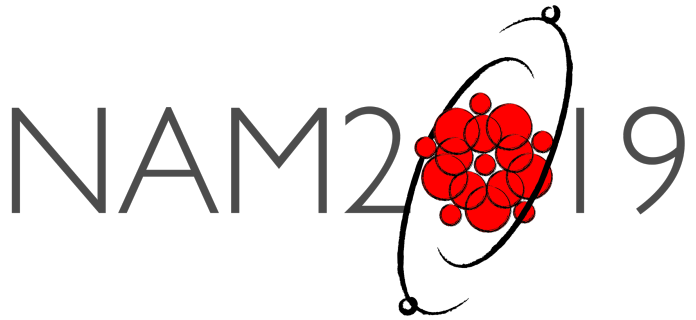

ROYAL ASTRONOMICAL SOCIETY

NATIONAL ASTRONOMY MEETING

LANCASTER UNIVERSITY
30 JUNE – 4 JULY 2019

PROGRAMME OF ORAL PRESENTATIONS

Royal Astronomical Society
Advancing Astronomy and Geophysics

Science & Technology Facilities Council

UK Research and Innovation

Lancaster University

NAM 2019 Outline Schedule

Monday

09:00 - 10:30 Parallel Session 1

GroundMag (Faraday LT)
ESA M5 (Frankland LT)
SolarAtmos 1 (Cavendish LT)
GalBlackHoles 1 (Bowland Main LT)
AstroLivT 1 (Elizabeth Livingstone LT)

10:30 - 11:00 COFFEE
(Faraday Foyer, Physics A07, County Bar, LICA)

11:00 - 12:00 Plenary Lecture 1
Selma de Mink
(Faraday LT + Frankland LT)
From Stellar Birth to Gravitational Wave Chirps: On the lives, deaths and afterlives of Massive stars

12:00 - 13:30 LUNCH
(County South LT, Marketplace 2)

Diversity Lunch (Private Dining Room)
(lunch provided in meeting venue)

13:30 - 15:00 Parallel Session 2

EqualityDiversity 1 (Faraday LT)
IonosThermos (Frankland LT)
SolarAtmos 2 (Cavendish LT)
GalArchaeology 1 (Bowland Main LT)
CosmicWeb 1 (Elizabeth Livingstone LT)
PostHST 1 (Marcus Merriman LT)

15:00 - 15:30 COFFEE
(Faraday Foyer, Physics A07, County Bar, LICA)

15:30 - 16:30 Plenary Lecture 2
Steve Milan
(Faraday LT + Frankland LT)
Sun et Lumière: the terrestrial magnetosphere revealed through auroral dynamics

16:30 - 18:00 Parallel Session 3

EqualityDiversity 2 (Faraday LT)
RadiationBelt (Frankland LT)
SolarMHDWav (Cavendish LT)
GalBlackHoles 2 (Bowland Main LT)
CosmicWeb 2 (Elizabeth Livingstone LT)
PostHST 2 (Marcus Merriman LT)

Tuesday

Outreach and Education Day

09:00 - 10:30 Parallel Session 4

SolarSTPShocks (Faraday LT)
BaryonGal 1 (Frankland LT)
EngagementSTP (Cavendish LT)
GalArchaeology 2 (Bowland Main LT)
AstroLivT 2 (Elizabeth Livingstone LT)
AstroTools (Bowland North SR 10)

10:30 - 11:00 COFFEE
(Faraday Foyer, Physics A07, County Bar, LICA)

11:00 - 12:00 Plenary Lecture 3
Boris Gänsicke
(Faraday LT + Frankland LT)
Evolved planetary systems around white dwarfs

12:00 - 13:30 LUNCH
(Private Dining Room, Marketplace 2)

Outreach Lunch (County South LT)
(lunch provided in meeting venue)

13:30 - 15:00 Parallel Session 5

MHDWavesSTP (Faraday LT)
BaryonGal 2 (Frankland LT)
GravWaves 1 (Cavendish LT)
GalArchaeology 3 (Bowland Main LT)
EduOutrchEngage (Elizabeth Livingstone LT)
GalClusters 1 (Marcus Merriman LT)
MOONS (Cavendish Colloquium Room)

15:00 - 18:00
Poster Session
including Afternoon Tea

(LICA Main Space)

NOTE: All posters may be displayed from 10:30 on Monday until 11:00 on Wednesday

(Any posters still up at the end of the coffee break on Wednesday morning will be removed)

Wednesday

Schools' Day

09:00 - 10:30 Parallel Session 6

MISTGeneral (Faraday LT)
Gaia 1 (Frankland LT)
GravWaves 2 (Cavendish LT)
ActiveRegions 1 (Bowland Main LT)
GalClusters 2 (Elizabeth Livingstone LT)

10:30 - 11:00 COFFEE
(Faraday Foyer, Physics A07, County Bar)

11:00 - 12:00 Plenary Lecture 4
Joseph Silk
(Faraday LT + Frankland LT)
The Limits of Cosmology

12:00 - 13:30 LUNCH
(County South LT, Marketplace 2)

MIST / UKSP Lunch (Cavendish LT)
(collect 'takeout' from Physics A07)

Publishing Lunch (Bowland North SR10)
(collect 'takeout' from County South / Marketplace 2)

