

## Preface

The 6<sup>th</sup> Industrial Laser Applications Symposium (ILAS 2019) was held in Crewe, UK from 20-21 March 2019. ILAS was established in 2009 by the Association of Industrial Laser Users (AILU) to disseminate the state-of-the-art in laser material processing. AILU, founded in 1995, connects the laser industry with academia and end-users to promote the usage of lasers in industrial material processing applications.

Since 2009, AILU has organized ILAS every two years, combining the latest research in universities and other centres of research excellence with new applications from the manufacturers and users of industrial laser material processing equipment. In 2020 AILU will celebrate the 25<sup>th</sup> anniversary of the founding of the association with a special ILAS 2020.

ILAS attracts visitors from around the world and in 2019 was attended by 220 delegates from 11 countries, 32 exhibiting organizations and 90 oral presenters with 12 poster presentations. Plenary speakers from Germany, Japan and the UK presented aspects of research into the latest laser manufacturing applications.

This special issue of *Lasers in Engineering* comprises selected peer reviewed papers from across the many sessions that formed ILAS 2019. The result is a superb compendium of articles presented and submitted from laser and associated equipment manufacturers, and industrial and academic users that cover a range of topics.

On the hardware side, new laser sources, novel beam manipulation techniques applied to additive manufacturing (AM), in process laser welding quality monitoring approaches and new laser cutting and welding equipment for nuclear decommissioning were presented. On the applied and processing side, microwelding, advanced materials and product machining, AM laser direct writing, femtosecond laser cutting and drilling of difficult to machine materials and laser grain writing for product security and tagging were discussed.

It has been a wonderful opportunity to edit this special edition, especially as more papers than were published in the last ILAS 2017 special issue of

*Lasers in Engineering* are included herein. We are greatly appreciative of the work of AILU, the ILAS 2019 Organizing Committee and the 15 Session Chairs. Finally, we must acknowledge all the people around the world active in the exciting research area of laser engineering, whose work is advancing the field ever more so with each passing year – as evidenced by this larger and more diverse special issue of *Lasers in Engineering*.

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