



Joining instructions

Spring MIST Conference
University of Southampton, 26th – 28th March 2018

Dear Colleagues

We look forward to welcoming you to the forthcoming Spring MIST conference hosted by the Space Environment Physics Group, Physics and Astronomy, University of Southampton.

We would like to give you some information about joining the conference that we hope will be useful.

Registration

Registration will be open from 11.30 on Monday 28th March in Garden Court, Building 38 at Highfield Campus where you will be required to register and collect your badge and welcome pack.

There will a working lunch available before the first presentation which begins at 13.00 in Building 2a. Please see the Programme for timings on all the presentations.

If you have any queries when you arrive to register, we will be able to assist you at the desk.

Parking

Parking will be provided for residential delegates at Highfield Hall, who can either catch a bus to the campus or who will be within a ten-minute walk of the conference venue.

Parking on campus for non-residential delegates is very limited and a restricted number of Hampton Car Park permits will be issued on a first-come, first-serve basis – please ask at the registration desk. There is also a pay and display car park but this does get full pretty quickly in the mornings. We strongly suggest, therefore, that non-residential delegates use public transport to reach the conference venue.

Wi-Fi

Free WiFi - is available to conference guests via "Guest WiFi". Connecting to the service is easy:

1. Check your WiFi is on
2. Select WiFi Guest from the available network list
3. Open browser, refresh the page and follow the on-screen instructions to register or log in

Eduroam is also available

Travel

Travel

Bus

There are regular bus services to and from Highfield Campus, Halls of Residence, transport hubs, and the city centre, for those who are staying either with us or in local hotels.

In particular, the Uni-link U1C bus operates from Southampton Airport and Airport Parkway Railway station to the University, city centre and eastern docks. It runs every 15 minutes during the week and every 20 minutes at weekends and on public holidays.

Please see <http://www.unilinkbus.co.uk> or call +44 (0)2380 595 974.

Car

From the M3

- At Junction 13 take right-hand lanes to continue forward onto the M3 (signs for Southampton A33)
- Leave the M3 at junction 14, then merge onto the A33
- At Chilworth Roundabout take the 2nd exit onto the A33
- Follow the A33 (Bassett Ave.) take 1st exit on next roundabout – continue along A33, keep in left hand lane
- At major intersection, turn left at traffic lights onto A35 (Burgess Road)
- Continue through two set of lights past Shell garage on left hand side
- Keep in right hand lane – at third set of traffic lights turn right into University Road

From the M27

- Leave the M27 at junction 5
- If coming from the east, take the 1st exit off the roundabout; if coming from the west, take the 4th exit (onto A335)
- Follow the A335 dual carriageway through 2 sets of traffic lights
- At the 3rd set, turn right onto A35 (Burgess Road) - McDonald's will be on your left
- Continue through one sets of traffic lights
- Keep to left hand lane and turn left at the traffic lights onto University Road

Train

Please note that weekend train travel can be subject to disruption from maintenance works. We strongly advise you check before you travel and adjust your plans accordingly if travelling at the weekend.

Southampton has two main train stations:

- Southampton Central, located in the city centre
- Southampton Airport Parkway, located outside of the city next to the airport and Parkway Train Station

Direct connections from London to Southampton nearly all run from London Waterloo station. Both of Southampton's train stations are also served by Cross Country services through Birmingham and Reading.

Train times can be found at:

- www.nationalrail.co.uk or call +44 (0)8457 484 950
- www.thetrainline.com or call +44 (0)8712 441 545

Travel

These stations are approximately 2½ -3 miles from the University of Southampton, so you will need to use public transport to get to the campus.

Local taxis also operate outside the train stations. Travel time is approximately 10-15 minutes to the University of Southampton and will cost approximately £7-£10

You don't usually need to pre-book taxis but if you want to, the following numbers may be useful:

- Elite Cars: +44 (0)2380 404884
- Radio Taxis: +44 (0)23 8066 6666
- Streamline Taxis: +44 (0)23 8022 33 55
- West Quay Cars: +44 (0)23 8022 3450

Air

Southampton airport

Southampton Airport Information can be found at www.southamptonairport.com

Southampton Airport taxis are operated by Checker Cars and provide a 24-hour service and have an office opposite the arrivals hall. Some cars have swivel seats for easier access and there is a minibus suitable for wheelchair users. Should you require either of the above options, please pre-book your journey by calling +44 (0)2380 62 7100 or email Southampton@checkercars.com

To take a taxi from the airport, please go to the taxi desk in the main concourse, near the exit. Your car will then pick you up outside the terminal building.