RAS Council Meeting (Bowland Hall)

13:30 - 15:30
STFC and UKSA Community Session
(Faraday LT + Frankland LT)

15:30 - 16:00 COFFEE
(Faraday Foyer, Physics A07, County Bar)

16:00 - 17:30 Parallel Session 7

GalEvolution 1 (Faraday LT)
Gaia 2 (Frankland LT)
Transients 1 (Cavendish LT)
ActiveRegions 2 (Bowland Main LT)
Magnetospheres (Elizabeth Livingstone LT)
AstroImpact (Marcus Merriman LT)

Thursday

09:00 - 10:30 Parallel Session 8

GalEvolution 2 (Faraday LT)
NumericalAstro 1 (Frankland LT)
Transients 2 (Cavendish LT)
SolarOrbiter 1 (Bowland Main LT)
MachineLearning 1 (Elizabeth Livingstone LT)

10:30 - 11:00 COFFEE
(Faraday Foyer, Physics A07, County Bar)

11:00 - 12:00 Plenary Lecture 5
Nicky Fox
(Faraday LT + Frankland LT)
Parker Solar Probe and her place in the Heliophysics Fleet

12:00 - 13:30 LUNCH
(County South LT, Marketplace 2)

Careers Lunch (Private Dining Room)
(lunch provided in meeting venue)

Europlanet Exoplanet Lunch (Bowland North SR10)
(collect 'takeout' from County South / Marketplace 2)

13:30 - 14:30 Plenary Lecture 6
Stephen Smartt
(Faraday LT + Frankland LT)
Time domain sky surveys, explosive transients and multi-messenger astronomy

14:30 - 15:00 COFFEE
(Faraday Foyer, Physics A07, County Bar)

15:00 - 16:30 Parallel Session 9

GalEvolution 3 (Faraday LT)
NumericalAstro 2 (Frankland LT)
ProAm (Cavendish LT)
SolarOrbiter 2 (Bowland Main LT)
MachineLearning 2 (Elizabeth Livingstone LT)

EVENING ACTIVITIES

18:30 - 21:00
5-a-side Football Tournament
3G Astroturf Pitch,
University Sports Centre

19:00 - 20:30
Lancaster Castle Tour
Bus from Alexandra Square Underpass at 18:25

19:00 - 21:00
Geocaching
Meet in Alexandra Square
under the Big Screen

19:30 - 22:00
Mystery Film Screening
Bowland Main LT

19:30 - 21:00
Climbing Wall Taster Session
University Sports Centre

19:00 - 22:00
Pie & Quiz
Barker House Farm,
Cartmel College

18:30 - 21:00
The RAS Public Lecture:
From Kendal to Príncipe – Eddington Einstein (Professor Bell Burnell)
The Dukes Theatre,
Lancaster City Centre

20:20 - 22:50
Total Solar Eclipse Screening
Alexandra Square Big Screen

18:45 - 22:30
Conference Dinner & RAS Awards
LICA Main Space
(Bus to the city centre leaving LICA at 22:50)

19:30 - 22:00
Morecambe Fringe Festival:
All the right planets, not necessarily in the right order
Alt-Space, 21C Yorkshire St W,
Morecambe, LA3 1QE

Last updated 21/06/2019

NAM2019

Active Region Laboratories

09:00 Christopher Prior
Photospheric geometry and the ability to gauge active region magnetic field structure during flux emergence (Invited)

09:20 D. Shaun Bloomfield
Performance Characteristics of Operational Flare Forecasting Systems

09:34 Peter Wyper
A Numerical Simulation of an Active Region Periphery Helical Jet

09:48 Eddie Ross
Solar cycle measurements of lifetimes of active and ephemeral region flux

10:02 Sandra Milena Conde Cuellar
Coronal loops geometry and the physical description of their structure

10:16 Dylan Williams
Active longitudes and rotation rates: a large survey of active regions observed by AIA/SDO.

Lancaster University

NAM2019

Active Region Laboratories

16:00 Natasha Jeffrey
Active regions, the origin of solar flares, and a laboratory for studying particle acceleration (Invited)

16:20 Llŷr Humphries
IRIS observations of fan-shaped jets within a flaring Active Region

16:34 Patrick Antolin
Multi-scale observations of thermal non equilibrium cycles in coronal loops

16:48 Mykola Gordovskyy
Intrinsic photospheric magnetic field diagnostics using the Stokes V widths method

17:02 Silvia Dalla
Propagation of relativistic solar protons from solar eruptive events

17:16 Sean Quinn
How the Chromosphere responds to a flare-initiated Sunquake

NAM2019

Bridging the Disciplines of Galactic and Extra-galactic Archaeology

13:30 C. Clare Worley
Updates on Galactic Archaeology: New Data and Discoveries (Invited)

13:50 Veronica Ferreiros Lopez
Age-metallicity relation of the bulge globular cluster NGC6528

14:05 Alison Laird
The role of nuclear physics in interpreting observations (Invited)

14:25 Bill Chaplin
Asteroseismology

14:45 Philipp Edelmann
3D Simulations of Internal Gravity Waves in Massive Stars

Lancaster University

NAM2019

Bridging the Disciplines of Galactic and Extra-galactic Archaeology

09:00 Richard Stancliffe
Stellar Evolution Challenges for Galactic Archaeology (Invited)

09:20 Claudia Maraston
Stellar Population models (Invited)

09:40 Jianhui Lian
The origin of mass-metallicity relation and metallicity gradient in gaseous and stellar components of galaxies

09:55 Chiaki Kobayashi
Chemodynamical simulations of the Milky Way, early-type galaxies, and high-redshift star-forming galaxies (Invited)

10:15 Joaquín García de la Cruz
Finding tracers of galaxy evolution in the age structure and kinematics of thick disks of galaxies.

