chern, National Chiao Tung Univ. (Taiwan) [7103-17]

11.50: **Unconventional single element optical designs for complex illumination systems**, Niall E. McGee, The Univ. of Warwick (United Kingdom) [7103-04]

Lunch/Exhibition Break: 12.15 to 14.00

SESSION 4: Applications II

Room: W118: Wed. 14.00 to 16.45

Session Chair: **R. John Koshel**, College of Optical Sciences/The Univ. of Arizona (USA)

14.00: **Kohler integrators embedded into illumination optics add functionality** (*Invited Paper*), Oliver Dross, Rubén Mohedano, Maikel Hernández, Light Prescriptions Innovators Europe, S. L. (Spain); Juan Carlos Miñano, Univ. Politécnica de Madrid (Spain); Pablo Benítez, Univ. Politécnica de Madrid (United States) [7103-19]

14.35: **Street-lighting with LEDs**, Andreas L. Timinger, Optics and Energy Concepts AG (Germany); Harald Ries, Optics and Energy Concepts AG (Germany) and Philipps-Univ. Marburg (Germany) [7103-20]

Coffee Break: 15.00 to 15.30

15.30: **Optimization of single reflectors for extended sources**, Florian Fournier, College of Optics & Photonics/Univ. of Central Florida (United States);

William J. Cassarly, Optical Research Associates
(United States); Jannick P. Rolland, College of Optics
& Photonics/Univ. of Central Florida (United States)
[7103-21]

15.55: **Modelling of a laser-pumped light source for
endoscopic surgery**, Valerie J. Nadeau, Daniel S.
Elson, George B. Hanna, Mark A. A. Neil, Imperial
College London (United Kingdom) [7103-23]

16.20: **Secondary optical design for LED
illumination using freeform lens**, Yi Ding, Xu Liu,

Haifeng Li, Pei-fu Gu, Zhenrong Zheng, Zhejiang
Univ. (China) [7103-24]

Posters--Wednesday

**Optimization of light guide plate micro-structure
by back-propagation neural network**, Yi-Chin
Fang, Chen-Jung Li, Ming-Chia Cheng, Shu-Han
Juan, National Kaohsiung First Univ. of Science and
Technology (Taiwan) [7103-26]

Product Tutorial: Practical Topics in Imaging and Illumination Design

Date: Tuesday 2 September; Time: 09:00 - 17:00; Room: W823

Optical Research Associates, together with Kidger Optics Associates, Great Malvern, UK, is pleased to offer three tutorial presentations on current optical design and analysis topics. Experienced design engineers from ORA's engineering and software activities will present these case studies and demonstrations.

Who should attend?

Although these presentations will make use of the capabilities of ORA's imaging design (CODE V®) and illumination design (LightTools®) software and will include demonstrations of these tools, they should be of interest to anyone working with these technologies.

Registration

These tutorial sessions are free of charge, but we request that you register in advance ('walk-ins' will also be welcome) by sending an email with your contact information and preferred session (morning or afternoon) to info@opticalres.com.

Agenda

The following three-hour program will be repeated morning and afternoon, starting at 9 am and 1:30 pm. Presentations will be 45 minutes each but will start at the designated times with 15 minute breaks for discussion and questions. Coffee, tea, and biscuits will be available in the meeting room.

9 am and 1:30 pm

Consumer Personal Display Prototype

(by James P. McGuire, Ph.D., Presented by Kevin Thompson, Ph.D.)

Head-mounted displays have been used widely for military and special applications, but a consumer version presents special challenges in size, weight, ergonomics, and cost as well as in optical design. This presentation will discuss ORA's experience with the specification, optical design, and fabrication of a prototype personal viewer.

10.00 and 14.30

Customized Illumination Analysis for Solar Energy Applications

(by Tom Davenport, Ph.D., presented by Stuart David)

Solar energy is of growing importance, and optical design for solar collection systems has some special requirements. These include the need to model the relative motion of the sun based on day, time, and position on the Earth. Special "solar tracking" features have been incorporated into ORA's LightTools software to support more realistic analysis and optimization of solar collection. These capabilities will be explained and demonstrated.

11.00 and 15.30

Methods for Optimizing LED Performance

(Presented by William Cassarly, Ph.D.)

The applications of LED's continue to grow, but to take advantage of their strengths requires special techniques in LED package design and analysis. Tailoring of LED optics, color mixing, and white-light phosphor modeling are important factors in modern LED's. This presentation will show how the advanced modeling and optimization capabilities of LightTools can support the design of efficient LED systems.