Handbook

Laser Ultrasonics 2018

9–13 July 2018
University of Nottingham, Nottingham, UK

Organised by the IOP Physical Acoustics group
Co sponsored by the IOP Optical group

http://lu2018.iopconfs.org
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Contacts – Conferences team

Please read this handbook prior to the event as it includes all the information you will need while onsite at the conference. If you have any questions or require further information, please contact Priscilla Lim or the conferences team. The IOP Conferences team will be on-site for the duration of the event (see registration times) to answer any questions and to support the overall running of the event.

Priscilla Lim
Tel: +44 (0)20 7470 4910
Mobile: 07917384699
Email: priscilla.lim@iop.org

Conferences team
Email: conferences@iop.org

If you encounter any problems at the conference, please report them to the conferences team who will make every effort to rectify the issues as soon as possible.

Organised by the IOP Physical Acoustics Group

Organising committee
Professor Matt Clark (chair), University of Nottingham, UK
Dr Theodosia Stratoudaki, University of Strathclyde, UK

Disclaimer
The Institute of Physics and University of Nottingham accept no responsibility for any accident, loss or damage to participants or their property.

Venue
The conference will be held at the University of Nottingham the Engineering & Science Learning Centre.

Engineering & Science Learning Centre
The University of Nottingham
University Park
Nottingham
NG7 2RD
UK
Accommodation

Accommodation is available onsite in Cripps Hall of Residence in a mixture of ensuite and standard rooms with shared bathrooms. Rooms are available to book during registration and must be pre-booked in advance.

Check in is available from 15:00-Midnight. Keys will be available to collect from the “Crush Hall” (area A,516), just outside the dining room entrance. If arriving after midnight, a phone will be available at the desk to call Campus Security to let you in.

Breakfast will be served in the dining room from 7:30-9:00.

Rooms must be vacated and the keys returned to your Hall’s reception by 10:00 on your day of departure. On arrival, please inform us if you may require extra assistance in the unlikely event of an evacuation from your accommodation (e.g. hearing, sight or mobility difficulties). Upon check in, you will have received a bedroom key and either a front door swipe card, ‘block’ or fob key. The main doors will lock at midnight but access can still be gained after this time by using your swipe card, ‘block’ or fob key. On the day of your departure, luggage storage is available in all Halls on University Park Campus and Jubilee Campus, please ask at reception if you require this service.

Your Hall’s team is available in hall between 08:00 and 24:00 and is your primary contact during these hours.
Cripps Hall: 01159514311

Programme

The full conference programme can be found online at lu2018.iopconfs.org/programme

Registration

Registration will be held in the foyer of the ESLC at the times listed below. Each participant will receive a pen, pad, a printed copy of the programme (requested) and a lapel badge. The abstract book will be in digital format only and is available to download from the website.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 9 July</td>
<td>09:00-17:30</td>
</tr>
<tr>
<td>Tuesday 10 July</td>
<td>08:30-17:30</td>
</tr>
<tr>
<td>Wednesday 11 July</td>
<td>08:30-13:30</td>
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<tr>
<td>Thursday 12 July</td>
<td>08:30-16:00</td>
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<tr>
<td>Friday 13 July</td>
<td>08:30-13:30</td>
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</tbody>
</table>

WiFi – The Cloud

Free Wi-Fi is available in public areas on campus and within halls of residence. On University Park Campus and Jubilee Campus to access the guest Wi-Fi, please follow the instructions and register at www.nottingham.ac.uk/it-services/services/wireless/uonguest.aspx. Please note you can log in for 7 days before you will need to re-register.
Catering

The registration fee includes refreshments and lunch for the duration of the event and the social programme. All refreshments and lunch will be held in the foyer of the ESLC. Please refer to the table below for timings and location for the social programme.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 9 July</td>
<td>Arrival refreshments</td>
<td>09:00-11:00</td>
<td>ESLC</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>12:30-13:30</td>
<td></td>
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<tr>
<td></td>
<td>Refreshment break</td>
<td>15:00-16:00</td>
<td></td>
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<tr>
<td></td>
<td>Welcome reception</td>
<td>18:00</td>
<td>The Hemsley</td>
</tr>
<tr>
<td>Tuesday 10 July</td>
<td>Refreshment break</td>
<td>10:30-11:00</td>
<td>ESLC</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>12:40-13:30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refreshment break</td>
<td>15:00-16:00</td>
<td></td>
</tr>
<tr>
<td>Wednesday 11 July</td>
<td>Refreshment break</td>
<td>10:00-11:00</td>
<td>ESLC</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>11:30-13:30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excursion</td>
<td>14:30-16:30</td>
<td>Castle Rock Brewery</td>
</tr>
<tr>
<td></td>
<td>Conference Dinner</td>
<td>19:00-19:30</td>
<td>Nottingham Conference Centre</td>
</tr>
<tr>
<td>Thursday 12 July</td>
<td>Refreshment break</td>
<td>10:30-11:00</td>
<td>ESLC</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>12:30-13:30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poster session and refreshments</td>
<td>13:30-16:00</td>
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<tr>
<td>Friday 13 July</td>
<td>Refreshment break</td>
<td>11:00-11:30</td>
<td>ESLC</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>13:30</td>
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Dietary requirements

Participants with dietary requirements are asked to notify the conference office by email prior to their arrival. Those with special dietary requirements other than vegetarian are asked to make themselves known to the catering team. It will not be possible to provide an alternative menu unless prior notification has been received. Please email priscilla.lim@iop.org if you have any questions.
Social programme

Monday 9 July

An evening reception will be held on Monday 9 July, 18:00 in the The Hemsley at University of Nottingham.

