

## About this workshop

The scale of many medical devices, particularly those that are implanted into the body is such that the laser is a tool that is ideally exploited in their manufacture. In particular the ability of the laser to perform precision fine cutting is well known.

There is perhaps no better example of this than in the manufacture of stents, where intricate patterns have to be cut from fine tube leaving behind a fine wire like structure.

Coronary Artery Disease (CAD) is the major cause of illness, disability and death worldwide. One in every four men and one in every six women die from the disease in the UK alone. Balloon Angioplasty and Stenting provides a lower pain, less risk, quicker recovery and lower cost treatment than open heart surgery. This has generated a large demand for stents, and a sizeable manufacturing sector has been built in the last decade.

While laser cutting is a key operation in their manufacture, it is not the only process. This is true of many medical devices, so this workshop looks at some of the major key processes in the stent supply chain. And these processes are often required for the manufacture of many other medical devices, indeed many other products.

We hope that this workshop therefore offers the opportunity to be a "supply chain" networking event for those involved in the design and manufacture of fine medical devices.

This supply chain begins with the clinicians needs, and we are pleased to have a presentation outlining the clinical basis of stents. It ends with the supply of product to the healthcare providers, and we will have an insight into how innovation is promoted within the UK's National Health Service (NHS), and even a little indication of how to become an NHS supplier.



### Martin Sharp Workshop Chair

Martin Sharp is chair of the Medical Special Interest Group of AILU. He is principal lecturer at Liverpool John Moores University (LJMU). He gained his PhD with Bill Steen in the 80's and worked in industry until 2000 when he joined the University of Liverpool. He managed the Lairdside Laser Engineering Centre until August 2008. He now runs his own research group within the General Engineering Research Institute at LJMU

### Who should attend?

The wide scope of this event means that there is something for everyone in the medical device community, from innovators and designers through to production engineers. We would particularly welcome input from the clinical area. This workshop would also benefit students in laser processing to see the "bigger picture" and the position of a laser process in a supply chain.

The workshop nature of the meeting provides many opportunities for delegates to discover the interests and concerns of others in the medical area and to establish valuable links.

This event provides the opportunity for delegates to meet with the presenters and with one another: a comfortable environment, generous lunch and refreshment breaks, a table top exhibition and a clinic.

## About this workshop

### Tour

The pre-lunch tour will take delegates to the Photon Science Institute of the University of Manchester. The institute is home to several photonic research groups, including the Laser Processing Research Group. This group has a Swiss Tec stent cutting machine and this will be demonstrated. Other research groups study Measurement, Imaging, Spectroscopy and Complex system dynamics.



### Delegates

You will receive a delegate pack containing a name badge and essential notes for the day, including a detailed programme and a delegate list. The pack will also include a name and password for downloading PDFs of the presentations, which will be made available on the AILU web site as soon as possible after the event. A buffet lunch (including vegetarian options) will be provided together with refreshments throughout the day. Please advise us of any special dietary needs.

### Exhibitors

The exhibition, together with lunch and mid-morning and afternoon refreshment breaks, will take place in two closely situated areas. Four exhibitor places will be available in the room where lunch and refreshments are served. Seven other places will be along "The Street" – a wide corridor running between the lecture room and the refreshment area. Temporary parking is available outside the conference area for loading and unloading and there are several public car parks nearby. Access to the site is available from 08:00 on the day. A tabletop will be provided on request or bring your own display stand and backboard; 240V mains power will be available.

**Venue** The workshop is being held at the Core Technology Facility of UMIC (University of Manchester Incubator Company). The facility is five minutes walk from the Photon Science Institute and adjacent to the Manchester Royal Infirmary. It is about 1km south of the Sackville St campus of the University



**Registration** To register for the event AILU members need only give their name by phone or email (courses@ailu.org.uk). Non members should return a completed registration form. Late registration may be possible, but to guarantee a place the booking must be made by 17<sup>th</sup> November. Delegates who pay the full price and who then join the Association within 10 weeks of the event will receive this discount on their first year's corporate membership subscription.

**Clinic** As part of the mission of the Photonics and Plastic Electronics KTN, AILU Secretary Mike Green will be available throughout the day to arrange informal introductions with appropriate experts at the workshop, for discussions on any technical or business matters that delegates would like to raise.