Lancaster University

NAM2019

Bridging the Disciplines of Galactic and Extra-galactic Archaeology

13:30 Daniel Thomas
Early-type galaxies (Invited)

13:50 Nic Scott
Extragalactic thick disks and alpha enhancement

14:00 Lewis Hill
Stellar parameter determination for MaNGA stars and population properties of MaNGA galaxies

14:10 Mirko Curti
Metallicity gradients in star forming galaxies: from the local Universe to the cosmic noon (and beyond...)

14:30 Nimisha Kumari
O/H-N/O: the curious case of NGC4670

14:40 Roberto Maiolino
Understanding galaxy chemical evolution: prospects from high redshift studies (Invited)

Lancaster University

NAM2019

Connecting MHD Wave Research from the Sun to the Magnetospheres

13:30 Valery Nakariakov
Magnetohydrodynamic Oscillations in the Solar Corona and Earth's Magnetosphere: Towards a Consolidated Understanding (Invited)

13:50 Andrew Wright
Resonant Fast and Alfvén Wave Coupling in 3D

14:04 Harry Manners
A global survey of the spatial distribution of ultra-low-frequency waves with periods ~1-100 minutes in the Jovian magnetosphere

14:18 Andrew Hillier
Approximate nonlinear solutions of MHD Kelvin-Helmholtz mixing and their applications

14:32 Martin Archer
Magnetopause Surface Eigenmodes: Direct observations and global implications

14:46 David Southwood
MHD waves excited by twisting of a magnetised plasma column from below: Saturn and solar corona compared.

Lancaster University

NAM2019

Cosmic Web: Bridging Galaxies and Cosmology

13:30 Rita Tojeiro
The galaxy–halo connection in the cosmic web (Invited)

14:00 Weiguang Cui
The baryonic webs: a view from the cosmological hydrodynamic simulations

14:15 Violeta Gonzalez–Perez
Do emission line galaxies live in filaments?

14:30 Chris Davies
Universalities In Weak Lensing Peak Statistics

14:45 Seshadri Nadathur
Beyond BAO: improving BOSS cosmological constraints using voids

NAM2019

Cosmic Web: Bridging Galaxies and Cosmology

16:30 Ulrike Kuchner
Probing cosmic filaments around local clusters with WEAVE: The WEAVE Wide-Field Cluster Survey (WWFCS)

16:45 David Sobral
Cosmic Web of Galaxies in the COSMOS Field: Different Quenching for Centrals and Satellites

17:00 Chris Duckworth
Connecting the angular momentum content of the cosmic web to galaxy kinematics and dynamics

17:15 Jacob Crossett
Witnessing galaxy group evolution using X-ray observations

17:30 Benjamin Giblin
Accurate non-linear calibration in arbitrary cosmologies beyond LCDM

17:35 Alexander Hill
Using EAGLE to Investigate Intrinsic Galaxy Alignments in Radio Weak Lensing Surveys

17:40 Amira Val Baker
Resolving the vacuum catastrophe: a generalized holographic approach

17:45 Yan-Chuan Cai
Discussion

NAM2019

Cultural and Archaeo–Astronomical Tools in the Digital Age

09:00 Daniel Turner
Archaeoastronomy Survey Work on Arbor Low

09:15 Georg Zotti
4D Skyscape Simulation in Stellarium

09:30 Georg Zotti
Workshop: Stellarium: How to add to my landscape

Lancaster University

NAM2019

Current Developments in Numerical Astrophysics

09:00 Mark Wilkinson
The DiRAC HPC Facility (Invited)

09:25 Arjen Tamerus
Distributed memory supercomputing to calculate high temperature line lists for large polyatomic molecules in TROVE

09:40 Aoife Curran
Investigating the tidal evolution of small dark matter subhaloes in N−body simulations of Milky Way type galaxies

09:55 Franziska Schmidt
Hydrodynamic Simulations of Supernova Remnants: Dust Destruction by the Reverse Shock

10:10 Poster presenters
Lightning Talks by Poster Presenters

Lancaster University

NAM2019

Current Developments in Numerical Astrophysics

15:00 Raphael Hirschi

RA–ILES framework: developing synergy between 3D and 1D simulations of stellar interiors

15:15 Rowan Smith

Introducing the Cloud Factory: Zooming in to molecular cloud scales in Galaxy simulations.

15:30 Tim Cunningham

Investigating Convective Overshoot in White Dwarf Atmospheres with CO5BOLD

15:45 Jamie Quinn

An Implementation of Anisotropic Viscosity in LaRe3D

Lancaster University

NAM2019

Education, Outreach and Engagement: What are they and what works?

