MICROBIOLOGY SOCIETY

Annual Conference 2017

3–6 APRIL, EICC, EDINBURGH, UK

@MicrobioSoc
#Microbio17

MICROBIOLOGY SOCIETY

Advancing the understanding and impact of microbiology by connecting and empowering communities worldwide

Visit our stand in the **Lennox Suite** to learn more about the Society's work

Contents

Welcome from the President

Dear Colleagues,

I was a student in Edinburgh, and my family live here, so I know the city very well and can absolutely guarantee that you are going to enjoy this beautiful place. Edinburgh is regularly awarded the 'most popular city in the UK' accolade, and around the time of the world-famous International Festival and Fringe it almost doubles in size, with tourists and fans of the arts and culture flocking to enjoy its sights and sounds.

For over 500 years, Edinburgh has inspired generations of scientists and authors – from Charles Darwin, James Clerk Maxwell and Alexander Graham Bell to Muriel Spark, Arthur Conan Doyle and J. K. Rowling. It seems that the streets here are full of intrigue, magic and mystery – and so will be the lecture theatres of the Edinburgh International Conference Centre this week.

We have tried to ensure that the Annual Conference is packed with hot topics and cool science, but also has time that is ring-fenced for networking, mentoring and socialising. The topics have been chosen with input from a wide range of sources, and we have tried to ensure that the length and breadth of our discipline is represented. Make sure you are able to catch the Prize Lectures and enjoy some microbiology from outside your own specific area of interest, and visit the many exhibitors that are supporting the meeting.

This year's conference coincides with the Society's formulation of a new five-year strategic review, and we would appreciate your feedback on the fare on offer at the meeting (and any other aspect of the Society for that matter). Please visit the Society's stand, where staff will be present to answer your questions, and don't forget to spend some time with the 600 posters on show.

Annual Conference 2017 is set to break all records, with more abstracts, posters and invited speakers than ever before. Quantity and quality: Scottish value for money me thinks. So if this is your first Microbiology Society meeting or your 21st, make yourself at home and enjoy a great week of science in this wonderful city.

Professor Neil Gow

(President, Microbiology Society)

"We have tried to ensure that the Annual Conference is packed with hot topics and cool science, but also has time that is ring-fenced for networking, mentoring and socialising."

General Information

Badges

Your badge must be worn at all times during the conference.

Continued Professional Development (CPD)

Conference has been accredited by the Royal Society of Biology (144 credits), the Royal College of Pathologists (34 credits) and the Institute of Biomedical Science (category Other). Those wishing to claim CPD credits should sign a daily register held at the Professional Development information desk. Further information can be requested by email at **profdev@microbiologysociety.org**.

Mobile phones

Please ensure your mobile phone is switched to silent mode or off during the scientific sessions.

Certificate of attendance

A certificate of attendance can be requested at the registration desk or by email from **profdev@microbiologysociety.org**

Programme changes

While every effort has been made to ensure the programme is accurate, changes are unavoidable and we will make sure updates are provided online. The website is mobile optimised.

Posters

Posters will be presented in the Lennox Suite level -2, and presenters will be by their posters on the day of their related session. An abstract book is available online.

Abstracts

A poster abstract book can be found online. Abstracts for talks can be found by clicking on the relevant presentation on the online programme.

Passport to Prizes

Don't miss your chance to win one of 15 prizes generously provided by our exhibitors.

To enter the competition, please complete the quiz sheet in your delegate bag. Completed forms should be placed in the box located at the Microbiology Society stand by lunchtime on Wednesday 5 April. The prize draw will take place that evening at 18:45 on the Society stand.

Photography and filming at the Conference

The Society will be carrying out filming and photography throughout the Conference. The images and videos will be used to promote the Conference and the activities of the Society. They may be used online, in Society publications, or for other PR and marketing purposes.

Recording

Only recording set up with prior permission is authorised.

Social media

#Microbio17
@MicrobioSoc
www.facebook.com/MicrobiologySociety

Wi-Fi

Wi-Fi internet connectivity is available throughout the venue.

Network: delegate

Password: haymarket

Programme overview

Monday 3 April

Times	Monday 3 April	Location	Page
07:00–09:00	Registration	Strathblane Hall (Level 0)	
07:00–09:15	Morning coffee & tea	Lennox Suite (Level -2)	
09:30–09:50	Open Address	Pentland (Level 3)	
AM sessions 30 mins break between 11:00 & 12:00 Service in Lennox Suite	Just passing through – virus infections and the GI tract	Pentland (Level 3)	18
	Geomicrobiology	Sidlaw (Level 3)	19
	Synthetic and systems approaches to microbiology	Fintry (Level 3)	20
	Microbial circadian and metabolic rhythms	Carrick (Level 1)	21
	Annual Meeting of Protistology-UK Society: Intracellular infection and endosymbiosis within protists	Harris (Level 1)	22
	Microbial mechanisms of plant pathology	Tinto (Level 0)	24
	Prokaryotic macromolecular machines	Moorfoot (Level 0)	23
	Professional Development – Post-PhD: Finding a career that suits you	Lammermuir (Level -2)	25
13:00–14:00	Lunch and exhibition	Lennox Suite (Level -2)	
13:15–14:00	Live at Lunch: Microbiology Careers Networking	Lammermuir (Level -2)	12
13:30–14:00	Flash poster presentations	Lennox Suite (Level -2), (Society Stand)	16
13:00–14:00	Antibiotics Unearthed – Posters showcase	Lennox Suite (Level - 2)	16
PM sessions 30 mins break between 15:30 & 16:30 Service in Lennox Suite	Just passing through – virus infections and the GI tract	Pentland (Level 3)	18
	Geomicrobiology	Sidlaw (Level 3)	19
	Synthetic and systems approaches to microbiology	Fintry (Level 3)	20
	Microbial circadian and metabolic rhythms	Carrick (Level 1)	21
	Annual Meeting of Protistology-UK Society: Intracellular infection and endosymbiosis within protists	Harris (Level 1)	22
	Microbial mechanisms of plant pathology	Tinto (Level 0)	24
	Prokaryotic macromolecular machines	Moorfoot (Level 0)	23
	Professional Development – Post-PhD: Finding a career that suits you	Lammermuir (Level -2)	25
17:40–18:30	Microbiome Research: opportunity or over-hype?	Pentland (Level 3)	12
18:30–20:00	Drinks reception & poster presentations	Lennox Suite (Level -2)	15
19:00–19:10	Society promotion – Publishing with the Microbiology Society	Lennox Suite (Level -2), (Society Stand)	15
20:30–22:30	Social programme – Quiz night	Ghillie Dhu, Edinburgh	13

