



# PLASMA 16

43rd IOP Plasma Physics Conference

**23–26 May 2016**

**Sabhal Mòr Ostaig, Isle of Skye, UK**

Organised by the IOP Plasma Physics Group

**<http://plasma16.iopconfs.org>**



# 43rd IOP Plasma Conference

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# 43rd IOP Plasma Conference

## Enquiries

### Conference Organiser

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### General Enquiries

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### Organising Committee

#### Local organising committee

Declan Diver (Chair), University of Glasgow  
Alasdair Wilson, University of Glasgow  
Craig Stark, Abertay University

#### Programme committee

Philippa Browning, University of Manchester  
Mark Bowden, University of Liverpool  
Ceri Brenner, STFC Central Laser Facility  
Adrian Cross, University of Strathclyde  
Christopher Ham, Culham Centre for Fusion Energy  
Stuart Mangles, Imperial College London  
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Roddy Vann, University of York  
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Simon Vickers, AWE  
John Simmons, University of Glasgow

The 43<sup>rd</sup> IOP Plasma Physics 2016 conference is organised by:

**IOP** | Institute of Physics  
**Plasma Physics Group**

[IOP Plasma Physics Group](#)



# 43rd IOP Plasma Conference

## Disclaimer

The Institute of Physics, Sabhal Mòr Ostaig, and their approved representatives cannot take responsibility for any accident, loss or damage to participants or their property during the conference.

## Location

The conference will be held at the Sabhal Mòr Ostaig University. The talks will be held at the Talla Dhonaidh Chaimbeul Lecture Theatre on the ground floor with posters and refreshments located in the dining room, directly below reception.

## Venue address:

Sabhal Mòr Ostaig  
Sabhal Mòr Ostaig Road End  
Teangue Sleat  
IV44 8RQ  
Telephone: 01471 888000

For further information about the venue, please visit their website: <http://www.smo.uhi.ac.uk/en/>

## Registration

Registration will open on Sunday evening behind the University's main reception on the first floor. Times are as follows:

Date	Times
Sunday 22 May 2016	17:00 – 20:00
Monday 23 May 2016	08:00 – 20:00
Tuesday 24 May 2016	08:00 – 14:00 / 17:00 – 20:40
Wednesday 25 May 2016	08:00 – 19:00
Thursday 26 May 2016	08:00 – 10:00

On arrival, each participant will receive a delegate pack containing a lanyard badge, programme, delegate list, folder, note pad and pen. Please wear your badge at all times because this will help with security and enable you to identify your fellow delegates. Replacement badges can be issued at the registration desk.

The **conference abstract book** will be made available to delegates as a PDF file in advance of the conference. The abstract book will only be available in a digital format. Please print a personal copy if you would like to refer to a hardcopy at the conference.

## Messages

A message board will be placed near the registration desk. Participants should check the board for messages as an attempt to locate participants will only be made in the case of an emergency. During registration times, messages can be left by emailing [jon.roe@iop.org](mailto:jon.roe@iop.org) Messages can also be left by telephoning +44 7737 117388.

## Catering

Lunches, and refreshments during the conference are included in the registration fee and served at set times during the conference programme. A glass of sparkling wine will be served at the welcome reception on Sunday evening and this is followed by dinner in the cafeteria at 19:15. For those arriving late, dinner will be kept behind but please make sure you contact [jon.roe@iop.org](mailto:jon.roe@iop.org) to ensure you have a meal waiting for you. Please refer to the overview below for times and locations.



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For participants resident in Sabhal Mòr Ostaig, breakfast will be served in the college dining hall from 07.30am-08:30.

Sunday 22 May 2016	Time	Location
Welcome reception	18:30 - 19:15	Ampitheatre
Dinner	19:15 - 21:00	Dining Hall
<b>Monday 23 May 2016</b>		
Welcome refreshments	08:00 - 08:40	Dining Hall
Mid-morning break	10:30 - 11:00	Dining Hall
Lunch	12:50 - 14:00	Dining Hall
Afternoon refreshments	15:50 - 16:30	Dining Hall
Buffet meal	18:30 - 20:00	Dining Hall
<b>Tuesday 24 May 2016</b>		
Welcome refreshments	08:00 - 08:40	Dining Hall
Mid-morning break	10:30 - 11:00	Dining Hall
Lunch	12:50 - 14:00	Dining Hall
Dinner	19:00	Dining Hall
<b>Wednesday 25 May 2016</b>		
Welcome refreshments	08:00 - 08:40	Dining Hall
Mid-morning break	10:30 - 11:00	Dining Hall
Lunch	12:40 - 14:00	Dining Hall
Afternoon refreshments	15:40 - 16:30	Dining Hall
Conference dinner	19:00 - 22:00	Dining Hall
<b>Thursday 26 May 2016</b>		
Welcome refreshments	08:00 - 08:40	Dining Hall
Mid-morning break	10:30 - 11:00	Dining Hall