13:35 Becky Parker
Engaging schools in cutting edge research (Invited)

13:45 Martin Archer
How to undertake a programme of deep research–based engagement with schools and evaluate it

13:55 Rebecca Smethurst
Engaging on YouTube: Lessons learnt from 9 months of creating content

14:05 Gregory Brown
From concept to completion: a case study in producing a successful outreach programme

14:15 Andrew Newsam
Developing and assessing two–way engagement with an online resource

14:25 Martin Yates
Teaching Astronomy to the new curriculum

14:30 Megan Argo
We Share the Same Moon: Science through Storytelling

14:35 Kierann Shah
Discussion

14:35 Daniel Brown
Writing Skyscapes – Capturing engagement to offer engagement

Lancaster University

NAM2019

Electrodynamics and energetics of the ionosphere–thermosphere system

13:30 Michael Kosch
Estimating electron energy and electric field within sprites

13:45 Anasuya Aruliah
FPI and EISCAT radar observations of large upwellings and downwellings in the polar cap upper thermosphere

14:00 Daniel Billett
Multi–instrument Observations of Dayside Ion–Neutral Coupling in the Auroral Zone

14:15 David Price
Observations of Joule heating associated with an auroral arc above Svalbard

14:30 Maria–Theresia Walach
SuperDARN observations during geomagnetic storms, geomagnetically active times and enhanced solar wind driving

14:45 Sean Elvidge
The Key Thermospheric Parameters for Ionospheric Forecasting

Lancaster University

NAM2019

Engaging the public and schools with science through the solar system

09:00 Gabby Provan
The importance of public engagement in higher education (Invited)

09:20 Richard Morton
Imagining the Sun and Exploring Extreme Environments

09:31 Maria–Theresia Walach
Outreach via existing platforms: "I'm a Scientist, Get me out of here!"

09:42 William Dunn
Original Research By Young Twinkle Scientists (ORBYTS)

09:53 Sophie Murray
Sunspotter: Solar Physics in the Classroom

10:04 Poster presenters
Lightning Talks by Poster Presenters

10:10 Helen Mason
Panel discussion

Lancaster University

NAM2019

Equality, diversity, and inclusion

13:30 Fran Bagenal
Demographics of Astrophysical, Planetary and Space Sciences

13:47 Anuradha Damale
Diversity in Student Space Activities in the United Kingdom

14:04 Stephen Wilkins
Representation in Physics Higher Education

14:21 Vivienne Wild
The impact of gender on the student experience of physics undergraduates

14:38 Vinesh Maguire–Rajpaul
Panel discussion

NAM2019

Equality, diversity, and inclusion

16:30 Jane Greaves
Prestige bias in allocation of telescope time?

16:47 Ashley Spindler
Social Capital and its Role in Community Building, Social Justice and Allyship

17:04 Chris Arridge
If we're not snowflakes, why are we more likely to suffer poor mental health?

17:21 Rachael Livermore
Unenforced Policies as a Leak in the Pipeline

17:38 Vinesh Maguire–Rajpaul
Panel discussion

NAM2019

Explosive energy release in the solar atmosphere

09:00 Iain Hannah
Explosive energy release in the flares of Solar Cycle 24 (Invited)

09:30 Thomas Rees–Crockford
2D and 3D Kinematic Analysis of an Ideal–MHD Prominence Eruption

09:42 Jack Jenkins
Modelling the Effect of Mass–draining on Prominence Eruptions

09:54 Qian Xia
Particle Acceleration and Their Diagnostics in 3D Reconnecting Current Sheets with Magnetic Islands

10:06 Sarah Matthews
Particle acceleration and the evolution of non–thermal line broadening in a solar flare

10:18 Chris Osborne
Learning to Invert a Solar Flare Atmosphere with Invertible Neural Networks

Lancaster University

NAM2019

Explosive energy release in the solar atmosphere

13:30 Chris Nelson
Understanding Small-Scale Magnetic Reconnection In The Solar Atmosphere (Invited)

14:00 Giulia Murtas
Study of coalescence instability in chromospheric partially ionised plasmas

14:12 Stephane Regnier
Statistics of Nanoflares in quiet-Sun Magnetic Fields: Tangential Discontinuities

14:24 Lianne Fyfe
Establishing Observational Signatures of Coronal Heating Mechanisms

14:36 Valentina Zharkova
Radiative and seismic signatures of the 6 September 2017 flare: observations versus simulations

14:48 Eduard Kontar
Energetics of solar flare explosive energy release

Lancaster University

NAM2019

Gaia Data Release 2: Contents, Access and Use

09:00 Nigel Hambly
Gaia Data Release 2 and outlook for Gaia DR3

09:30 Giorgia Busso
The Photometric content of Gaia DR2

09:55 George Seabroke
Radial Velocity data in Gaia DR2

10:20 Nigel Hambly
Participant Question and Answer

Lancaster University

NAM2019

Gaia Data Release 2: Contents, Access and Use

16:00 Giorgia Busso
Access to Gaia DR2 from the ESA Archive

16:15 Mark Taylor
Use of Gaia DR2 data from TOPCAT

16:45 Nigel Hambly
API access with Python to the Gaia DR2 data

17:00 Giorgia Busso
Participant Question and Answer

Lancaster University

NAM2019

Galaxy Clusters in the next decade

13:30 Roan Haggar
Backsplash galaxies in simulations of clusters

13:45 Judith Croston
Finding galaxy groups with new radio surveys

14:00 Behzad Ansarinejad
The VST ATLAS galaxy cluster catalogue: a progenitor to future cluster surveys of the southern sky