Tuesday 4 April

Times	Tuesday 4 April	Location	Page
07:30–08:45	Registration	Strathblane Hall (Level 0)	
07:30–08:45	Morning coffee & tea	Lennox Suite (Level -2)	
09:00–09:50	Microbiology Society Prize Medal Lecture	Pentland (Level 3)	10
AM sessions 30 mins break between 11:00 & 12:00 Service in Lennox Suite	Regulation of RNA expression during virus infection	Pentland (Level 3)	28
	Geomicrobiology	Sidlaw (Level 3)	30
	Synthetic and systems approaches to microbiology	Fintry (Level 3)	32
	Microbial mechanisms of plant pathology	Tinto (Level 0)	31
	Prokaryotic infection forum	Moorfoot (Level 0)	33
	Aquatic microbiology: New model organisms and new challenges	Kilsyth (Level 0)	34
	Professional Development – Scientific Publishing: How to write a manuscript for submission	Lammermuir (Level -2)	29
13:00–14:00	Lunch and exhibition	Lennox Suite (Level -2)	
13:15–14:00	Live at Lunch: Scientific Publishing Networking	Lammermuir (Level -2)	12
13:30–14:00	Flash poster presentations	Lennox Suite (Level -2), (Society Stand)	16
PM sessions 30 mins break between 15:30 & 16:30 Service in Lennox Suite	Regulation of RNA expression during virus infection	Pentland (Level 3)	28
	Geomicrobiology	Sidlaw (Level 3)	30
	Synthetic and systems approaches to microbiology	Fintry (Level 3)	32
	Microbial mechanisms of plant pathology	Tinto (Level 0)	31
	Prokaryotic genetics and genomics forum	Moorfoot (Level 0)	33
	Aquatic microbiology: New model organisms and new challenges	Kilsyth (Level 0)	34
	Professional Development – Scientific Publishing: How to review scientific manuscripts	Lammermuir (Level -2)	29
	Clinical Virology Network (CVN)	Cromdale Hall (Level -2)	35
17:40–18:30	Fleming Prize Lecture	Pentland (Level 3)	10
18:30–20:00	Drinks reception & poster presentations	Lennox Suite (Level -2)	15
19:00–19:30	An Audience with: Professor Michael Rossmann	Lennox Suite (Level -2), (Society Stand)	15

Programme overview

Wednesday 5 April

Times	Wednesday 5 April	Location	Page
07:30–08:45	Registration	Strathblane Hall (Level 0)	
07:30–08:45	Morning coffee & tea	Lennox Suite (Level - 2)	
09:00–09:50	Marjory Stephenson Prize Lecture	Pentland (Level 3)	11
AM sessions 30 mins break between 11:00 & 12:00 Service in Lennox Suite	VW: Gene expression and replication	Pentland (Level 3)	38
	Microbial physiology, metabolism and molecular mechanisms forum	Sidlaw (Level 3)	41
	VW: Antivirals and vaccines	Fintry (Level 3)	42
	VW: Pathogenesis	Carrick (Level 1)	44
	Epigenetics and non-coding RNA	Harris (Level 1)	40
	VW: Evolution and virus populations	Ochil (Level 1)	46
	Heterogeneity and polymicrobial interactions in biofilms	Tinto (Level 0)	47
	Microbial genomics: From single cells to large populations	Moorfoot (Level 0)	48
	Aquatic microbiology: New model organisms and new challenges	Kilsyth (Level 0)	49
	Clinical Virology Network (CVN)	Cromdale Hall (Level -2)	50
13:00–14:00	Lunch and exhibition	Lennox Suite (Level -2)	
13:15–14:00	Live at Lunch: *JMM Case Reports*: Case and the Cause	Lammermuir (Level -2)	12
13:30–14:00	Flash poster presentations	Lennox Suite (Level -2), (Society Stand)	16
PM sessions 30 mins break between 15:30 & 16:30 Service in Lennox Suite	VW: Gene expression and replication	Pentland (Level 3)	38
	Microbial cell surfaces	Sidlaw (Level 3)	51
	VW: Antivirals and vaccines	Fintry (Level 3)	42
	VW: Pathogenesis	Carrick (Level 1)	44
	Epigenetic and non-coding RNA	Harris (Level 1)	40
	VW: Morphogenesis, egress and entry	Ochil (Level 1)	53
	Heterogeneity and polymicrobial interactions in biofilms	Tinto (Level 0)	47
	Microbial genomics: From single cells to large populations	Moorfoot (Level 0)	48
	Aquatic microbiology: New model organisms and new challenges	Kilsyth (Level 0)	49
	VW: Innate immunity	Lammermuir (Level -2)	52
	Clinical Virology Network (CVN)	Cromdale Hall (Level -2)	50
17:40–18:30	Unilever Colworth Prize Lecture	Pentland (Level 3)	11
18:30–20:00	Drinks reception & poster presentations	Lennox Suite (Level -2)	15
19:00–19:10	Society promotion – Microbiome colouring book	Lennox Suite (Level -2), (Society Stand)	15
20:30–23:30	Social programme – Ceilidh	The Hub, Edinburgh	13

