

THE LASER USER

ISSUE 108
SPRING 2023

AILU

IN THIS ISSUE:

Reliable deep welding

AI designed tool paths

1950 nm laser etching

Thulium doped sources

Reducing defects in PBF

Safety enclosure design



**INNOVATIVE
LASER SOURCES:
ENABLING & IMPROVING
PROCESS PERFORMANCE**

THE LASER USER

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Sub-Editor: Catherine Rose

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The Laser User is the house magazine of the Association of Industrial Laser Users. Its primary aim is to disseminate technical information and to present the views of its members. The views and opinions expressed in this magazine belong to the authors and do not necessarily reflect those of AILU.

The Editor reserves the right to edit any submissions for space and other considerations.

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+44 (0) 1235 539595
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Association of Industrial Laser Users
 Oxford House
 100 Ock Street
 Abingdon
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 OX14 5DH

+44 (0) 1235 539595
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Cover image: LVD Phoenix fibre laser cutting head

Courtesy LVD

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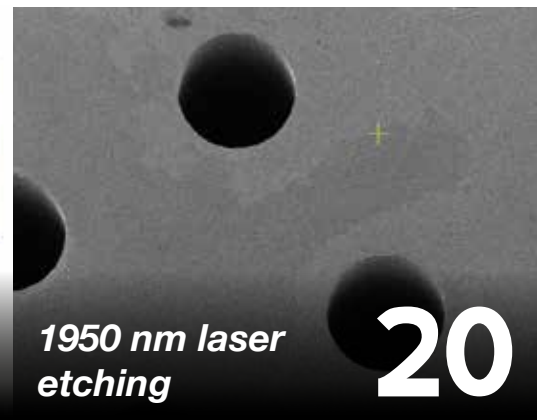
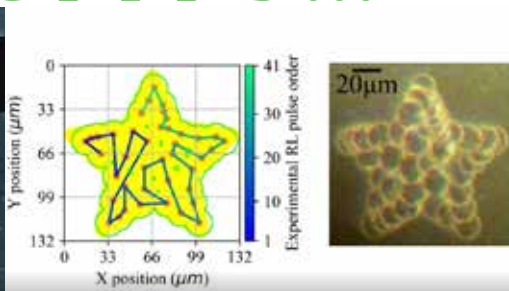
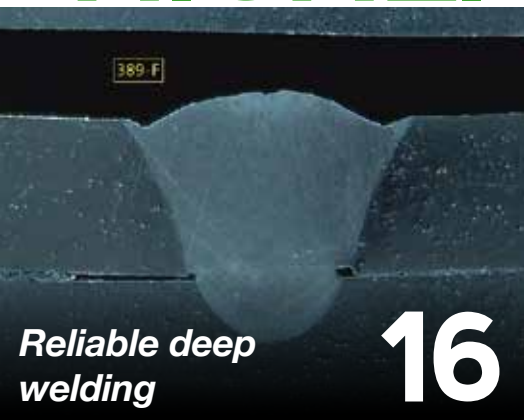
WELCOME TO NEW AILU MEMBERS

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HIGHLIGHTS...



Reliable deep welding

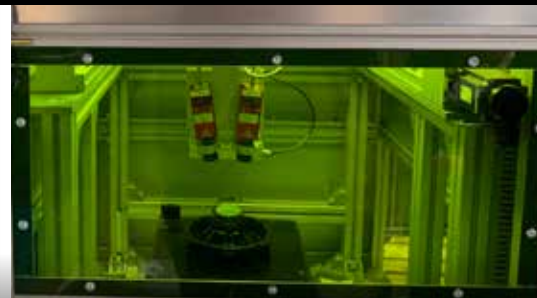
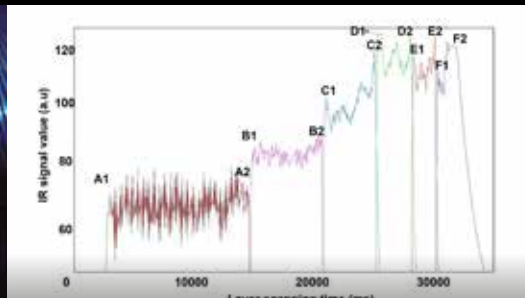
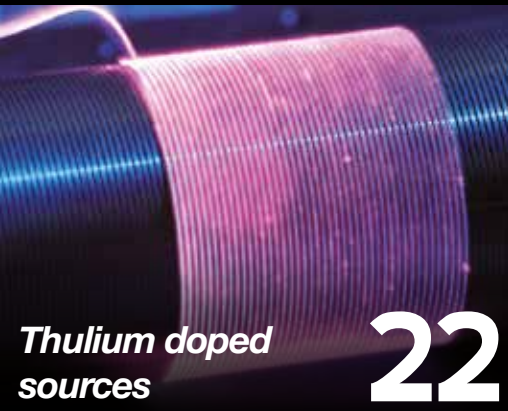
16

AI designed tool paths

18

1950 nm laser etching

20



Thulium doped sources

22

Reducing defects in PBF

24

Safety enclosure design

26

ASSOCIATION NEWS

- First Word 4
- President's Message 4
- Ric's Ramblings 4
- AILU Awards 5

ILAS 2023 6

BUSINESS NEWS & CASE STUDIES 8

EARLY CAREER RESEARCHERS 11

EDITORIAL

- Interview: Lukas Ceizaris (Optoman) 12
- Job Shop Corner 14
- A Funny Thing... 34