14:15 Inigo Zubeldia
Cosmological constraints from Planck galaxy clusters with CMB lensing mass bias calibration: revisiting the Planck cluster sample

14:30 David Turner
FCtrlA: Automated hydrostatic masses of XCS galaxy clusters

14:45 Myles Mitchell
Preparing unbiased tests of gravity for next-generation cluster surveys

NAM2019

Galaxy Clusters in the next decade

09:00 Callum Bellhouse
Untangling Jellyfish: Studying Ram-Pressure Stripped Galaxies with MUSE and GASP

09:15 Martin Bourne
AGN jet feedback in realistic cluster environments

09:30 Weiguang Cui
The Three Hundred project: a large catalogue of theoretically modelled galaxy clusters

09:45 Alberto Acuto
Using cosmological hydro simulations to improve the halo model with an eye to large-scale structure emulators

10:00 Reese Wilkinson
Machine Learning in the XMM Cluster Survey

10:15 Francesca Pearce
Hydrostatic mass estimates of massive galaxy clusters

Lancaster University

NAM2019

Galaxy–Black Hole Co–evolution: Observational and Theoretical Perspectives

09:00 Romeel Davé
Black Hole–Galaxy Co–Evolution in the Simba Simulation

09:15 Joao Calhau
On the X–ray activity of typical and luminous Ly α emitters from z=2 to z=6 : evidence for a diverse, evolving population

09:30 Brooke Simmons
Merger–free quasars and secular black hole–galaxy co–evolution

09:45 Rebecca Smethurst
Constraining the inflow rates to secularly growing AGN

10:00 Jessica Craig
Minor Gravitational Interactions as Contributors to Supermassive Black Hole Growth

10:15 Chiaki Kobayashi
Stellar originated SMBHs in cosmological simulations

Lancaster University

NAM2019

Galaxy–Black Hole Co–evolution: Observational and Theoretical Perspectives

16:30 Mikkel Kristensen
The Feeding Habits of Galaxies

16:45 Daniel Asmus
Kilo–parsec scale dusty outflows in AGN revealed by high–angular resolution infrared observations

17:00 Weiguang Cui
Understanding the scatter in Black Hole – galaxy scaling relations

17:15 Eve North
The WISDOM from molecules about Galaxy–black hole co–evolution

17:30 Brendan Webster
Jet Feedback in a new sample of Galaxy Scale Jets from the LOFAR Two Metre Sky Survey

17:45 Kevin Pimbblet
The Role of Galactic Mergers in the Evolution of Weakly Accreting Radio AGN

Lancaster University

NAM2019

Gravitational waves & multimessenger astronomy

13:30 Patricia Schmidt
Gravitational-Wave Transients of Compact Binary Mergers observed by LIGO and Virgo: Status & Prospects (Invited)

13:50 Rachel Gray
A Statistical Constraint on the Hubble Constant Using the Latest Gravitational Wave Detections

14:05 Robert Farmer
What can we learn about stellar astrophysics from LIGO/VIRGO?

14:20 Vaibhav Tiwari
Prospect of precession astronomy for gravitational wave source population

14:35 Dan Ryczanowski
The effectiveness of source-based strong-lens searches in the context of lensed gravitational waves

14:50 Tom Kimpson
Pulsar Timing in Extreme Mass Ratio Binaries

Lancaster University

NAM2019

Gravitational waves & multimessenger astronomy

09:00 Phil Evans
High-energy electromagnertic counterparts of gravitational wave signals (Invited)

09:20 Ronaldas Macas
Search for Gravitational Waves Associated with Gamma-Ray Bursts During the Second Advanced LIGO-Virgo Observing Run

09:35 Soheb Mandhai
The Rate of SGRBs in the Local Universe

09:50 Benjamin Gompertz
The Diversity of Kilonova Emission in Short Gamma-Ray Bursts

10:05 Fergus Hayes
Analysing Beaming Profiles of Short Gamma-Ray Bursts using Gravitational Waves

10:20 David Tsang
Resonant Shattering Flares: Multimessenger Probes of Neutron Star Physics

Lancaster University

NAM2019

Impact of astronomy: ideas, inventions and people

16:00 Claire Burke
Astro-ecology: using astrophysics to help save the world

16:15 Christopher Frohmaier
Establishing connections between transient astronomy and cardiovascular medicine

16:30 James Blake
Applying Astronomical Techniques to Space Situational Awareness

16:45 Mathew Smith
MoleGazer: equating melanoma with stellar explosions

17:00 Chris Brunt
Three-Dimensional Mapping of Atmospheric Humidity via Interferometry of Aircraft Navigational Broadcasts

17:15 Charlie Jeynes
Applying an astrophysics modelling tool to improve the diagnosis and treatment of cancers using theranostic nanoparticles

NAM2019

Linking the Sun to the Heliosphere – the Solar Orbiter Mission

09:00 David Stansby
Diagnosing solar wind origins using in situ measurements in the inner heliosphere (Invited)