Thursday 6 April

Times	Thursday 6 April	Location	Page
08:15–09:15	Registration	Strathblane Hall (Level 0)	
08:15–09:15	Morning coffee & tea	Lennox Suite (Level - 2)	
AM sessions 15 mins break between 10:30–11:00 Service in Lennox Suite	Regulation of RNA expression during virus infection	Pentland (Level 3)	56
	Microbial cell surfaces	Sidlaw (Level 3)	57
	Environmental and applied microbiology forum	Fintry (Level 3)	58
	Critical health challenges in medical mycology	Carrick (Level 1)	59
	Epigenetics and non-coding RNA	Harris (Level 1)	58
	Anaerobe 2017: Molecular, genomic and metagenomic insights into anaerobic infection	Ochil (Level 1)	60
	Heterogeneity and polymicrobial interactions in biofilms	Tinto (Level 0)	61
	Microbial genomics: From single cells to large populations	Moorfoot (Level 0)	62
	Cell biology of pathogen entry into host cells	Kilsyth (Level 0)	63
12:00–13:00	Lunch & poster presentations	Lennox Suite (Level - 2)	
PM sessions 15 mins break between 14:30 & 15:00 Service in Strathblane Hall	Regulation of RNA expression during virus infection	Pentland (Level 3)	56
	Microbial cell surfaces	Sidlaw (Level 3)	57
	Anaerobe 2017: Molecular, genomic and metagenomic insights into anaerobic infection	Ochil (Level 1)	60
	Heterogeneity and polymicrobial interactions in biofilms	Tinto (Level 0)	61
	Microbial genomics: From single cells to large populations	Moorfoot (Level 0)	62
	Cell biology of pathogen entry into host cells	Kilsyth (Level 0)	63

Prize Lectures

Professor Michael Rossmann
(Purdue University, USA)

2017 Prize Medal Winner

Talk Date: Tuesday 4 April
Start Time: 09:00
Location: Pentland (Level 3)

Talk Title:
A personal history of structural virology

The 2017 Microbiology Society Prize Medal will be awarded to Professor Michael Rossmann, Hanley Distinguished Professor of Biological Sciences at Purdue University, USA.

Michael is well known for his enormous contributions to the development of the science of protein crystallography and our understanding of virus structures. In 1985, he and his colleagues first solved the structure of human rhinovirus type 14, a serotype of the common cold virus. More recently, he has also worked on the structures of many other viruses, including enterovirus type 68 and dengue.

Michael has over 500 papers to his name, and has received numerous awards, including being elected as a Member of the National Academy of Sciences and as a Foreign Member of the Royal Society.

Professor Stephen Baker
(Oxford University Clinical Research Unit, Vietnam)

2017 Fleming Prize Winner

Talk Date: Tuesday 4 April
Strat Time: 17.40
Location: Pentland (Level 3)

Talk Title:
The collateral damage of antimicrobial access in Asia

The 2017 Fleming Prize will be awarded to Professor Stephen Baker, who works at the Oxford University Clinical Research Unit (OUCRU) in Ho Chi Minh City, Vietnam.

Stephen's work focuses on enteric diseases, such as norovirus, *Shigella* spp. and *Salmonella typhi*, which cause a significant disease burden in low- and middle-income countries. His recent work has looked at the evolution and spread of antibiotic resistance, and he combines genomics and epidemiology to provide a better understanding of disease outbreaks.

Although working in Vietnam, Stephen also manages research programmes in Nepal and Indonesia, looking at the genetics, epidemiology and treatment of enteric infections.

Nominations for 2018 Prize Lectures and the 2019 Prize Medal are now open.

Society members are invited to nominate individuals via our online forms by 7 June 2017. Visit **www.microbiologysociety.org/prizelectures** for more information

Professor Steve Busby FRS
(University of Birmingham, UK)

2017 Marjory Stephenson Prize Winner

Talk Date: Wednesday 5 April
Start Time: 09:00
Location: Pentland (Level 3)

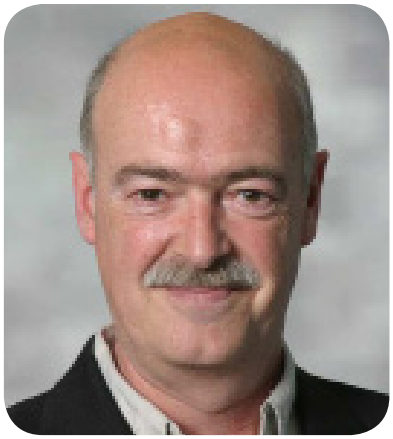
Talk Title:
Transcription activation in bacteria: ancient and modern

The 2017 Marjory Stephenson Prize will be awarded to Professor Steve Busby FRS from the University of Birmingham.

Steve works to understand the regulation of gene expression in bacteria, particularly focusing on transcription regulation in *Escherichia coli*. His work on the cAMP receptor protein (CRP) and the mechanism by which it activates transcription has become a model for gene regulation, taught to undergraduates and found in textbooks worldwide.

In more recent work, Steve and colleagues have identified how pathogenic enterohaemorrhagic *E. coli* senses its environment, and switches on factors that enhance virulence, as it passes through a host.

Professor Martin Ryan
(University of St Andrews, UK)



2017 Unilever Colworth Prize Winner

Talk Date: Wednesday 5 April
Start Time: 17.40
Location: Pentland (Level 3)

Talk Title:
The 2A protein co-expression system: a lesson learnt from viruses to make therapeutic proteins, transgenic plants and animals, cures for cancer and pluripotent stem cells

The 2017 Unilever Colworth Prize will be awarded to Professor Martin Ryan from the University of St Andrews.

Martin studies picornaviruses, focusing on foot-and-mouth disease virus (FMDV), an important pathogen of cloven-hooved animals. In the 1990s, Martin discovered and characterised a short peptide sequence from FMDV known as 2A that allows multiple proteins to be cleaved from a single amino acid chain, without the need for proteases.