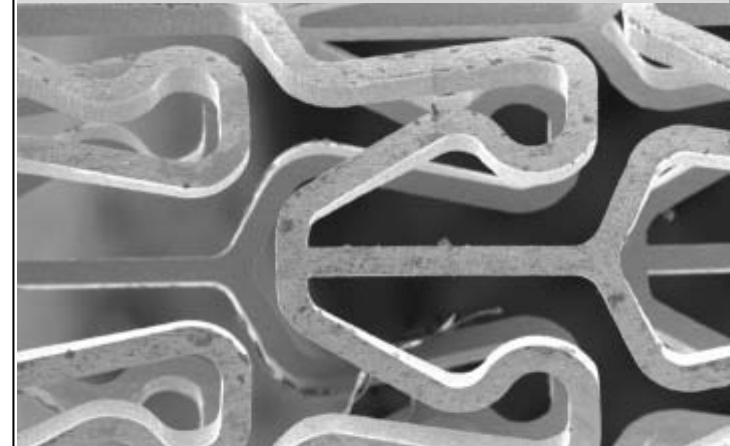
**Travel** Full address: Core Technology Facility, Grafton St, Manchester M13 9XX. Air: The nearest airport is Manchester. Rail: The nearest mainline railway station is Manchester Piccadilly. Car: The centre adjacent to the A34. Full travel details are available on the AILU website.

### Accommodation

Please see the AILU web site page for this event for a list of nearby hotels.



# Medical Device Manufacturing – A case study in Stents



Manchester  
24<sup>th</sup> November 2009

Sponsored by:



and



# Programme:

08:30 – 09:15 Registration and Refreshments

09:15 – 09:30 Welcomes

## Welcome to Manchester and Photon Science Institute

Zengbo Wang University of Manchester

## Welcome

Martin Sharp Liverpool John Moores Uni  
Chair AILU Medical Group

09:30 – 10:50 SESSION 1

## Coronary Stents – Current Requirements and Future Needs

Tao Wang University of Manchester

## SPONSORS PRESENTATION

### Stent Cutting Machines

Alan Boor Swiss Tec Ag

10:50 – 11:20 REFRESHMENT BREAK

11:20 – 13:00 SESSION 2 AND TOUR

## Automated manufacturing of stent-grafts using lasers

Arvind Patil TWI

## The art of stent cutting

W Hemmer-Girod Lasag AG

## Tour: Photonics Science Institute

David Whitehead University of Manchester

13:00 – 14:00 LUNCH AND EXHIBITION

14:00 – 15:35 SESSION 3

## Fibre Lasers in medical device manufacturing

Louise Partridge SPI Lasers

## Innovation and medical devices - working with the NHS

Paul Hanmer TrusTech

## Finishing of laser cut medical devices

Tony Duell Anopol Ltd



Electropolished Stent – Anapol Ltd.

15:15 – 15:35 REFRESHMENT BREAK

15:35 – 16:45 SESSION 4

## Testing of Stents and other Medical Devices

Mark Turner Medical Engineering Technologies

## Coating of stents and medical devices

Aaron Clark Specialty Coating Systems

## Review, Forum and Closing Remarks

Martin Sharp Liverpool John Moores Uni

16:45 CLOSE

Parylene Coated Medical Devices  
– Specialty Coating Systems



## Registration Form Medical Device Manufacturing –

### A case study in Stents

24<sup>th</sup> November 2009

#### Delegate information

Title First name Surname

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Position:.....

Organisation: .....

Address:.....

Post Code: .....

Tel:.....Fax:.....

E-mail:.....

#### Payment options

Please invoice me

I wish to register as a delegate. The applicable rate is:

GBP 30.00 exc. VAT

GBP 25.00 incl. VAT

I am unemployed or retired.

GBP 25.00 excl. VAT

I am a full time student.

GBP 30.00 excl. VAT

Non Members and Others

I wish to register as an exhibitor. Please reserve me a table.

**In Lunch area (4 available)**

GBP 150.00 excl. VAT

AILU or one the supporting organisation members ticked above.

GBP 175.00 incl. VAT

Non members and Others

**Between Theatre and Lunch Area("The Street")(7 Available)**

GBP 135.00 excl. VAT

AILU or one the supporting organisation members ticked above.

GBP 150.00 incl. VAT

Non members and Others

**I wish to register as a delegate in addition to being an exhibitor:**

at no additional charge.

Signed: ..... Date:.....

Cancellations will be accepted up to 1 week before the event; otherwise the full fee may be charged.

AILU reserves the right to alter the programme or cancel the meeting at short notice and accepts no responsibility for the views expressed by the speakers or delegates.

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