Wednesday 11 April

The conference dinner will be held on Wednesday 11 July at Nottingham Conference Centre.

A drinks reception will take place at 19:00, with the sit down dinner commencing at 19:30

Excursion – Wednesday 11 April

Castle Rock Brewery

A Flavour of the Amazing British Beer Scene

Award-winning beer writer, broadcaster and judge, Pete Brown, presents British beer. He joins the team at Nottingham’s celebrated Castle Rock Brewery to offer a glorious mix of history, accounts of the emerging craft beer scene, technical insights into brewing and amusing anecdotes.

Pete and the brewers will take you through a range of beer-styles, looking at the impact of ingredients on colour, flavour, aroma, body, mouthfeel and ‘finish’. They will highlight the difference between cask-conditioned ales (with their iconic hand pumps) and keg, bottled and canned beers.

This tutored tasting, led by one of world’s foremost experts and commentators, will open your mind and expose your taste buds to the complexities (as well as the joys!) of the country’s beers.

- Start time: 14:30
- Meeting point: IOP registration desk, ESLC

Please ensure you have your conference badge and tram pass as we will be travelling by tram to the venue.

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>13:30</td>
<td>Meet at IOP registration desk, ESLC</td>
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<tr>
<td>13:45</td>
<td>Depart from site</td>
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<tr>
<td>14:30</td>
<td>Arrival at Castle Rock Brewery</td>
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</table>
Industry Day – Wednesday 11 July

For this “Industry Day” potential customers around the globe and from different branches like automotive-, aerospace-, semiconductor industry, raw material producer, and many more will be invited. Here, they will get an idea of what Laser-Ultrasonics is about and how they can enhance their products with this technology.

As part of the industry day on Wednesday 11 July, we’d like to invite any early stage researchers that have a paper or poster at the conference to display a poster during the networking session at lunchtime. If you are already presenting a poster as part of the main conference, you can reuse it for this session. If you are producing a new poster it might be worth considering the practical or industrial applications of your work for this event. This is an informal and optional event. Please email priscilla.lim@iop.org if you will be participating in this session so we can plan the floor space accordingly.

Exhibition

Silver Sponsors

Optech Ventures

Optech Ventures offers receivers and full systems for laser ultrasonic testing. We also provide consulting across the full range of applications.

Sound & bright

Formerly Bossa Nova Technologies

From laboratory to industry, Bossa Nova Technologies provides laser-based solutions for non-contact non-destructive applications. Bossa Nova Technologies offers a variety of systems for both visible and infrared with a selection from standard systems to customized designs specifically tailored for the user application.

Tecnar

Tecnar develops, manufactures and markets advanced sensors to optimize industrial processes. Their LUS sensors deliver easy, non-contact characterization of materials regardless of shape, movement, temperature or environmental conditions.
My introduction to carbon fiber composite materials happened in 1992 while enlisted in the Air Force when I toured facility at the then McClellan Air Base in Northern California, that was working on improving motorway columns, using carbon fiber, due to the 1989 Earthquake in Northern California. We are certified in Ultrasonic Testing, laser repair of mostly Solid State and Fiber lasers, and we are currently restoring the LUIS 747 Generation and Detection System.

InnoLas Laser GmbH

Innovation - Reliability - Customizations

InnoLas lasers combine innovative laser technology and precise construction, offering you powerful, reliable and stable-value tools for your application. The monolithic design of all InnoLas laser heads ensures highest thermal and mechanical stability. The alignment of the resonator, all other optical components as well as the power supply and regulation optimize the laser sources.

Laser Quantum

Laser Quantum is a world-class manufacturer of revolutionary continuous wave and ultrafast laser sources. Our products lead the industry in their performance specifications, reliability, compactness and operational lifetimes. You will find Laser Quantum lasers, with their patented technology, in laboratories and integrated into systems and machines worldwide. Our lasers are helping scientists to break new ground in many applications ranging from attosecond physics to forensics and genomics. Laser Quantum is now part of the Novanta group, a trusted technology partner to OEMs in the medical and advanced industrial technology markets, with deep proprietary expertise in photonics, vision and precision motion technologies.
LUMIBIRD
LUMIBIRD, the new name of QUANTEL-KEOPSYS group, offers state-of-the-art lasers for industrial, defense, scientific and medical applications.

Our laser sources are based on 3 key technologies: fiber lasers, solid-state lasers and laser diodes.