09:20 Stuart Bale
Some first results from the FIELDS instrument on the Parker Solar Probe mission

09:34 Allan Macneil
Inverted Flux and Sunward Strahl Electrons in the Inner Heliosphere

09:48 Paolo Pagano
Magnetic field connectivity during Coronal Mass Ejections

10:02 Mayur Bakrania
Using Big Data Techniques to Classify Solar Wind Electron Populations

10:16 Valentina Zharkova
Baseline magnetic field oscillations, its effect on the visible solar activity and terrestrial temperature

Lancaster University

NAM2019

Linking the Sun to the Heliosphere – the Solar Orbiter Mission

15:00 Anthony Yeates
Non–potentiality of the solar corona and why it matters (Invited)

15:20 Lloyd Woodham
Investigating solar wind fluctuations using magnetic helicity: Implications for Solar Orbiter and Parker Solar Probe Science

15:34 Luca Franci
Numerical simulations of kinetic plasma turbulence in the low beta regime: interpreting and predicting spacecraft observations

15:48 James Pickering
An efficient method for Differential Emission Measure analysis of large datasets.

16:02 Hamish Reid
The speed and spatial expansion of solar energetic electron beams: simulations and LOFAR observations

16:16 Timo Laitinen
Pathlengths of Solar Energetic Particles in heliospheric turbulence

Lancaster University

NAM2019

Machine Learning in Astrophysics

09:00 Patricia Schady
Introduction to the Session

09:10 Bogdan Matuszewski
Machine learning: What? How? When? – and should I care anyway?

10:00 Mike Walmsley
Bayesian CNN and Active Learning: Probabilistic Morphology on Galaxy Zoo

10:15 Chris Lovell
Learning the Relationship between Galaxy Spectra and their Star Formation Histories

Lancaster University

NAM2019

Machine Learning in Astrophysics

15:00 James Pearson
Practicalities of strong gravitational lens modelling using convolutional neural networks

15:15 Téo Bloch
Solar Wind Classification: Methods of Applying Unsupervised Machine Learning

15:30 Friedrich Anders
Combining dimensionality reduction and clustering techniques to find new open clusters

15:45 Matthew Chan
The search for Galaxy Clusters with Deep Learning

16:00 Sebastian Turner
Testing a cosmological galaxy simulation with unsupervised clustering

16:15 Ben Moews
Deep-learned baryons: Hybrid emulators for high-speed cosmological simulations

NAM2019

Magnetohydrodynamic Waves and Instabilities in the Solar Atmosphere in the High-Resolution Era

16:30 Patrick Antolin
Transverse Wave-Induced Kelvin-Helmholtz Rolls in Spicules

16:44 Noemi Kinga Zsamberger
MHD waves in multi-layered waveguides

16:58 Callum Boocock
Resistive 3D MHD simulations of the enhanced phase mixing of torsional Alfvén waves in axisymmetric exponentially divergent coronal structures

17:12 Julia M. Riedl
Wave modes excited by photospheric p-modes & mode conversion in footpoints of coronal loops

17:26 Andrew Hillier
Observations of a flow instability driven by dynamic prominence motions

17:40 Poster presenters
Lightning Talks by Poster Presenters

Lancaster University

NAM2019

Mapping the influence of Magnetosphere–Ionosphere interactions on the surface magnetic field and grounded infrastructure

09:00 Lisa Rosenqvist
Verification of the GIC–SMAP modelling framework and assessment of the potential to predict extreme geomagnetically induced currents in Sweden (Invited)

09:18 Andy Smith
The Contribution of Sudden Compressions to the Rate of Change of the Surface Magnetic Field in the UK

09:30 John Coxon
Timescales of Birkeland currents driven by the IMF

09:42 Lauren Orr
Directed network analysis of the substorm ionospheric current system and timings, using SuperMAG ground–based magnetometer data

09:54 Neil Rogers
The Directional Statistics of Extreme Geomagnetic Field Variations

10:06 Carl Haines
The variation of geomagnetic storm duration with intensity

10:18 Mike Hapgood
Short, Sharp and Vicious – the Great Storm of 15 May 1921

Lancaster University

NAM2019

MOONS: The next generation spectrograph for the VLT

13:30 Roberto Maiolino
MOONS: project overview, current status and high−z science (Invited)

14:00 Oscar Gonzalez
The MOONS survey of the reddened Milky Way

14:20 Adam Carnall
Inferring the physical parameters of high−redshift galaxies from MOONS data

14:40 Vivienne Wild
The star formation histories of rapidly quenched galaxies at z=1

NAM2019

Open session on Magnetospheric, Ionospheric and Solar–Terrestrial physics

09:00 Daniel Verscharen
Multi–scale plasma processes in the solar wind

09:13 Sadie Robertson
Topology of flux ropes on the magnetopause

09:26 James Lane
Magnetotail fast flows and ionospheric flow bursts associated with IMF By driven magnetotail asymmetries

09:39 Jennifer Carter
The evolution of a cusp spot with associated field–aligned currents and ionospheric flows

09:52 Jade Reidy
Multi–scale observation of two polar cap arcs occurring on different magnetic field topologies