### Dietary requirements

Participants with special dietary requirements are asked to notify the conference office by e-mail prior to their arrival if they have not already done so when registering. Those with special dietary requirements 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.

Nut allergies – unfortunately the venue cannot provide assurances that food has not been cross-contaminated with traces of nuts during ingredient processing at manufacturing sites, and during food preparation and on-site. For this reason, we are unable to provide guarantees that any of the food served is free from nuts or trace elements. Please e-mail [jon.roe@iop.org](mailto:jon.roe@iop.org) if you have any queries.

### Accommodation

Accommodation is available at Sabhal Mòr Ostaig from Sunday 22 May to Thursday 26 May. All rooms are now fully booked but if you are having problems finding accommodation, please contact [jon.roe@iop.org](mailto:jon.roe@iop.org)

Delegates can pick up keys and check-in at the University's main reception.



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Each room offers the following:

- Tea and coffee making facilities refreshed daily
- Free internet connection Wi-Fi available in the bedrooms
- Bathrooms with shaver socket outlets
- Toiletry pack containing shower gel-shampoo, soap, body lotion and a vanity kit, one per person per stay
- One hand towel and one bath towel per person
- Hairdryers, irons and ironing boards available from reception

Rooms should be available from 4pm and a member of staff will be on hand to show you to your room.

### Breakfast

Breakfast will be served in the college's dining hall from 07:30-08:40.

### Presenter's information

#### Oral presentations

The lecture theatre (Talla Dhonaidh Chaimbeul Lecture Theatre) is equipped with the following audio-visual equipment:

- Laptop with PowerPoint facilities (Office XP and Windows XP)
- Data projector and projector screen
- Microphone – Radio (Lapel)

Speakers wishing to use additional audio-visual equipment or intending to present from a Macintosh computer are asked to contact Jon Roe ([jon.roe@iop.org](mailto:jon.roe@iop.org)) before the conference. The campus have a mini-display port/HDMI adapter that will work with Macs that use a mini-display port but it is advised that you bring your own adaptor.

Speakers are requested to bring their presentations on a USB memory stick in either Office 2007 or .pdf format and preload them onto the laptop located in the lecture theatre. Speakers should save their presentation into the appropriate pre-named session folders pre-set on the desktop and files should be saved by speakers surname and initial.

To optimise compatibility, particularly for the inclusion of multimedia components, PowerPoint presentations should have been saved using PowerPoint's "Package for CD" facility. Direct connection of personal laptops (with set up in the break prior to the corresponding session) is an acceptable but not preferred alternative.

The lecture theatre is reasonably large, and speakers should use a minimum 15-point font size in PowerPoint slides to ensure legibility.

Presenters are asked to prepare their talks to match the allocated times which will be rigidly enforced.

- Invited talks (40 minutes)
- Contributed talks (20 minutes)

#### Flash presentations

Flash posters consist of a maximum 2-slide, 1 minute short presentation. Please prepare your flash poster using the instructions above. To ensure timekeeping in the flash poster sessions, email your PowerPoint presentations to [jon.roe@iop.org](mailto:jon.roe@iop.org) by 19 May.



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## Poster information

If you are presenting a poster please ensure that you display your poster on the board number that matches your poster number in the programme.

You can mount your poster during registration from 18:30 on Sunday 22 May 2016. There will be a designated poster session on Tuesday from 18:30 – 20:00, although posters can also be viewed during refreshments and lunch throughout the conference. All posters must be removed by 08:30 on Thursday 26 May.

Although organisers will endeavour to save poster material, no guarantee can be made for posters not removed by the scheduled times. Posters must not be larger than **A0** in size and should be a **portrait** format. The poster board measures 6ft (1830mm) tall by 3ft (940mm) wide, and therefore if your poster does not fit within these dimensions, we cannot guarantee it will be displayed. Fixing material will be provided to mount your poster.

