

# Laser Process Monitoring – Offline, Inline, Online Lunch-to-Lunch-Workshop

March 13–14, 2024 | Dresden  
Save the Date!

## Program\*

### Day 1, Wednesday, March 13, 2024

12:00–13:00      Opening & Lunch

#### **Introduction**

13:00–13:30      In-line Monitoring – on the Road to Digital Manufacturing  
*Christopher Taudt | Fraunhofer IWS*

13:30–14:00      Universal Platform for Real-time Integration of novel Sensors and Actuators into  
Established Laser Processing Equipment  
*Frank Sonntag | Fraunhofer IWS*

14:00–14:30      From Multimodal Monitoring to Optimized Process Control  
*Jeno Szep | Fraunhofer USA*

14:30–15:00      Coffee Break

#### **Surface Treatment**

15:00–15:30      Camera-based Temperature Field Measurement and Control in Laser Materials  
Processing  
*Marko Seifert | Fraunhofer IWS*

15:30–16:00      Process Monitoring Based on Photo-acoustic Emission  
*Tobias Steege | Fraunhofer IWS*

16:00–16:30      Acoustic and Optical Emission Process Monitoring for Laser Surface Treatments  
*David Diego Vallejo | AIMEN*

16:30–16:50      Hyperspectral Vision, an Extremely Versatile Tool for the Analysis and Monitoring  
of Laser Processes  
*Wulf Grählert | DIVE imaging systems GmbH*

17:00–19:00      Time for Hotel Check-in

19:00–22:00      Dinner & Lab Tour at Fraunhofer IWS

## Day 2, Thursday, March 14, 2024

08:30–09:00 Welcome with Coffee

### **Welding & AM**

09:00–09:30 Multi-sensor Monitoring of Laser Welding Process  
*Linda Ullmann | Fraunhofer IWS*

09:30–10:00 OCT as Universal Sensor for Laser Welding in Production  
*Richard Steinbrecht | Lessmüller Lasertechnik GmbH*

10:00–10:30 Successful in Determining Physical Properties - Sensors for Monitoring and Controlling Laser Processes in Combination with AI-based Data Models  
*Markus Kogel-Hollacher | Precitec GmbH & Co. KG*

10:30–11:00 Coffee Break

11:00–11:30 Digital Assisted Additive Manufacturing  
*Mirko Riede | Fraunhofer IWS*

### **Cutting**

11:30–12:00 Process Observation and Cut Edge Evaluation for Oscillation Assisted Laser Cutting  
*Julia Bach | Fraunhofer IWS*

12:00–12:30 Real-Time Camera-Based Quality Estimation and Control in the Laser Cutting Process  
*Matteo Pacher | BLM S.P.A.*

12:30–13:00 Cutting Process Monitoring with AI and Sound  
*Konstantinos (Dinos) Skovolas | Bystronic*

13:00–13:30 Monitoring and Control of Geometric Quantities during Laser Material Processing – from Ultrashort-pulsed to Continuous Wave Laser  
*Christian Hagenlocher | IFSW Stuttgart*

13:30–14:30 Lunch and Farewell