

# PRESS RELEASE

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## 7<sup>th</sup> UKP Workshop becomes more international and looks at future markets

**On April 26 and 27, 2023, users from the fields of laser technology, optics and laser development, as well as mechanical and plant engineering will meet in Aachen for the "7th UKP Workshop – Ultrafast Laser Technology." In addition to presenting the latest developments in ultrafast laser technology, the workshop will cover several core topics: contributions to future markets and applications from microelectronics, battery and hydrogen technology. In order to serve these topics accordingly, the UKP workshop will open its doors – for the first time – to international speakers with relevant industry knowledge to report on their experience.**

Ultrashort pulse technology (USP) has long since made the leap from the research laboratory to industrial production and established itself as a highly precise, digital all-round tool. This laser technology can be combined with various forms of system engineering and, with numerous process parameters, it allows an immense range of applications: For example, USP laser radiation greatly reduces the heat input when microelectronic compounds are processed, which is an advantage for ultra-light composite fibers, glass or ceramics as well. Multi-beam scanners rapidly produce ultrafine filter holes or surface structures for tribologically optimized systems and/or antibacterial surfaces. Thanks to USP technology, functional surfaces can be created that can significantly increase the efficiency of hydrogen electrolyzers or batteries.

"USP technology is a key technology for many strategic challenges of the future," says Dipl.-Phys. Martin Reininghaus, Head of the Micro- and Nanostructuring Group at Fraunhofer ILT, who is organizing the workshop. "It is faster, more precise, more efficient, and has great potential for use in sustainable, digital production."

While the enormous versatility makes USP technology so attractive, it also makes the machining task very specific and complex. This is why the exchange with other industrial users, system suppliers and research institutes is particularly important.

### News, trends and future topics

At the UKP Workshop, participants will not only learn about news, trends, but also get an overview of current developments. They will gain insight into future topics and new developments in this field of technology. They can discuss USP technology with

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international experts in laser and process development and exchange ideas with each other. Speakers from LG Electronics, for example, will report on how they use USP for processing microelectronics in Korea. Representatives from Zeiss, Robert Bosch and Trumpf will describe the German supplier's perspective for the corresponding markets. On site, Fraunhofer ILT will demonstrate the advantages of USP technology when used for battery manufacturing, and there will be insight into the forward-looking field of quantum technology.

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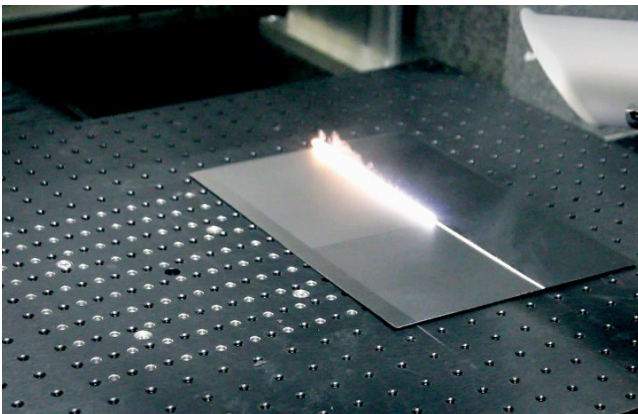
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"The presentations will provide valuable insight and know-how on how users can select the right laser source or modify a laser beam to achieve optimal process conditions," explains Prof. Arnold Gillner, Head of Business Development and Research Markets at Fraunhofer ILT. "We also discuss how to push the limits of today's ultrashort pulse laser process technology." Gillner launched the UKP Workshop in 2011 and will be attending this workshop in an organizing capacity for the final time.

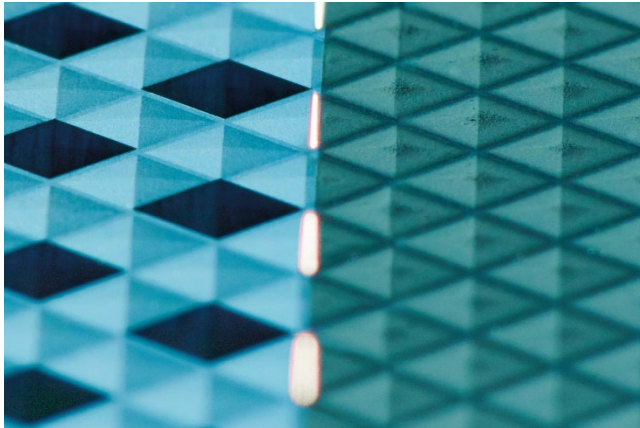
**Registration and more information**

[www.ultrakurzpuls laser.de/en](http://www.ultrakurzpuls laser.de/en)



**Image 1:**  
**Ablation of a bipolar plate:**  
**Ultra-short pulse lasers have long since made the leap to industrial production and established themselves as a high-precision, digital all-round tool.**

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**Image 2:**  
Reduced reworking and creation of selective polishing effects through the sequential process of USP laser cleaning and USP polishing after structure generation.

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**Image 3:**  
Structured electrodes for increased hydrogen production.

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