For Laser-Ultrasonics, we propose a wide range of pulsed Nd:YAG lasers, flashlamp or diode-pumped.

The user can choose among several energies (from 50mJ to 2.5J), at repetition rates from single shot to 200Hz.

LuxSonics
Leveraging recent advances in integrated optics and a proprietary double-differential Sagnac design, LuxSonics produces optical interferometers for non-contact detection of ultrasound. Their devices deliver unprecedented sensitivity and robustness in a compact package appropriate for a wide range of applications in non-destructive testing and evaluation (NDT&E) and biomedical diagnostics.

Neta
Neta has designed and manufactured the JAX-M1. This patented state-of-the-art technique has enabled material to be characterized at nanometric scale without contact and causing no destruction. Our products are dedicated to industrial and scientific applications with the aim to be very user-friendly. Our turnkey ASOPS imaging solutions are well adapted to different applications: nondestructive test for thin film characterization as well as cell’s nanometric ultrasound.

Thorlabs Ltd
Thorlabs, founded in 1989 to serve the laser and electro-optics research market is a vertically integrated photonics products manufacturer. Thorlabs has extended its core competencies in an effort to play an ever increasing role serving the Photonics Industry at the research end, as well as the industrial, life science, medical, and defence segments.
Information for presenters

Oral presentations
The lecture theatre includes an LCD projector, screen and PC. If you require any additional equipment, email priscilla.lim@iop.org. Presenters are asked to prepare their presentations to match the time allocated in the programme. Invited Speakers will have a 40 minutes presentation and oral presenters will have 20 minutes allocated.

Presentations should be structured to include an introduction, the main content and conclusions. Visual aids (e.g. maps, charts etc) can be used but you are advised to keep the information simple, use colour and contrast for emphasis and use a large enough font (minimum 15 point) to ensure legibility.

Please bring your presentation to the conference on a USB memory stick and load it onto the PC located in the lecture theatre no later than the start of the session in which you are speaking. Please save your file as your surname and initial in the appropriate folder on the desktop.

Poster presentations
Posters will be on display in the foyer area during the conference with dedicated poster sessions taking place on Thursday 12 July.

Please note that on Wednesday 11 July 2018 (Industry Day), posters will be located on an upper landing to make space for the exhibition.

Posters can be mounted from 09:00 on Monday 9 July and must be removed by 13:45 on Friday 13 July. Any poster not removed at the correct time, will be recycled.

Posters should be AO in size (118.9 x 84.1cm / 46.8 x 33.1 inches), in a portrait format. Posters must be prepared in advance of the conference as it will not be possible to print them on-site. Fixing material will be supplied to mount your poster.

Travel
The closest and cheapest airport to transfer from is East Midlands Airport, one of the UK’s fastest growing airports. A number of budget airlines run services from East Midlands, which is around 55 minutes from Nottingham city centre on the 24-hour Skylink bus service. Other airports such as Birmingham, Manchester, Stansted, Luton or Heathrow are all accessible to Nottingham, and may be more suitable to fly into from certain international countries.

For travel information, please refer to the website page at lu2018.iopconfs.org/travel

Parking
There are a limited number of parking spaces available for visitors, staff and students throughout the campus. The closest car park to the venue is the Main Visitor Car Park. It is highly recommended to take public transport, however please contact conferences@iop.org to request a parking permit if required.

Health and safety
Safety and emergency evacuation procedures
A practice alarm will sound on Wednesday at 11:30-11:45. In the event of a fire alarm sounding outside this time, all participants should evacuate the building and make your way to the assembly point outside the Chemistry Building. Do not return to the room until instructed to do so by a member of staff. Conference delegates and participants should take note of the Fire Action instruction notices posted at the red fire alarm call points located near exits throughout the building.
Security
Do not leave your belongings or valuables unattended at any time, abandoned bags will be removed by security, and may be destroyed.

Smoking
Smoking is not permitted anywhere within the building. Smoking is permitted just outside ESLC/Cripps Hall of residence. Candles or naked flames are not permitted in any building without consent. Smoke detectors must not be tampered with under any circumstances.

Emergency
24-hour Security team 0115 951 3013
24-hour ambulance / fire / police 0115 951 8888

IOP Membership
Membership of the Institute is for everyone who has an interest in the subject and its future. The Institute actively promotes physics to external audiences, increasing awareness of the importance of physics in government, education and industry. Our members come from diverse backgrounds and follow all kinds of different careers; many are directly involved in physics but as many are using their physics training in a wide range of businesses.

For more information, please visit www.iop.org/membership

Membership benefits include:
- Physics World - the world’s leading physics magazine, monthly by post, online or as an app
- IOP Journal downloads
- Careers information and resources
- Professional Status
- Academic dress
- Learning online courses
- ‘@physics.org’ email address
- Support and grants
- Members’ room
- Meeting rooms
- Member rate for IOP conferences
- Discount on author charges (NJP)
- Business journals
- Making money out of ideas
- Local branch affiliation
- Specialist ‘Groups’ – join the IOP Plasma Physics group
- Membertalk
- Apply to become a fellow
- IOP LinkedIn group