

ENVISION 2021

September 28-29, 2021

Agenda | September 28

8:30 AM - 9:00 AM CEST

CEO Keynote

Subbiah, Chief Executive Officer, Zemax

The landscape of optics is continually evolving and Zemax is committed to staying ahead of the curve to help you thrive. In our conference opening session, Zemax CEO Dr. Subbiah will share where he sees the opportunities for accelerating innovation in optical product design and how Zemax is investing our technology and services to ensure we remain the reliable "gold standard" for optical simulation software.

9:05 AM - 9:50 AM CEST

From flat optics to flat optical systems

Bernard Kress, Partner Optical Architect at Hololens

Maria Pace, PhD, Technology Leader in Mixed Reality, Microsoft

Optical Systems on Chip SoCs (Photonic Integrated Circuits) can be designed & fabricated using multiple-element patterning on a single front/back quartz wafer in a space folded architecture to reduce size, weight and costs, and allow lithographic alignment of the various optical elements within the final system.

SIMULATION DRIVING INNOVATION TRACK

10:00 AM - 10:45 AM CEST

A new path to mixed reality

Stan Larroque, CEO, Lynx

Lynx is working towards mixed-reality devices and making the first product that can enable this medium in a mobile form-factor. Discussions will be held around the optical block of the system, as well as integration into a more complex system.

INDUSTRY INSIGHTS FOR OPTICAL PRODUCT TRACK

Evaluation of optical designs for producibility and manufacturing risk during the design stage

Oliver Fahnle, Co-Owner, Pandao

PanDao determines during the optical design stage the optimum fabrication chain at minimum cost. We will give a live demonstration how PanDao is used to evaluate optical designs for manufacturing risk during the design stage.

10:50 AM - 11:35 AM CEST

Simplifying Optical Design for 3D Displays using Computer-Generated Holography

Alfred Newman, Head of Research, VividQ

Computer-Generated Holography is a unique 3D display method that allows for correcting for key aberrations (such as chromatic focal-shift and field-curvature) as well as arbitrary aberrations in software. This presentation describes how this capability can be applied to a simple display design in OpticStudio, resulting in a high-resolution optical design based around a spherical singlet lens.

Optical glasses ready for future market requirements

Dr. Uwe Petzold, Product Manager, SCHOTT

Current market trends request special optical positions and more extreme features of optical glasses. SCHOTT is facing such upcoming requirements and offers new glass types and metrology upgrades to ensure the next generation of optical devices.

11:40 AM - 12:35 PM CEST

Design camera module using meta lens

Fredrik Mattinson, Senior Optical Designer, NIL Technology

The process to design a camera module using meta lenses. Give an example where the design is performed in Zemax and the nano structure of the meta lens is design with NILT software. A camera module is manufactured within the NILT facilities.

Optical design study and prototyping of a multi spectral VIS-NIR and hyper spectral VIS-NIR-SWIR continuous zoom lens with high zoom ratio using ZEMAX OpticStudio and OpticsBuilder

Nencho Uzunov, Zhelyazko Gagov, Optics JSC

The presentation discusses a continuous zoom lens, designed to meet the evolving multispectral capabilities a CMOS detector; sensing across visible (VIS), near infrared (NIR) spectral bands (continuous imaging for 0,45-1,0 μm).

12:40 PM - 2:00 PM CEST

Networking & Sponsor Sessions

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Agenda | September 29

8:30 AM - 9:30 AM CEST

CEO Keynote - Product Update

Dorothy Pults, Chief Product Marketing Officer, Zemax
Akil Bhagat, Lisa Clauson, and Esteban Carbajal, Product Managers, Zemax

Joining Envision for the first time, please welcome Zemax Chief Product and Marketing Officer, Dorothy Pults, as she shares the newest updates and offerings available in the suite of Zemax Products. Joining her will be Zemax Product Business Managers, Esteban Carbajal, Lisa Clauson and Akhil Bhagat for an informative session highlighting product line updates including our new OpticStudio STAR module.

SIMULATION DRIVING INNOVATION TRACK

INDUSTRY INSIGHTS FOR OPTICAL PRODUCT TRACK

9:35 AM - 10:20 AM CEST

Realistic modelling of multi-focal diffractive intraocular lenses in Zemax OS

Dr. Gabor Erdei, Associate Professor, Budapest University of Technology & Economics

Intraocular lenses (IOLs) literally give back the sight of people suffering from severe cataract. This presentation will review a specific intraocular lens, which can handle all diffraction orders at the same time, while taking the material dispersion of the lens material into account.

Balancing quality vs price vs delivery time!

Bárbara Buades, Co-Founder and CEO, MEETOPTICS

In this talk we will go through how to most efficiently balance quality, focusing only on required specifications, getting the best price & delivery time, and how this is efficiently achievable with off-shelf products.

10:25 AM - 11:05 AM CEST

Multichannel micro-optics for compact automotive lighting solutions

Wilfried Noell, Director of Research & Development, Suss

Multichannel micro-optics are increasingly used in automotive lighting applications. The advantages include a very compact designs and extremely homogenous illumination due to the superposition of multiple channels. We will present our typical workflow, simulation tools and analysis process with pitfalls and success stories.

Freeform lens elements manufacturing with OpticStudio and uVo support

Vadim Vlahko, Ted Churlyayev, Maxim Sukhoterin, Dynaoptics

Big step improvements in computational power have allowed vastly complex optical layouts with advanced freeform elements to be designed. We show how OpticStudio and our DynaOptics SW package uVo can be used to ensure a smooth and predictable process.

11:10 AM - 11:55 AM CEST

Design of freeform three mirror systems for compact and lightweight imaging systems

Louis Duveau, PhD Student, Onera

This presentation details our method to design freeform mirror imaging systems using OpticStudio for a nanosatellite application. Focusing on the tolerancing and straylight analysis of the design by leveraging the ZOS-API.

Big Data - Less Cost. Benefits from Real Data Modeling

Dr. Ulricke Fuchs, VP of Strategy & Innovation

Based on asphericon's database, which has stored all production data of all lenses we have ever manufactured for more than 20 years, we show here based on an asphere both the real overall statistics of all relevant lens parameters and the batch-to-batch variation.

12:00 PM - 12:45 PM CEST

CTO Locknote

Sanjay Gangadhara, CTO, Zemax

Join Zemax CTO, Sanjay Gangadhara, as he explores some of the latest developments in optics and how these trends are being influenced by the rapidly changing markets. Attend to find out how these trends will impact both the future products you'll be developing and the Zemax tools you'll be using to design them.

12:50 PM - 1:40PM CEST

Integrated Optical Simulation Solution with Zemax Software

Esteban Carbajal, Senior Product Manager, Zemax

Learn how Zemax software helps optical product design teams to meet new market challenges and timelines. This presentation will showcase how OpticStudio, OpticsBuilder, and the OpticStudio STAR module can share important design data among team members and their engineering tools. By focusing on a more streamlined workflow, teams can reduce design errors, frustration, and missed deadlines.

12:50 PM - 2:00 PM PDT

Networking & Sponsor Sessions