PRODUCT NEWS 31

FEATURES

- Laser Drying Application 32
- Contact Lens Marking 33

EVENTS

- Forthcoming Events 35

MAIN FEATURES

- Laser welding paves the way for new production possibilities**
Ami Spira 16
- How to train your laser**
Ben Mills 18
- Advanced processing using a 1950 nm femtosecond laser**
Christoph Wunderling & Stefanie Tertelmann 20
- Thulium-doped fibre lasers: unique properties and application areas**
Martin Buckthorpe 22
- Incorporating feature size and build orientation into AM parts**
Chinmay Phutela 24
- Safe working enclosures for industrial lasers**
Neal Croxford 26
- Observations** 28

CONTENT BY SUBJECT

- ILAS 2023** 6
- Business News** 8
- Job Shop News** 14
- Product News** 31
- Laser Welding**
Reliable deep welding 16
- AI & Machine Learning**
AI design tool paths 18
- Laser Etching & Marking**
1950 nm laser etching 20
Contact lens marking 33
- Thulium Doped Sources**
Thulium-doped fibre lasers: properties & applications 22
- Additive Manufacturing**
Reducing defects in PBF 24
- Laser Safety**
Safety enclosure design 26
- Laser Drying**
Diode lasers and the drying process 32
- Events** 35, 36

ASSOCIATION NEWS

FIRST WORD

It was fantastic to see so many familiar faces and meet lots of new people at ILAS in March. If you came, I hope you agree. Our feedback suggests that is the case and you can see some feedback charts on page 6. For me there are three things about ILAS that really make it special:

Firstly, it is a learning opportunity, to catch up on the latest products and applications information. There is so much at ILAS you can't really take it all in. One of the comments we had was that it was a shame there were 3 parallel sessions. If you missed something, you can check out the slides as pdfs and the videos afterwards.

Secondly, to catch up with friends and former colleagues - where else do you get the chance to see so many over a 2-day period? About a third of the visitors to ILAS were there for the first time, and it is great to introduce people you don't know to people you have known for years.

Thirdly, I like to build better relationships with AILU members. With 200 people on Day 1 and 140 for dinner, it would take a super host to chat to everyone! But at least there was time to have good conversations with at least 40 people and short chats with about the same. If you missed catching up drop me an email and we can meet online.

Dave MacLellan
dave@ailu.org.uk



RIC'S RAMBLINGS

Welcome to the Spring edition – I'm writing this on what is the first of 3, yes 3 bank holidays in May. How fabulous, 3 lots of long weekends and therefore 3 lots of shorter weeks!

I would like to sub-title my Ramblings this time as "Tails of the Unexpected" as I hope you will see the "tails" is not a typo or betraying my lack of spelling prowess but a deliberate and cunning play on words. Let us begin a few weeks back in the wonderful Lake District. My wife and I had gone up to spend a week with some old friends to get some much needed R&R. On one occasion our friends suggested we take a long walk to a place they somewhat disconcertingly called "the spooky tarn". So being a keen rambler (of the walking sort as well as the written sort) I agreed but with a little trepidation, given the somewhat dark description of our destination. Anyhow some miles into our walk through breath-taking scenery we arrived at said spot, the spooky tarn. Indeed it was a little on the ghostly side and quite a contrast to the beauty we had walked through. As we sat and laughed (nervously on my part) about seeing some ghastly ghoul – we suddenly spied in the distance a tiny flash of red and what looked like a small but definitely bushy tail. Several minutes later and we were watching the antics of a completely wild red squirrel, in its native habitat, going about its daily business. For my wife and I this was a big tick in the box of life – we have

PRESIDENT'S MESSAGE

Greetings from beautiful British Columbia and welcome to another instalment of the AILU magazine! It was fantastic to connect and reconnect with members old and new at ILAS this year, a tremendous event which ran like clockwork thanks to our dedicated secretariat. How nice it was to meet in person and raise real (as opposed to virtual) hands.

On another note we were able to recognise immense achievements from within our community at both ends of the career spectrum (see p. 5). Neil Main, widely known to many of us as a former president and a 'go to' resource for both technical and commercial advice, picked up the AILU Fellowship Award. At an earlier stage in his career, Dr Ben Mills (University of Southampton) picked up the prestigious Innovation Award for his work on AI and femtosecond lasers, alongside Civan Lasers (Israel) for their work on dynamic beam shaping – very well deserved both. Recognising the importance of early career involvement in AILU, I was particularly pleased to present AILU's Rising Star Award to Adam Birtwell of Graham Engineering for his work on robotic welding.

In addition to recognising excellence in our community we were also privileged to welcome internationally renowned plenary speakers. Two stand out for me were Dr Yasuhiro Okamoto of University of Okayama who gave an excellent overview of the state-of-play in the Japanese laser market. Okamoto sensei opened proceedings at ILAS and who could forget Dr Andrés Lasagni's talk which helped to close our meeting.

This was a tremendous event which speaks volumes about the health of our community – thank you all for helping to make this a great success.

Adam Clare
adam.clare@nottingham.ac.uk



seen them before but many years ago and they are so rare today – it was a real treat. We decided that "spooky tarn" needs to be renamed "red squirrel wonderland".

We went expecting one thing and came back having experienced something completely different. This happens in work life too. Having attended the 2 days of ILAS this year (and thanks AILU, what a great 2 days it was), I found that I sat in on a number of talks where my expectation was somewhat low in terms of my interest in the subject, but found that in complete contrast I came out enthralled and enthused by a new subject area.

At the end of May AILU have a workshop on Lasers in Low Carbon Energy, followed by the AGM. I would encourage you all to take a look and perhaps attend, you never know, something unexpected might happen (<https://www.ailu.org.uk/event/lasers-in-low-carbon-energy/>).

Ric Allott
ric.allott@stfc.ac.uk