This sequence has opened up numerous translational opportunities in the field of biotechnology, by allowing simultaneous expression of two or more proteins across a wide variety of plant and animal cells.

Events & Activities

Sunday Night Networking

Pre-Conference Networking Workshop

Date: Sunday 2 April
Start Time: 18:00
Location: Platform 5 cafe Level 1

PRE-PAID TICKET HOLDERS ONLY

This pre-Conference workshop is a chance for those wishing to meet some people or to brush up on networking skills ahead of the event. There will be interactive games and the opportunity to practice networking with senior members of the Society.

Live at Lunch Events

Microbiology Careers and Scientific Publishing Networking

Join the speakers from our professional development sessions just opposite the exhibition hall for an informal chat over lunch. Grab some food from the buffet stations and drop in for some extended networking.

Microbiology Careers

Date: Monday 3 April
Start Time: 13:15
Location: Lammermuir Suite Level -2

Scientific Publishing

Date: Tuesday 4 April
Start Time: 13:15
Location: Lammermuir Suite Level -2

JMM Case Reports: Case and the Cause

Date: Wednesday 5 April
Start Time: 13:15
Location: Lammermuir Suite Level -2

This lunchtime symposium will be an interactive session allowing the audience to discuss and deliberate a medical microbiology case study presented by Milahis Lionakis (National Institute of Allergy & Infectious Diseases). This session will look into the details of the case, the methods and the outcome.

Panel Discussion

Microbiome Research – opportunity or over-hype?

Date: Monday 3 April
Start Time: 17:40
Location: Pentland Level 3

On Monday afternoon we will be hosting a panel discussion on the recent microbiome research with a panel of experts who will discuss and debate if the research is an opportunity or if the microbiome is an over-hyped topic. The discussion will be broad in scope covering the topics covered in the Microbiome Policy Project on health, agriculture and food, environment and sustainability. You can contribute to this discussion by submitting your questions via our Twitter feed or during the event itself.

Panel guests include: Lindsay Hall (The Institute of Food Research, UK) and Julian Marchesi (Imperial College London, UK)

Social Programme

Microbiology Society Quiz Night

Date: Monday 3 April

Start Time: 20:00

Location: Ghillie Dhu, 2 Rutland Place, Edinburgh, EH1 2AD

PRE-PAID TICKET HOLDERS ONLY

We look forward to welcoming delegates to our quiz night on Monday evening. Please arrive by 20:00 to make up your teams and grab a glass of fizz while helping yourself to the hot buffet. Then be prepared to be challenged during the quiz rounds hosted by our quizmasters, President Neil Gow and Chief Executive Peter Cotgreave! Prizes for the winning and losing team to be awarded!

Traditional Ceilidh Dinner and Dance

Date: Wednesday 5 April

Start Time: 20:00

Location: The Hub, Castlehill, Edinburgh, EH1 2NE

PRE-PAID TICKET HOLDERS ONLY

On Wednesday we will be hosting a dinner and dance to celebrate the last night at the Annual Conference. Ticket holders will be able to enjoy a glass of sparkling wine on arrival, and then a hot buffet dinner. This will be followed by a highly recommended, three-piece ceilidh band who will get you onto the dancefloor to learn some traditional ceilidh dancing.

Professional Development Sessions

Post-PhD: Finding a career that suits you

Date: Monday 3 April

Start Time: 11:00 (AM session) and 14:00 (PM session)

Location: Lammermuir Suite Level -2

Schedule: Page 25

Making a decision about what to do after your PhD can be daunting. When considering the lack of academic positions for newly qualified PhD researchers, it can be helpful to think about the breadth of career options available to you as a highly trained professional scientist – with skills and aptitudes that you may not yet have realised.

Dr Sarah Blackford, author of *Career Planning for Research Bioscientists*, will demonstrate her PhD Career Choice Indicator – showing users how to identify initial career options by looking at their skills and passions. During the afternoon session, participants will also hear from microbiologists who have had interesting career paths and learn top tips for how to build their CV for the career they want – including a chance for their CV to be reviewed by their peers.

This session is aimed at early career researchers; however, it is suitable for those looking to make their next career step.

Events & Activities

Scientific Publishing: How to write a manuscript for submission

Date: Tuesday 4 April
Start Time: 10:00
Location: Lammermuir Suite Level -2
Schedule: Page 29

Effective communication of scientific findings in both oral and written forms is critical. Poorly communicated research can adversely impact a scientist's career. In addition, poor English can preclude the proper assessment of the quality of a scientist's work during the peer-review process. This in part is due to lack of proper instruction in these key areas.

The workshop will focus on PhD students, postdoctoral fellows and early career scientists who are seeking to improve their skills in the preparation of manuscripts for publication in peer-reviewed journals. A certificate of completion will be provided to all participants.

At the end of the workshop, the participants will:

- Understand the rigorous process of peer-review in scientific publishing.
- Understand what editors are looking for in a manuscript.
- Have the opportunity to meet and network with editors who are highly knowledgeable in their respective fields.
- Understand the Society's publishing submissions process.
- Understand the structure of different types of manuscripts.
- Have the opportunity to receive feedback on their work and ask questions.

Scientific Publishing: How to review scientific manuscripts

Date: Tuesday 4 April
Start Time: 14:00
Location: Lammermuir Suite Level -2
Schedule: Page 35

Most reviewers have not received any formal instruction or guidance in the analysis of the various components of a manuscript.

This workshop will address how to critique a manuscript and how to write a report. This will be a beneficial workshop for those who are seeking to improve their skills in reviewing manuscripts for scientific journals as part of the peer-review process.

In addition, it would help in the understanding of requirements for successful publication of manuscripts. The targeted audience will include postdoctoral fellows, and early career scientists.

At the end of the workshop, the participants will:

- Understand the rigorous process of peer-review in scientific publishing.
- Understand what editors are looking for from their reviewers upon invitation to review.
- Have the opportunity to meet and network with well-published editors.
- Have the opportunity to review an article.
- Have the opportunity to ask questions and receive feedback.