10:05 Aisling Bergin
Large Excursions in AE and Dst Geomagnetic Indices and their SuperMAG Counterparts: A Comparison Study

10:18 Christopher Scott
Inferring thermospheric composition from ionograms

Lancaster University

NAM2019

Planetary Magnetospheres

16:00 Robert Fear
The contribution of flux transfer events to Mercury's Dungey cycle

16:12 Carley Martin
Polar Wind Outflow Model at Jupiter (Invited)

16:27 Nawapat Kaweeyanun
Favourable Conditions for Magnetic Reconnection at Ganymede's Upstream Magnetopause

16:39 Affelia Wibisono
Jupiter's X-ray Aurorae as seen by XMM-Newton concurrently with Juno

16:51 Gregory Hunt
Currents Associated with Saturn's Intra-D Ring Azimuthal Field Perturbations (Invited)

17:06 Jane Greaves
Methanol at Enceladus: interaction of vents with Saturn's magnetosphere

17:18 David Southwood
Saturn's planetary period oscillations; what are they for?

NAM2019

Pro–Am Collaborations in Astronomy

15:00 Anthony Cook
Lunar Impact Flash Observing

15:15 Jeremy Shears
Amateur astronomers and cataclysmic variables

15:30 Grant Privett
Argus: A Citizen Science Project

15:45 Robin Leadbeater
Confirming and Classifying Supernovae Spectroscopically Using Amateur Equipment.

16:00 Matt Darnley
M31N 2008–12a – A remarkable system and an equally remarkable Pro–Am collaboration

16:15 Dirk Froebrich
The HOYS–CAPS Citizen Science Project

Lancaster University

NAM2019

Radiation belt dynamics at Earth and beyond

16:30 Elias Roussos
The dynamics of Saturn's and Jupiter's radiation belts (Invited)

16:50 Jasmine Sandhu
The importance of substorm – ring current coupling for radiation belt dynamics

17:04 Jonathan Rae
How do Ultra–Low Frequency waves access the inner magnetosphere during geomagnetic storms?

17:18 Sarah Bentley
Probabilistic driving of radiation belt electrons by ultra–low frequency waves

17:32 Johnathan Ross
Effects of VLF transmitter wave on the inner belt and slot region

17:46 Alexander Lozinski
Evaluation of Solar Cell Radiation Damage during Electric Orbit Raising

Lancaster University

NAM2019

Role of shocks in the solar atmosphere and solar–terrestrial environment

09:00 Samuel Grant
Modern Observations of Solar Chromospheric Shocks (Invited)

09:30 Malcolm Druett
Using tracer particles to study the density variations of fibrils

09:45 Paolo Pagano
In situ generation of transverse magnetohydrodynamic waves from colliding flows in the solar corona

10:00 Ciara A. Maguire
Insights into Coronal Mass EjectionShocks with the Irish Low FrequencyArray (I–LOFAR)

10:15 Nicolina Chrysaphi
A new look at CME–driven shock radio emissions with LOFAR

Lancaster University

NAM2019

Studying galaxy evolution from reionization to cosmic noon with the latest-generation multiwavelength facilities

09:00 Rosemary Coogan
The environmental effect on galaxy evolution at z=2: merger-driven star formation, AGN, and the ISM of sub-M* galaxies.

09:15 Nicholas Amos
Resolved spectroscopy of cluster galaxies at z=1.4.

09:30 Stephen Wilkins
Simulating the First Light and Reionisation Epoch

09:45 Nick Wrigley
Probabilistic classification of starburst and AGN radio emissions in the eMERGE Survey

10:00 David Sobral
Resolving the UV and [CII] structure of luminous galaxies within the epoch of re-ionisation with HST & ALMA

10:15 Mirko Curti
A "KLEVER" probe of the ISM in high redshift galaxies with multi-band KMOS observations

Lancaster University

NAM2019

Studying galaxy evolution from reionization to cosmic noon with the latest-generation multiwavelength facilities

15:00 Amy Whitney
Unbiased Size Evolution and Inside-Out Growth of Galaxies at 1z7

15:15 Emma Curtis Lake
Modelling the mass-SFR relation at high redshifts – future constraints from JWST

15:30 Sergio Santos
The nature and evolution of UV properties in z=2-6 young star-forming galaxies with SC4K

15:45 Adam Carnall
VANDELS with BAGPIPES: The star-formation histories of high redshift massive quiescent galaxies

16:00 David Whitworth
Simulating cold molecular gas in low metallicity dwarf galaxies.

16:15 Nial Tanvir
The evolution of the ionizing radiation escape fraction from observations of GRBs

Lancaster University

NAM2019

Studying galaxy evolution from reionization to cosmic noon with the latest-generation multiwavelength facilities

16:00 Tracy Garratt
The Cosmic Evolution of Molecular Gas Mass Density probed by Dust Emission.