The fare to your destination is fixed in advance, and you can pay either at the time of booking (credit and debit cards accepted) or at the end of your journey (cash only).

Heathrow airport

It is possible to take the underground to central London from Heathrow, and then take a direct train from London Waterloo to Southampton.

- Heathrow underground information: <http://www.heathrow.com/transport-and-directions/underground>

Alternatively, it is possible to use 'RailAir', a bus service that connects Heathrow to Reading train station, where a direct service can be taken to Southampton: <http://www.railair.com/>

It is also possible to take a coach from any Heathrow terminal direct to the University of Southampton. Please see www.nationalexpress.com for further information.

Gatwick airport

There is an hourly direct service from Gatwick to Southampton Central Monday-Saturday. Trains on a Sunday will require a change.

It is also possible to take a coach from Gatwick direct to Central Southampton coach station. Please see www.nationalexpress.com for further information. If you wish to take a taxi from any of the above airports direct to the University, we would recommend the private hire company *English Rose*, who will collect you from the airport and take you straight to your destination. They will charge approx. £85 plus £8 parking from one terminal at Heathrow to one address in Southampton, or approx. £87 plus £8 parking from one terminal at Gatwick to one address in Southampton. Card transactions cost £3.

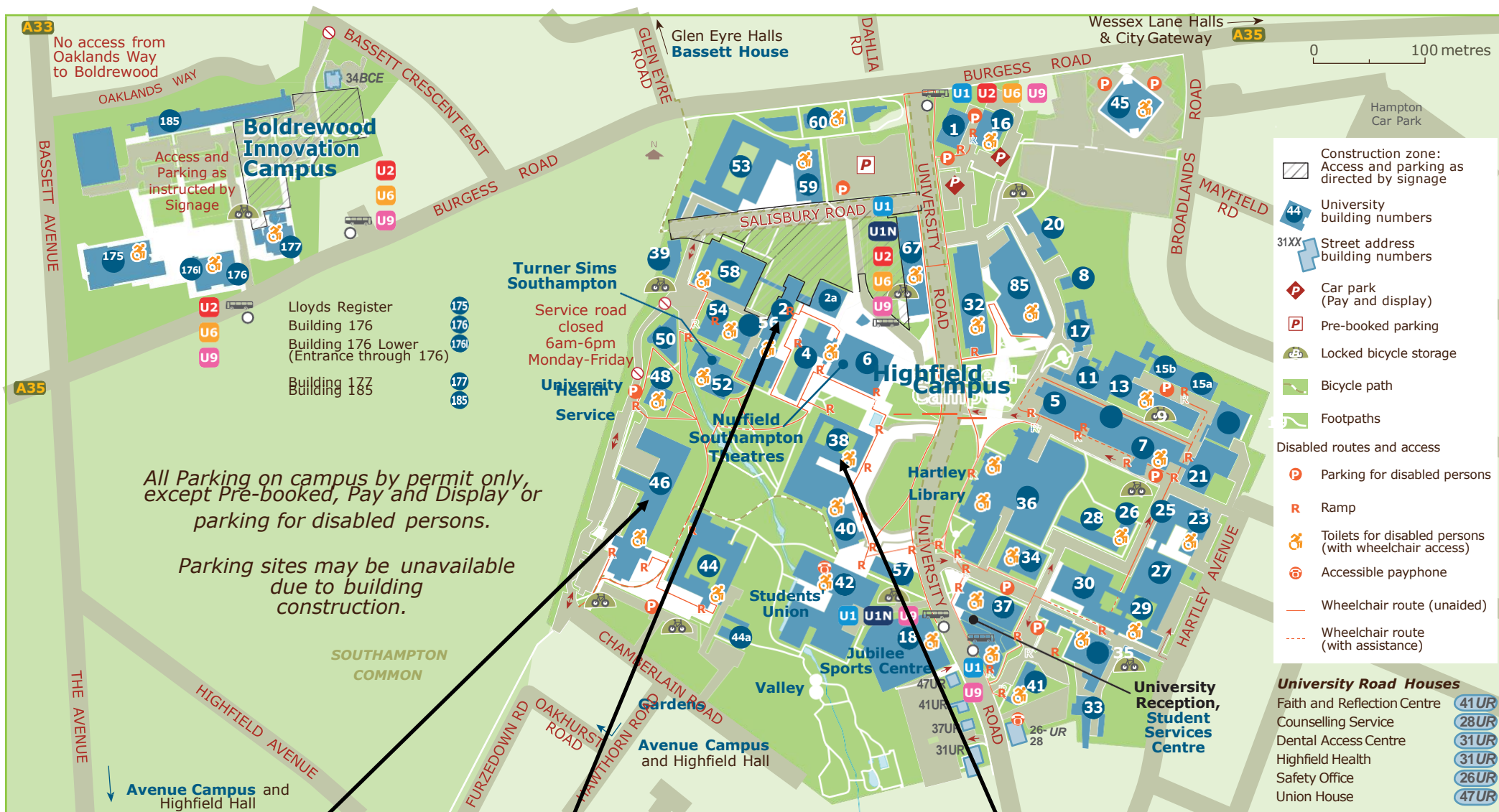
<http://www.englishrosecollection.co.uk/>

Travel

Please mention University of Southampton when booking.