Drinks Reception

Networking, Poster Presentations & Drinks Reception

Date: Monday, Tuesday and Wednesday evening

Start Time: 18:30

Location: Lennox Suite Level -2

Join us on Monday, Tuesday and Wednesday evening in the exhibition hall for our drinks reception and extended networking. Visit the trade exhibition and scientific posters while claiming your two free drinks as part of your conference registration fee. Drinks tickets are included with your name badge, two per person; alcoholic and non-alcoholic drinks will be available.

Society Stand

Come and visit us at the Microbiology Society stand located in the Lennox Suite on Level -2 during our Conference, plus join us each evening for some extra insight into some of the Society's work and get to know our Prize Medal winner on Tuesday evening.

Society Promotion - Publishing with the Microbiology Society

Date: Monday evening

Start Time: 19:00

Location: Lennox Suite Level -2 (Society Stand)

Journal of General Virology's Editor-in-Chief Mark Harris and Deputy Editor-in-Chief Paul Duprex will be introducing publishing with the Microbiology Society. Mark and Paul will provide a general overview of the six peer-reviewed journals published by the Society and will discuss celebrating 50 years of publishing for *Journal of General Virology.* This will include an update on the journal's collaboration with the International Committee on Taxonomy of Viruses (ICTV) in publishing ICTV Virus Taxonomy Profiles. Questions from the audience will be welcomed.

An Audience with our Prize Medal Winner

Date: Tuesday evening

Start Time: 19:00

Location: Lennox Suite Level -2 (Society Stand)

Join Dr Benjamin Thompson, our Head of Communications, for an informal Q and A with our Prize Medal winner Professor Michael Rossmann. This will be an opportunity to find out more about how Michael discovered microbiology, a bit about his background, his first-hand hints and tips on how he developed his career, his breakthrough research and some of his highlights and challenges thus far.

Society Promotion - Microbiome colouring book – have your say!

Date: Wednesday evening

Start Time: 19:00

Location: Lennox Suite Level -2 (Society Stand)

The Microbiology Society is developing a colouring book on microbiomes in different environments which will be launched alongside our policy document in 2017. We are working with a scientific illustrator, Eliza Wolfson, who has developed some draft designs which we will be presenting at this session. This will be an interactive session where we will be asking for your views on the draft designs and suggestions of other environments to focus on in the colouring book.

Posters

Posters

Over 600 abstracts have been selected by the Society's Divisions to present as posters at this year's Annual Conference, making this our biggest poster exhibition yet. The posters provide an excellent platform showcasing scientific research related to sessions on the day. Presentations will be taking place over the course of the entire conference. If you are presenting a poster, please refer to the poster information emails sent before the event as they contain essential information regarding when and how you should present your poster.

There will be a poster registration desk onsite for support throughout the event in the Strathblane Hall, close to the main registration desk.

Poster Prizes

This year, four poster prizes are available, recognising the best poster presenters during the Conference. All poster prize winners will be invited to present their poster again at the Society's Annual General Meeting in September 2017.

MICROBIOLOGY SOCIETY JOURNALS' 'MOST PROMISING SCIENCE' PRIZE

This prize will be awarded to posters presenting compelling or novel research within the subject areas of the following Society journals: *Microbiology*, *Journal of General Virology*, *Journal of Medical Microbiology* and *Microbial Genomics*. This prize will be judged by Editors from all journals.

PRINCIPAL INVESTIGATOR POSTER PRIZE

This prize will be awarded to posters presenting innovative and/or novel research. This prize will be judged by members of the Society's Divisions, Council and Committees.

EARLY CAREER MICROBIOLOGISTS' FORUM POSTER PRIZE

This prize will be awarded by the Early Career Microbiologists' (ECM) Forum Executive Committee. All posters presented by members of the ECM Forum will be included in this prize that recognises the most promising ECM presenters.

SIR HOWARD DALTON YOUNG MICROBIOLOGIST OF THE YEAR COMPETITION

Each year, the Young Microbiologist of the Year Competition recognises and rewards excellence in science communication by a Microbiology Society member who is a postgraduate student or postdoctoral researcher, having gained their PhD in the last two years. During the Annual Conference, judges will be visiting posters and listening to offered orals by delegates who have entered the competition via the abstract submission portal.

Flash Posters

For the first time, the Annual Conference will showcase some of the best posters on display – selected in advance by session organisers – at the Society's stand at 13:30 on Monday, Tuesday and Wednesday. The flash poster presentations will be an excellent opportunity to see a snapshot of many of the promising posters.

Antibiotics Unearthed – Posters showcase

Date: Monday Lunch Time
Start Time: 13:00
Location: Lennox Suite Level -2

School and undergraduate students who took part in the 2016 run of our Antibiotics Unearthed project will be showcasing their work at a special poster session on Monday lunchtime. The students have been selected to represent their schools and institutes by presenting a poster of their findings through the Society's antibiotic discovery project. Come along and see what they discovered and find out more about the initiative.

DAY 1

Monday 3 April

Just passing through – virus infections and the GI tract

Location: Pentland Level 3

Session Organisers: David Evans (University of St Andrews, UK) & Miren Iturriza-Gomara (University of Liverpool, UK)

Session Description: The gastrointestinal (GI) tract provides an accessible environment for virus infection and replication. GI tract viral infections, including those by rotaviruses, noroviruses and astroviruses, cause a globally significant burden of mortality and morbidity. Over 70% of cases of infectious diarrhoea are caused by viruses; for example, noroviruses are the leading cause of diarrhoea globally with an estimated 685 million cases a year and are also the main cause of foodborne illness, and rotaviruses cause over 100 million cases of infantile severe gastroenteritis per annum with up to 0.26 million deaths. New vaccines, better understanding of the biology and replication of these viruses, and the comprehension of crosstalk between viral and bacterial components of the microbiome offer ways to reduce this disease burden. This one-day session will provide an overview of the causes of viral gastroenteritis, the epidemiology of infections and viral pathogenesis, coupled with discussions of the immunology of the GI tract and the development of effective vaccines to control and prevent disease.