## Content

Posters are a visual presentation of your research and as such we recommend that you use schematic diagrams, graphs and tables, where possible, rather than just text. Please use an appropriate sized font so the information is legible at a distance of about 3' or 1 metre.

## Programme

Please refer to the website at <http://plasma16.iopconfs.org/programme2> for the latest programme.

## Social programme – Tuesday 24 May

There are three separate tours available for delegates on Tuesday afternoon. A one hour walking tour in Portree visiting six separate locations, whilst viewing a selection of historical photographs will begin at 14.00. A minibus will depart the conference venue at 13.00 to ensure a prompt start time.

Secondly a tour of the grounds of the Clan Donald Centre has been arranged for 13:00. Clan Donald Skye is a 20,000-acre highland estate on the Sleat peninsula in south Skye. The Estate offers some stunning walks for all levels of fitness, with views eastwards across the Sound of Sleat to Knoydart, or on the west of the peninsula across to the Cuillin mountain range. It is home to iconic wildlife species including red deer, golden eagles and sea eagles. A two hour visit has been arranged to see the beautiful gardens, visit the museum of the isles, some retail therapy and visit the cafe. The Clan Donald site is only a short walk away and a group will be departing for the site at 12:30.

Finally a glass bottom boat tour under the Skye bridge or down the Lochalsh will begin at 13:15. The Seaprobe Atlantis Glass Bottom Boat gives the best of both worlds 'above and below the waves', enjoy all the fantastic sea views of Skye and the mainland of Scotland as we sail out under the Skye bridge or head down Lochalsh looking for seals, otters and other wildlife. Then go below decks to see the fascinating underwater world teeming with marine life. You can book a slot on any of the above excursions during the registration process. A coach will make two separate trips and collect the first group at 12:15.

The conference dinner will take place in the conference dining room. There will be a drinks reception at 19:00 in the Amphitheatre (weather dependant) and dinner will follow at 19:30. The conference dinner is included in the registration fee but if you wish to bring along a guest please contact [jon.roe@iop.org](mailto:jon.roe@iop.org) by 19 May.





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## Outreach event – Tuesday 24<sup>th</sup> May

The outreach event this year will take place on Tuesday 24 May from 14:00 – 18:00pm at the Sabhal Mòr Ostaig. The afternoon will involve displays, demos and short outreach talks across plasma applications, fusion, lasers and astrophysics (including a demonstration of the earth-sun plasma system using the Leicester Planeterra (<http://www2.le.ac.uk/departments/physics/outreach/planeterra>)). The event is suitable for all ages, including those at all stages of secondary education.

Later that evening, at 20:00, Prof John Brown, Astronomer Royal for Scotland, will give an after-dinner talk entitled "Comets - cosmic bringers of death, life, and new solar/stellar science" to which members of the public would be very welcome.

## Travel

### By Car

#### Drive from Glasgow

It is 216 miles from Glasgow to Portree on Skye. It will normally take 5-6 hours to drive; in the summer months when the roads are busy it can take a bit longer. It is always worth stopping in Fort William to break up the Journey. Fort William is a small town about half way from Skye to Glasgow with shops on the High Street and many good places to eat.

#### Drive from Inverness

It is 112 miles from Inverness to Portree on Skye, it will take about 2.5 hours if the roads are quiet, but during the summer it can take a bit longer.

#### The Skye Bridge

Though Skye is an Island they do have a road bridge spanning the sea between the villages of Kyle (mainland) and Kyleakin (Skye).

If you are driving following the directions from a sat nav, be aware if you are traveling from the south and select the shortest route some devices will take you to Mallaig where there is the ferry to Skye.

Check your route carefully to ensure it takes you slightly longer route using the free road bridge.

You can plan your route online using one of the free route planners - examples are [The AA](#) or [The RAC](#).

### Parking

There is free parking available at the campus but places are limited. If you wish to use a parking bay please contact [jon.roe@iop.org](mailto:jon.roe@iop.org) by the 19 May.

### By Rail

**First ScotRail**: Rail service from Inverness to Kyle, Glasgow to Mallaig. A sleeper service runs from London to Inverness and from London to Fort William. They also run services all over Scotland.