16:15 Matthew Doherty
A magnified view of the ISM and star formation in a strongly lensed AGN hosting SMG at z=2.6

16:30 Tom Sedgwick
The Galaxy Stellar Mass Function & Low Surface Brightness Galaxies from Core-Collapse Supernovae

16:45 Nimisha Kumari
Galaxy evolution via blue compact dwarfs: Local analogues of high redshift galaxies

17:00 Joseph Cairns
Molecular Gas in the Antlia Galaxy Cluster

17:15 Poster presenters
Lightning Talks by Poster Presenters

Lancaster University

NAM2019

The ESA M5 Missions

09:00 Colin Wilson
The EnVision M5 Venus orbiter (Invited)

09:30 Peter Roelfsema
SPICA – a joint infrared space observatory (Invited)

10:00 Nial Tanvir
THESEUS: Transient high energy sky and early universe surveyor

Lancaster University

NAM2019

Theory and Observations of the Cycling of Baryons around Galaxies

09:00 Alyssa Drake
Probing the CGM in Emission Around Quasars at z=6 with MUSE

09:15 Ruari Mackenzie
Linking galaxies in emission and absorption systems at z=3

09:30 Emma Lofthouse
MUSE Analysis of Gas around Galaxies (MAGG) and the environment of a candidate Pop III remnant

09:45 Peter Mitchell
The baryon cycle in the Eagle simulations

10:00 Nastasha Wijers
Tracing hot missing baryons: O VII and O VIII absorption in EAGLE

10:15 Ashley Kelly
Understanding the origin and properties of hot x-ray coronae

TUESDAY AM FRANKLAND LT

Lancaster University

NAM2019

Theory and Observations of the Cycling of Baryons around Galaxies

13:30 Jonathan Davies
Black hole feedback and the circumgalactic medium

13:45 Egidijus Kukstas
Environment from cross-correlations: characterising the role of hot gas in galaxy quenching

14:00 Alice Concas
Two-Face(s): ionized and neutral galactic winds in the local Universe.

14:15 Daniele Sorini
Constraining Models of Galaxy Formation with Lyman-Alpha Absorption around Halos

14:30 Teresita Suarez
The effects of quasar beaming on the large-scale Lyman alpha forest

14:45 Rich Bielby
The Circum-Galactic Medium probed via OVI at z=1 with QSAGE

Lancaster University

NAM2019

Time-domain astronomy with the next-generation Liverpool Telescope

09:00 Helen Jermak
The New Robotic Telescope: An update

09:15 Éamonn Harvey
Instrumentation for the New Robotic Telescope

09:30 Eoin O'Connor
High time Resolution Astronomical Polarimetry with the GASP Instrument.

09:45 Doug Arnold
Observation entry and Scheduling for transient astronomy in the LSST Era

10:00 Kirsty Taggart
Liverpool Telescope follow-up for the Zwicky Transient Facility

10:15 Nuria Jordana
Understanding the nature of magnetic fields in Gamma-Ray Burst's ejecta through rapid follow-up

Lancaster University

NAM2019

Time-domain astronomy with the next-generation Liverpool Telescope

09:00 Fiona Murphy-Glaysher
V392 Persei: A Gamma-Ray Bright Nova

09:15 Michael Healy
AT 2017fvz: a nova in the dwarf irregular galaxy NGC 6822

09:30 Mark Magee
Modelling the early time behaviour of type Ia supernovae: Effects of the 56Ni distribution

09:45 Gavin Lamb
Searching for r-process element origins in core-collapse Supernovae and short GRB afterglows

10:00 Joseph Fernandez
NRT Polarimetry and Neutron Star Mergers

10:15 Poster presenters
Lightning talks by Poster Presenters

Lancaster University

NAM2019

Transients in the wide-field sky survey era

09:00 Evan Keane
Multi-messenger transient astronomy: the radio view (Invited)

09:30 Rhaana Starling
The class of ultra-long gamma-ray bursts: the case for early optical observations

09:45 Elizabeth Swann
The Time-Domain Extragalactic Survey

10:00 Matt Darnley
M31N 2008-12a - Truly one-of-a-kind, or the tip of an iceberg?

10:15 Poster presenters
Lightning Talks by Poster Presenters

Lancaster University

NAM2019

Transients in the wide-field sky survey era

16:00 Kate Maguire
Optical transients in the wide-field sky survey era (Invited)

16:30 Lisa Kelsey
The Effect of Local Environment on Type Ia Supernovae in the Dark Energy Survey

16:45 Mark Magee
Detecting the signatures of helium in type Iax supernova

17:00 Matt Nicholl
Superluminous supernovae at late times: a statistical view of their nebular properties

17:15 Peter Clark
Expanding the zoo of 'Fast' Transients: LSQ13ddu & AT2018cow

Lancaster University

NAM2019

UV astronomy in the post–HST era

13:30 Patrick Cote
CASTOR: The Cosmological Advanced Survey Telescope for Optical and UV Research (Invited)

14:00 Brad Peterson
LUVOIR: An Ambitious Future for UV Astronomy (Invited)

14:30 Martin Barstow
SIRIUS: An EUV spectrograph to study stars and the local interstellar medium

NAM2019

UV astronomy in the post-HST era

16:30 Florence Concepcion
New Accurate Atomic Data of Fe III for Astrophysical Applications

16:50 Ruben Sanchez-Janssen
Extreme star formation modes in dwarf galaxies: the power of the UV

17:10 Boris Gaensicke
Ultraviolet spectroscopy of white dwarfs: providing insight into the fate of planetary systems and the progenitors of SNIa.

17:30 Chris Evans
POLLUX: European study of a UV spectropolarimeter for LUVOIR