SESSION CHAIR: DAVID EVANS (UNIVERSITY OF ST ANDREWS, UK)		
Delivery systems and adjuvants for enhanced oral vaccination	**10:15**	Ed Lavelle (Trinity College Dublin, Ireland)
Impact of bacteriophages on bacterial populations of the gut: little bombs?	**10:45**	Marie-Agnès Petit (INRA, France)
Posters, exhibition and refreshments	**11.15**	
Offered oral: The role of USP7 in influenza virus entry	**11:45**	Alina Rudnicka (University of Zurich, Switzerland)
Offered oral: Zika virus and the chamber of secrets: unravelling virus–host immune response interactions	**12:00**	Claire Donald (MRC-University of Glasgow Centre for Virus Research, UK)
Can rotavirus vaccine performance improve in the populations worst affected?	**12:15**	Miren Iturriza-Gomara (University of Liverpool, UK)
Offered oral: The impact of influenza A virus morphology on the inhibitory effect of respiratory mucus	**12:45**	Kieran Dee (Trinity College Dublin, Ireland)
Offered oral: Synthesising a conformationally stable PV-1 empty capsid vaccine	**13:00**	Oluwapelumi Adeyemi (University of Leeds, UK)
Lunch and exhibition	**13.15**	
SESSION CHAIR: MIREN ITURRIZA-GOMARA (UNIVERSITY OF LIVERPOOL, UK)		
Epidemiology of gastrointestinal tract viral infections	**14:00**	Sarah O'Brien (University of Liverpool, UK)
Rotavirus disease mechanisms: The gut–nerve–brain cross-talk	**14:30**	Lennart Svensson (Linkoping University, Sweden)
Identification of *cis* and *trans* acting factors involved in the norovirus life cycle	**15:00**	Ian Goodfellow (University of Cambridge, UK)
Offered oral: Regulation of human immunodeficiency virus type 1 (HIV-1) Gag expression and virion production by SR proteins	**15:30**	Chad Swanson (King's College London, UK)
Posters, exhibition and refreshments	**15.45**	
Offered oral: An essential role for the WD40 domain of ATG16L1 during non-canonical autophagy in influenza virus infection	**16:15**	Rachel Ulferts (Department of Pathology, University of Cambridge, UK)
Glycan interactions in gastroenteric viruses – implications for host tropism, host adaptation, susceptibility to infection, neutralisation and zoonosis	**16:30**	Venkatar Prasad (Baylor College of Medicine, USA)
The influence of commensal bacteria on norovirus infection	**17:00**	Stephanie Karst (University of Florida, USA)
Session Close	**17:30**	

Posters for this session will be on display for the full duration of the conference

Geomicrobiology

Location: Sidlaw Level 3

Session Organisers: Joanne Santini (University College London, UK) & Thomas Clarke (University of East Anglia, UK)

Session Description: Geomicrobiology is the study of the role of micro-organisms in influencing geological processes including geochemical cycles. While much of the discipline is less than 40 years old, it is fundamental to the understanding of the origin of life and the role of microbes in the cycling of elements in the environment. Recent advances in the field have come about largely by new approaches (e.g. the 'omics' technologies, stable isotope probing, biophysical and microscopy techniques) that allow the detailed study of cultured and uncultured micro-organisms and the impact they have on the environment. This session will include topics on the origin of life and evolution, microbial energetics and metabolism, microbial ecology, biomineralisation and mineral precipitation, bioremediation and weathering.

SESSION CHAIR: JOANNE SANTINI (UNIVERSITY COLLEGE LONDON, UK)		
How convection, electrons, protons and photons drove the first microbes into being	**10:15**	Michael Russell (NASA, USA)
New insights into ancient molecular fossils: Reinterpreting 2-methylhopanes	**10:45**	Dianne Newman (California Institute of Technology, USA)
On the origins of heredity in protocells	**11:15**	Nick Lane (University College London, UK)
Posters, exhibition and refreshments	**11:45**	
SESSION CHAIR: THOMAS OSBORNE (UNIVERSITY COLLEGE LONDON, UK)		
Geomycology: metals, minerals and fungi	**12:15**	Geoff Gadd (University of Dundee, UK)
Turning sunlight into stone: how plants and micro-organisms use an oxalate-carbonate pathway to trap CO_2	**12:45**	Eric Verrecchia (University of Lausanne, Switzerland)
Lunch and exhibition	**13:15**	
SESSION CHAIR: JOANNE SANTINI (UNIVERSITY COLLEGE LONDON, UK)		
Exploring the deep terrestrial hydrosphere and biosphere	**14:00**	Barbara Sherwood Lollar (University of Toronto, Canada)
On thin ice: glacier microbiology	**14:30**	Liz Bagshaw (Cardiff University, UK)
Unexpected facets of marine nitrifiers	**15:00**	Phyllis Lam (Southampton University, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: THOMAS CLARKE (UNIVERSITY OF EAST ANGLIA, UK)		
Anoxygenic photosynthesis: Photoreactions from femtoseconds to millenia	**16:00**	Mike Jones (University of Bristol, UK)
Offered oral: Identity and functional relationships of sediment and bacterial interactions in the sub-glacial basal ice ecosystem of the Svínafellsjökull glacier (Iceland)	**16:30**	Mario Toubes-Rodrigo (Manchester Metropolitan University, UK)
Offered oral: Microbial and bioelectrochemical recovery of metals from wastewater	**16:45**	Richard Kimber (University of Manchester, UK)
The microbial methane cycle	**17:00**	Rolf Thauer (Max Planck Institute, Germany)
Session Close	**17:30**	

Posters for this session will be on display Monday and Tuesday

Synthetic and systems approaches to microbiology

Location: Fintry Level 3

Session Organisers: Meriem El Karoui (University of Edinburgh, UK), Teuta Pilizota (University of Edinburgh, UK), Susan Rosser (University of Edinburgh, UK) & Colin Robinson (University of Kent, UK)