Stansted, Luton, and London City airports

If arriving at any of these airports, we would advise taking a train to central London and connecting to Southampton via London Waterloo



All Parking on campus by permit only, except Pre-booked, Pay and Display or parking for disabled persons.

Parking sites may be unavailable due to building construction.

BUILDING 46
Wednesday PM

BUILDING 2a (THE ARTS ANNEXE)
Presentations Monday PM - Wednesday AM

BUILDING 38
TERRACE RESTAURANT - Residents breakfast
HARTLEY SUITE
- Registration, Poster Session
Conference Dinner

Accommodation

Accommodation

For those who have chosen a residential package your accommodation is located at:

Highfield Hall Halls of Residence (Main Reception)
Omdurman Road
Highfield
Southampton
SO17 1AW

Main reception telephone number: +44 (0) 2380 598 004

The Halls of Residence is located approximately ½ mile from the main Highfield Campus and on the edge of the Avenue Campus. Directions are included below.

Check-in

When you arrive at the Halls of Residence - you will need to go to the 24-hour Reception to collect your room key and access code. Check in time is from 10.00am

Check-out

Check out time is 09:30, when you must remove all your belongings from your room and return your key to Reception. A charge of £25 per key is made for any missing / lost keys. There will be a locked room space for storing your luggage in Building 38 on Highfield campus while the last of the presentations are taking place on Wednesday.

Meals

Breakfast will be provided for residents 08:00-09:00 in Building 38 Terrace Restaurant on Highfield Campus, Tuesday 27 and Wednesday 28 March.

Dinner will be provided for residents 19:00-20:30 in Building 38, Hartley Suite on Monday 26 March (with the conference dinner for all delegates, as per the programme, on the following night).

Accommodation

Accommodation directions

By car

From the M3 - Exit at junction 14, follow signs for Southampton A33 - Keep following the A33 (Bassett Avenue), keep in left hand lane - Go straight over the next two roundabouts - Continue through traffic lights at a major intersection - Turn left at next set of traffic lights into Highfield Avenue - Take the 1st right into Nile Road and Highfield Hall is directly in front of you at the end of the road.*

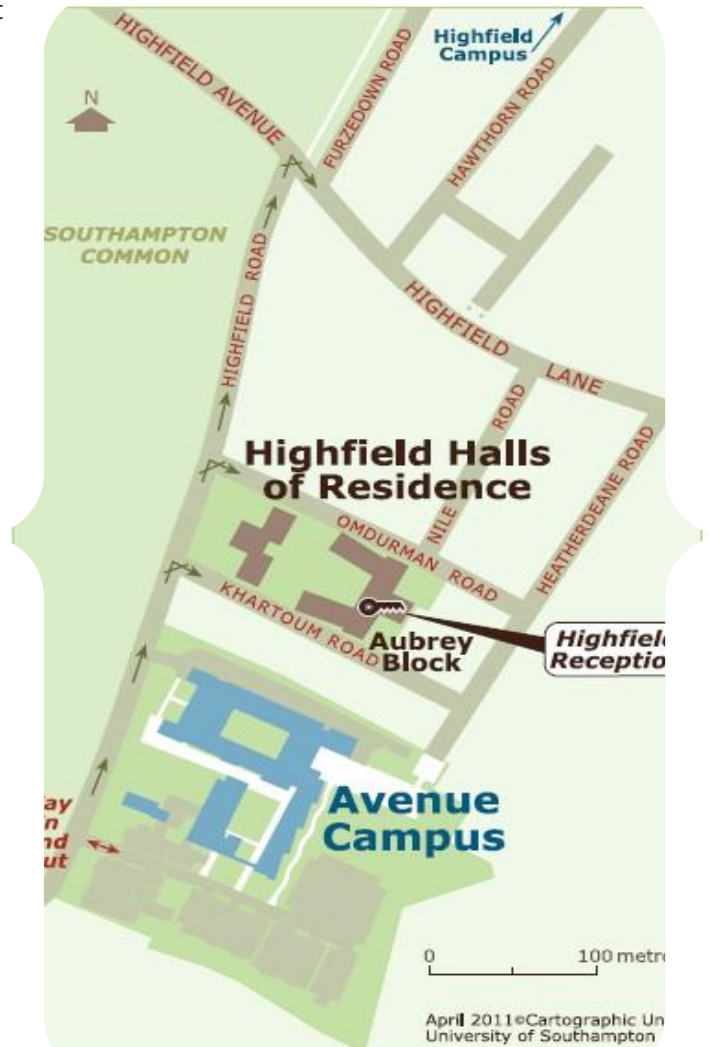
From the M27 - Exit at Junction 5 (Southampton Airport/Eastleigh) - If coming from the East, take the 1st exit off the roundabout; - If coming from the West, the 4th exit - Follow the A335 dual carriageway through 2 sets of traffic lights; at the 3rd set, the road divides - Turn right onto Burgess Road (McDonald's will be on your left) - Go through three sets of traffic lights (do not turn into University Road) then turn left at the major intersection onto The Avenue - Turn left at the next set of traffic lights into Highfield Avenue - Take the 1st right into Nile Road and Highfield Hall is directly in front of you at the end of the road.*