**GNER**: Daily service to Inverness from Edinburgh and London, stopping in many other places between Inverness and London. Their best prices can be accessed on their website.

For information contact **National Rail Enquiries** (tel: +44 (0)8457 484950).

### By Coach / Bus

**Citylink**: Daily bus service to Broadford, from Inverness and Glasgow. They also run services all over Scotland. Their best prices are found on their own website.

**Megabus**: Daily services to Inverness from Perth, Glasgow, Edinburgh and London. Their best prices are found on their website.

**Maclean Coaches**: Busses to SMO from Portree, Broadford, Kyle, Armadale

Once you have made the crossing by ferry, there are buses running from the pier past the college but they are not frequent and not many run when the ferry arrives in Armadale. The easiest and most convenient way to the venue would be to get a taxi from the pier.





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### By Ferry

The ferry at this moment in time is running a mixed service. Not all boats are departing on time so we advise that you plan your journey via another route. We will keep a close eye on the situation and update you a few days prior to the conference.

**Calmac Ferry:** Mallaig to Armadale - 30 minute crossing

Calmac also run ferries from North Uist and Harris to Uig in the north of Skye. Tel: +44 (0)8705 650 000

**Kylerhea Ferry:** Glenelg to Kylerhea - 5 minute crossing, Easter to October Tel: +44 (0)1599 511 302

Once you have arrived at the ferry port it will be a further 5 minute drive to the venue. There is NO taxi rank outside the ferry port so you will need to either call in advance or on arrival.

### By Air

**Inverness Airport** is the closest airport at just over 2 hours away by coach and ferry. Scheduled flights operate between Inverness and London Gatwick, London Luton, Amsterdam, Belfast City, Birmingham, Bristol, Manchester, Stornoway in the Western Isles, Kirkwall in Orkney and Sumburgh in Shetland, plus seasonal flights to Geneva. Glasgow also has an airport, about 4 hours' drive and Edinburgh just over 4 hours. Timetables and lots of other information can be found on their website

### Taxis

Nicolson Private Hire, Sleat Tel: 01471 844 338 Mob 07899 952 403

W. MacLeod, Broadford Mob: 07972 886 777

Kyleakin Taxis Tel: 01599 534 452

Kyle Private Hire Tel: 01471 822 122

Sabhal Mòr Ostaig is in a relatively remote area of Scotland and for those travelling back via coaches at Broadford Armadale you will need a taxi to get you there.

If you need any assistance with travel contact [jon.roe@iop.org](mailto:jon.roe@iop.org)

### Visas

Citizens of the European Union do not need a visa to enter Britain. If you are from any other country, find out about visa requirements before you travel by visiting <http://ukvisas.gov.uk>.

## Safety information

### Emergency evacuation procedures

Please familiarise yourself with university emergency evacuation procedure. Details can be found in bedrooms and meeting rooms. The emergency evacuation procedure will be announced during the welcome address.

### Internet access

Complimentary WiFi access will be available at the event venue. In order to access the WiFi, you will need a username and password which will be available from the IOP conference registration desk. Please note that you will be allocated one password to use for the entirety of the conference with these details.

### First aid

If first aid treatment is required on site, please call: +44 1471 888000. In the event of an emergency: Ambulance, Fire Brigade or Police please dial 999.



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### Security

Please lock your bedroom door and windows whenever you leave your bedroom. The University accepts no liability for loss of possessions brought on to the premises. For security related enquiries whilst on-site, please call: +44 1471 888000.

### Smoking

Please note that it is a no-smoking policy in all of the conference venues and bedrooms.

### Behavior and conduct

The Institute of Physics and Sabhal Mòr Ostaig reserve the right to charge in full for loss or damage to the premises.

## Local information

### Currency

Britain's currency - pound sterling (£) - see [www.xe.com](http://www.xe.com) for currency converters. There is a cash machine on site.

**Value Added Tax (VAT)** - is charged on all purchases currently at a rate of 20%, people travelling to the UK on business may be entitled to reclaim the tax charged on event expenses.

### Electricity

All plug sockets are the standard 240V and there are plenty in each exhibition room.

## 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](http://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'
- Membertalk
- IOP LinkedIn group



## 43rd IOP Plasma Conference

### Sponsors

The organisers would like to thank the following sponsors of the 43<sup>rd</sup> IOP Plasma Conference:



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