

# EALA – EUROPEAN AUTOMOTIVE LASER APPLICATIONS 2023

FEBRUARY 7–8, 2023 | BAD NAUHEIM, GERMANY & ONLINE

## TUESDAY, FEBRUARY 7, 2023

### 8.30 am Welcome and conference introduction

*Dr. Dirk Meine, Automotive Circle, DE  
Dr. Jan-Philipp Weberpals, Audi AG, DE*

### LASER BEAM WELDING IN ELECTROMOBILITY APPLICATIONS

#### 8.45 am Laser hairpin stripping and welding from process benchmarking to inline monitoring

*Daniele Nocciolini, IMA Automation Atop Spa, IT; Professor  
Ali Gökhan Demir, Politecnico di Milano, Department of  
Mechanical Engineering, IT*

#### 9.15 am Novel laser stripping and cleaning approach to enhance laser welding quality of electric motor hairpins

*Dr. Majid Abbasi, Coherent, Inc., US*

#### 9.45 am Visible laser processing for e-mobility parts

*Dr. Hideaki Shirai, Denso Corporation, JP*

#### 10.15 am Meet the Speakers & Coffee and contacts

#### 11.00 am Versatile laser applications in serial production of power electronics for e-mobility

*Dr. Mauritz Möller, Trumpf Laser- und Systemtechnik  
GmbH, DE*

#### 11.30 am Enhancement of laser welding for electrical drive applications by using green wavelengths

*Dr. Vincentz Mann, Brose Fahrzeugteile SE & Co KG, DE*

#### 12.00 pm Increased manufacturing efficiency in battery joining technology for high volume production in e-mobility

*Michael Stark, IPG Laser GmbH, DE*

#### 12.30 pm Laser welding of dissimilar materials – simulation driven optimization of process parameters

*Dr. Marcin Serdeczny, Flow Science Inc., US*

#### 1.00 pm Meet the Speakers & Lunch break

### WELD QUALITY CONTROL

#### 2.15 pm Inline quality assurance strategy for remote laser beam welding at body-in-white using OCT technology

*Matthias Werner, Mercedes-Benz Group AG, DE*

#### 2.45 pm Implementation of remote laser welding with OCT seam tracking in the flexible and semi-automated production of agricultural machinery cabs

*Maximilian Schmöller, AGCO GmbH, DE; Thibault Bautze-  
Scherff, Blackbird Robotersysteme GmbH, DE*

#### 3.15 pm Simplified process monitoring with 42+ sensors

*Christoph Franz, 4D Photonics GmbH, DE*

#### 3.45 pm Meet the Speakers & Coffee and contacts

### BEAM MODULATION

#### 4.30 pm The impact of ultra fast frequency steering on weld quality for automotive applications

*Asaf Nissenbaum, Civan Lasers, IL*

#### 5.00 pm A 360° view for welding processes using dynamic beam modulation

*Dr. Dirk Dittrich, Fraunhofer Institute for Material and Beam  
Technology (IWS), DE*

### SAFETY

#### 5.30 pm A laser welding helmet and its application in automation

*Yvann Djemba, Lasermet Europe GmbH, DE*

#### 6.00 pm Meet the Speakers & Get together

#### 7.00 pm Networking Night

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 SCAN ME

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## WEDNESDAY, FEBRUARY 8, 2023

### BEAM SHAPING

**8.30 am** **Beam shaping in laser beam welding – strategies and potentials for process optimization**

*Christian Hagenlocher, University of Stuttgart, Institut für Strahlwerkzeuge (IFSW), DE*

### ANALYSING DATA

**9.00 am** **Data analytics and machine learning using process monitoring data - how can data driven models assist experts to generate value**

*Dr. Thomas Grünberger, nLight GmbH, AT*

**9.30 am** **Advantages of application independent AI-based detection methods for start and end structures of laser welded seams**

*Paul Gruber, Automation W+R GmbH, DE*

**10.00 am** **Artificial intelligence enhancing sensor systems for improved usability and robustness**

*Martin Stambke, Trumpf Laser GmbH, DE*

**10.30 am**  **Meet the Speakers** &  **Coffee and contacts**

### LASER SYSTEMS

**11.15 am** **Development of an innovative scanning system for laser based remote cutting and hair-pin welding applications**

*Dr. Stefano Zarini, Optoprim s.r.l., IT; Dr. Björn Wedel, PT Photonic Tools GmbH, DE*

**11.45 am** **Battery and fuel cell production – the Eldorado for high-end laser scanning solutions**

*Dr. Jan-Bernd Habedank, Raylase GmbH,*

**12.15 pm** **Laser-arc hybrid welding of battery trays by using beam oscillation and assistance systems**

*Dr. Herbert Staufer, Fronius International GmbH, AT*

**12.45 pm**  **Meet the Speakers** &  **Lunch break**

### NEW LASER APPLICATIONS

**2.00 pm** **Development of feedstock material and monitoring tools for laser cladding of brake disks**

*Dr. Andreas Wank, GTV Verschleiss-Schutz GmbH, DE*

**2.30 pm** **Laser Radar applications on the automotive shop floor**

*Roy Maidment, Nikon Metrology Europe NV*

**3.00 pm** **OEM CONCLUSIONS**

*Members of the OEM Advisory Board on current trends and challenges in laser-based automotive manufacturing processes*

**3.15 pm** **Farewell address and end of the conference**

*Subject to change (Status as of November 3, 2022)*



### **YOUR CONTACT**

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