From the City Centre - Follow the signs for the A33 (M3 London/ Winchester) onto Bassett Avenue - Once on The Avenue continue straight through two sets of traffic lights - with Cowherds Pub on your left - At the third set of traffic lights, turn right into Highfield Avenue - Take the first right into Nile Road and Highfield Hall is directly in front of you at the end of the road.

By Bus or Coach

From Southampton Central use the south side (platform 4) and exit for the Unilink U1A bus service to the Highfield Campus interchange. From there take the Unilink U2C bus to the Avenue campus. Or walk to the Civic Centre (10 minutes) and take the Unilink U2B bus directly to Avenue Campus.

From Southampton Airport Parkway exit on the airport side of the station for the Unilink U1A bus service to the Highfield Campus interchange and then take the Unilink U1C bus to the Avenue campus.



Programme overview

Monday 26 March 2018

Session 1 “The ionosphere, thermosphere and aurora I”

Presentations: Building 2a (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 13:00 An in-situ multi-point observation of the thermosphere using CubeSats coordinated with ground-based instruments, and model studies - *A.L. Aruliah*
- 13:18 Determining neutral temperatures in the high-latitude upper atmosphere - *J.M. Chadney*
- 13:36 Extending the Met Office weather and climate model into the thermosphere - *D. Jackson*
- 13:54 Assessing quasi-periodicities in Jovian X-ray emissions: techniques and heritage survey - *C.M. Jackman*
- 14:12 Multi-scale observation of polar cap aurora - *J.A. Reidy*
- 14:30 Coffee

Session 2 “The ionosphere, thermosphere and aurora II”

Presentations: Building 2a (“The Arts Annexe”), Lecture Theatre J

Posters: Building 38, Hartley Suite

- 15:10 The height of green and blue aurora - *D.K. Whiter*
- 15:28 Characterising temporal variability in ionospheric flows using SuperDARN data – *M.-T. Walach*
- 15:46 The ionospheric response to intense bombing during World War II - *C.J. Scott*
- 16:04 An update on the development of EISCAT_3D - *I.W. McCrea*
- 16:22 Preliminary evaluation of MArtian Global Ionospheric Conductivities (MAGIC) - *B.E.S. Hall*
- 16:40 Magnetosphere-Ionosphere Coupling in Global MHD Simulations - *J.W.B. Eggington*
- 17:00 Poster session

Programme overview

Tuesday 27 March 2018

Session 3 “Substorms and the magnetotail I”

Presentations: Building 2a (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 09:00 Effect of magnetospheric convection timescales on magnetotail flux rope core field – *S. Browett*
- 09:18 Dynamical noise in a toy model of “Earth-like” planetary magnetotails - *R. Burston*
- 09:36 Global scale simulation of northward IMF magnetospheric dynamics: Vlasiator results – *R.C. Fear*
- 09:54 Evaluating single spacecraft observations of planetary magnetotails with a simple Monte Carlo simulation - *A.W. Smith*
- 10:12 Magnetospheric Multiscale observations of intense electric fields and electron-scale substructure within magnetotail flux ropes - *J.E. Stawarz*
- 10:30 Coffee

Session 4 “Substorms and the magnetotail II”

Presentations & business meeting: Building 2a (“The Arts Annexe”), Lecture Theatre J