Session Description: Synthetic and Systems biology approaches are revolutionising basic biological research, promising a paradigm shift in the way biology as a science is approached. As the cost of DNA synthesis plummets, and large-scale DNA assembly is within our reach, synthetic and systems biology are promising to bring our understanding of microbes to the level needed for large-scale engineering. Systems biology approaches provide tools needed to understand key cellular physiological functions and ultimately create the basis for robust and reliable cell engineering. The tools of synthetic and systems biology go hand-in-hand, and this session will bring together leaders working at the intersection of these fields to provide a timely update on the state-of-the-art. Themes covered will include synthetic biology in extreme conditions, microbial interactions, designing biology and microbial factories. Together the session will provide an exciting overview of the field , which looks set to make a significant impact on industrial biotechnology as well as more fundamental microbiology research.

SESSION CHAIR: SUSAN ROSSER (UNIVERSITY OF EDINBURGH, UK)		
Microbial extremophiles for Earth and beyond: pushing the boundaries with synthetic biology	**10:15**	Lynn Rothschild (NASA, USA)
Filamentous phages as a programmable scaffold – diagnostics to phasers	**10:45**	John Ward (University College London, UK)
Posters, exhibition and refreshments	**11:15**	
Offered oral: Design of a low-cost, automated photobioreactor for control of bacterial optogentic circuit and synthetic circuit characterisation	**11:45**	Ya Tang Yang (National Tsing Hua University, Taiwan)
Offered oral: Sustainable microbiological production of the next-generation material graphene	**12:00**	Benjamin Lehner (TU Delft, The Netherlands)
Flash poster presentation: A synthetic approach for the bioconversion of carbon dioxide to organic acid	**12:15**	Magali Roger (University of Dundee, UK)
Flash poster presentation: RCGC: Remote control of genetic circuits	**12:20**	John Allan (University of Dundee, UK)
Synthetic systems inspired by genetic regulation	**12:25**	Yannick Rondelez (CNRS/ESPCI, France)
Lunch and exhibition	**12:55**	
SESSION CHAIR: MERIEM EL KAROUI (UNIVERSITY OF EDINBURGH, UK)		
Engineering synthetic microbial communities for understanding and applications	**14:00**	Orkun Soyer (University of Warwick, UK)
Flash poster presentation: Biocontainment of bacteria for vaccine delivery	**14:30**	Ahmed Al-Mamari (University of Edinburgh, UK)
Flash talk: Aging of bacteria in biofilms, using an individual-based model to study growth	**14:35**	Robyn Wright (University of Warwick, UK)
Offered oral: A platform to study meta-population dynamics of bacterial populations	**14:40**	Aitor de las Heras (University of Edinburgh, UK)
Posters, exhibition and refreshments	**14:55**	
Systems approaches to studying regulatory networks of bacterial plasmids	**15:25**	Fernando de la Cruz (Universidad de Cantabria, Spain)
A crosstalk between mutually exclusive cell fates moves biofilms	**15:55**	Ilana Kolodkin-Gal (Weizmann Institute of Science, Israel)
What determines the spatial structure of bacterial biofilms and aggregates?	**16:25**	Rosalind Allen (University of Edinburgh, UK)
Offered oral: Understanding the mechanism of action of novel rumen-derived antimicrobial peptides against meticillin-resistant *Staphylococcus aureus*	**16:55**	Linda Oyama (Aberystwyth University, UK)
Offered oral: Quantifying bacterial DNA double-strand break repair in real time	**17:10**	Alessia Lepore (Institute of Cell Biology and SynthSys, University of Edinburgh, UK)
Offered oral: Osmotaxis in *Escherichia coli* through changes in flagellar motor speed	**17:25**	Jerko Rosko (University of Edinburgh, UK)
Session Close	**17:40**	

Posters for this session will be on display for the full duration of the conference

Microbial circadian and metabolic rhythms

Location: Carrick Level 1

Session Organisers: Sue Crosthwaite (University of Manchester, UK), Ed Louis (University of Leicester, UK), Elinor Thompson (University of Greenwich, UK) & Gerben Van Ooijen (University of Edinburgh, UK)

Session Description: The identification of genetic components of the circadian clock in diverse organisms from bacteria and fungi to plants and animals suggests that a circadian oscillator is intrinsic to all kingdoms. There is little conservation among the clock components, however, suggesting that clocks have evolved independently and that circadian rhythmicity is an adaptive feature. Alternatively, the conserved circadian rhythms in cellular metabolism could indicate that a conserved oscillator exists in parallel with or indeed on top of 'canonical' clock mechanisms.

SESSION CHAIR: ELINOR THOMPSON (UNIVERSITY OF GREENWICH, UK)		
The molecular basis of metabolic cycles	**10:00**	Jane Mellor (University of Oxford, UK)
A day in the life of a cyanobacterium: integrating temporal and environmental information	**10:30**	Susan Golden (UCSD, USA)
Posters, exhibition and refreshments	**11:00**	
SESSION CHAIR: GERBEN VAN OOIJEN (UNIVERSITY OF EDINBURGH, UK)		
Circadian clock regulation of mRNA translation	**11:30**	Deborah Bell-Pedersen (Texas A&M, USA)
Zeitgebers, the circadian clock and microbial cultures	**12:00**	Marth Merrow (Ludwig Maximillians University, Munich, Germany)
Microbial manipulation of animal behaviour: how biological clocks could be involved	**12:30**	Charissa De Bekker (Ludwig Maximillians University, Munich, Germany)
Lunch and exhibition	**13:00**	
SESSION CHAIR: SUE CROSTHWAITE (UNIVERSITY OF MANCHESTER, UK)		
Parasite offence or host defence? The roles of biological rhythms in malaria infection	**14:00**	Sarah Reece (University of Edinburgh, UK)
Metabolic cycles in yeast share features conserved among circadian rhythms	**14:30**	John O'Neill (University of Cambridge, UK)
Dynamics of light-induced transcription in *Neurospora*	**15:00**	Michael Brunner (University of Heidelberg, Germany)
Offered oral: Frequency doubling in the cyanobacterial circadian clock	**15:30**	Bruno M. C. Martins (University of Cambridge, UK)
Posters, exhibition and refreshments	**15:45**	
SESSION CHAIR: ED LOUIS (UNIVERSITY OF LEICESTER, UK) & ELINOR THOMPSON (UNIVERSITY OF GREENWICH, UK)		
Rhythms, replication and pathogenesis: The circadian clock and virus infection	**16:15**	Rachel Edgar (University of Cambridge, UK)
Offered oral: Peripheral host rhythms drive rhythms of malaria parasites	**16:45**	Kimberley Prior (Reece Lab Edinburgh, UK)
Session Close	**17:00**	