Lunch: Building 38, Hartley Suite

- 11:10 Tailward propagation of magnetic energy density variations with respect to substorm onset times - *J.C. Coxon*
- 11:28 A direct diagnosis of the plasma waves responsible for the explosive energy release of substorm onset - *N.M.E. Kalmoni*
- 11:46 Examining the gains and losses of magnetic flux during substorms. - *M.K. Mooney*
- 12:04 Energisation of the ring current by substorms - *J.K. Sandhu*
- 12:22 Lunch
- 13:20 Business meeting

Programme overview

Session 5 “The solar wind and the magnetosheath I”

Presentations: Building 2a (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 14:20 Hybrid simulations of space plasma turbulence - *D. Burgess*
- 14:38 Exospheric neutral hydrogen densities derived from solar wind charge exchange emission - *J.A. Carter*
- 14:56 Guide field reconnection: exhaust structure and heating - *J.P. Eastwood*
- 15:14 Coffee

Session 6 “The solar wind and the magnetosheath II”

Presentations: Building 2a (“The Arts Annexe”), Lecture Theatre J

MIST cup: Jubilee Sports Hall

Conference dinner: Building 40, Garden Court

- 15:55 Production of negative hydrogen ions within MMS due to solar wind bombardment – *I. Gingell*
- 16:13 Solar cycle variation of the statistical and scaling properties of bursts in the solar wind - *E. Tindale*
- 16:31 Space plasma physics with ALPS: The Arbitrary Linear Plasma Solver - *D. Verscharen*
- 16:49 A new method to determine the kappa distribution functions of space plasmas from reduced data-sets - *G. Nicolaou*
- 17:15 MIST Cup
- 19:30 Conference dinner

Wednesday 28 March 2018

Session 7 “Magnetospheric driving and current systems”

Presentations: Building 2a (“The Arts Annexe”), Lecture Theatre J

Coffee: Building 38, Hartley Suite

- 09:00 Global MHD/test particle simulations of radiation belts dynamics during extreme space weather events - *R.T. Desai*
- 09:18 Increases and decreases in radiation belt electron content with geomagnetic activity – *C. Forsyth*
- 09:36 A homogenous aa index - *M. Lockwood*
- 09:54 Dynamical networks characterization of space weather events - *L. Orr*
- 10:12 The field-aligned current structure associated with sub-auroral polarization streams - *H. Sangha*
- 10:30 Statistical correlation analysis of field-aligned currents measured by Swarm – *M.W. Dunlop*
- 10:48 Carriers and Sources of magnetopause current - *X.C. Dong*
- 11:06 Coffee

Session 8 “Waves through the magnetosphere”

Location: Building 46, Lecture Theatre B

- 11:45 Particle-in-cell models of diffusion due to whistler mode waves: comparing quasi-monochromatic to broadband waves - *O. Allanson*
- 12:03 A solar wind-parameterised, probabilistic model of ground-measured ULF waves in Earth’s magnetosphere - *S.N. Bentley*
- 12:21 Field Line Resonances in 3D - *T. Elsden*
- 12:39 Testing current theories behind Ultra-Low Frequency modulated radiation belt precipitation - *I. J. Rae*
- 12:57 The origin of the whistler-mode spectral "gap" at half electron gyrofrequency in the magnetosphere - *C.E.J. Watt*
- 13:15 Using ground-based instruments to estimate magnetospheric plasma distributions – *S.J. Wharton*
- 13:33 Announcement of NAM 2019 and close of meeting

Posters

Saturn's aurora during the Cassini mission grand finale – *S.V. Badman*

Calibrating SuperDARN interferometer – *G. Chisham*

Filamentary currents in five FTEs observed by MMS – *J.C. Coxon*

Flux content of flux transfer events at Mercury – *R.C. Fear*

The influence of the interplanetary magnetic field on Antarctic clouds – *M.P. Freeman*

Electromagnetic radial diffusion estimates from ground- and space-based measurements for the March 2013 case study – *M. Georgiou*

Solar Stormwatch: Using citizen science to investigate CME distortions – *S. Jones*

Towards understanding the role of the ionospheric electric field in geomagnetically induced currents: Electric field variability on different temporal and spatial scales as measured by EISCA – *A.J. Kavanagh*

Investigating ionospheric variability caused by lower boundary perturbations – *L. Nugent*

A new technique for measuring heating of the lower thermosphere by auroral processes – *D.J. Price*

How directly driven are the polar ionospheric equivalent currents? – *R. Shore*

Electron acceleration at quasi-perpendicular shocks in sub and supercritical regimes: 2D and 3D simulations – *D. Trotta*

Pattern of small-scale structures in the turbulent magnetosheath – *T. Wang*