Posters for this session will be on display for the full duration of the conference

Annual Meeting of Protistology-UK Society: Intracellular infection and endosymbiosis within protists

Location: Harris Level 1

Session Organisers: Anastasios Tsaousis (University of Kent, UK), Sonja Rueckert (Edinburgh Napier University, UK) & David Bass (Natural History Museum, UK)

Session Description: This session will cover part of the Annual meeting of the Protistology-UK Society, and it will focus on the infection and endosymbiotic events of different microbes (viruses, bacteria and protozoa) that take place in microbial eukaryotes. The session will seek to discuss, how various organisms cope with the presence of their 'endoysmbionts' or 'pathogens' and to provide models to study basic processes on the endosymbiont/pathogen–host cell relationship and potentially the origin of new organelles.

SESSION CHAIR: SONJA RUECKERT (EDINBURGH NAPIER UNIVERSITY, UK) & MARTIN CARR (UNIVERSITY OF HUDDERSFIELD, UK)		
Welcome and introduction of the Protistology-UK Society	**10:00**	David Bass (Natural History Museum, UK)
A photosynthetic amoeba and a symbiont-harboring trypanosomatid help to elucidate molecular mechanisms that underlie host–endosymbiont interactions	**10:30**	Eva Nowack (Heinrich Heine University Düsseldorf, Germany)
Posters, exhibition and refreshments	**11:00**	
SESSION CHAIR: SONJA RUECKERT (EDINBURGH NAPIER UNIVERSITY, UK) & MARTIN CARR (UNIVERSITY OF HUDDERSFIELD, UK)		
Endosymbiotic relationships in anaerobic eukaryotes	**11:30**	Martin Embley (Newcastle University, UK)
Possible hijacking of the host plastids by an intracellular parasite (*Amoebophrya* spp., Syndiniales) of microalgae	**12:00**	Laure Guillou (CNRS- Station Biologique de Roscoff, France)
Manipulation of mammalian and amoeba cellular processes by the AnkB effector of *Legionella pneumophila*	**12:30**	Yousef Abu Kwaik (University of Louisville College of Medicine, USA)
Lunch and exhibition	**13:00**	
SESSION CHAIR: ANASTASIOS TSAOUSIS (UNIVERSITY OF KENT, UK) & ALESSANDRA DUPONT (NATURAL HISTORY MUSEUM, UK)		
Offered oral: Reconstruction of ancient plastid proteome reveals the origins and fate of complex plastid lineages	**14:00**	Richard Dorrell (École Normale Supérieure, France)
Offered oral: Multidisciplinary investigation on two '*Candidatus* Fokinia' (*Rickettsiales*) endosymbionts of *Paramecium*	**14:15**	Michele Castelli (Università degli Studi di Milano, Italy)
Environmental context dependence in a photosynthetic endosymbiosis	**14:30**	Chris Lowe (University of Exeter, UK)
The biology of giant DNA viruses such as *Mimivirus* and the biodiversity of the marine microbial world	**15:00**	Jean-Michel Claverie (CNRS, Aix-Marseille University, France)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: ANASTASIOS TSAOUSIS (UNIVERSITY OF KENT, UK) & ALESSANDRA DUPONT (UNIVERSITY COLLEGE LONDON, UK)		
Offered oral: Comparative transcriptomics reveals the effect of the bacterial endosymbiont *Caedibacter taeniospiralis* on *Paramecium tetraurelia* host gene expression	**16:00**	Martina Schrallhammer (University of Freiburg, Germany)
Offered oral: Insight into the life-cycles of important bivalve parasites using lineage-specific molecular probing	**16:15**	Georgia Ward (Natural History Museum, UK)
Environmental sampling to identify novel emergent microsporidian parasite lineages	**16:30**	Bryony Williams (University of Exeter, UK)
Symbiosis: new perspectives from eukaryotic endosymbionts within pathogenic amoebae	**17:00**	John Archibald (Dalhousie University, Canada)
Session Close	**17:30**	

Posters for this session will be on display for the full duration of the conference

Prokaryotic macromolecular machines

Location: Moorfoot Level 0

Session Organisers: Jonathan Shaw (University of Sheffield, UK), Nick Waterfield (University of Warwick, UK), Martin Welch (University of Cambridge, UK) & Nicola Holden (James Hutton Institute, UK)

Session Description: While science strives to harness the potential of nano-technology, it has become apparent that natural selection has already provided many solutions. Advances in molecular biology and high-resolution imaging have revealed the incredible complexity and efficiency of macromolecular protein machines. Prokaryotes have developed nano-scale devices to answer a range of problems including motility, secretion and delivery of bioactive macromolecules into the environment and other cells. Topics covered in this session will be of interest from both a pure academic and more applied biotechnology perspective as they will include the ribosome, pili/fimbrae, flagella and protein secretion. Offered papers on all aspects of prokaryotic (both bacteria and archaea) macromolecular machines are welcomed.

SESSION CHAIR: JONATHAN SHAW (UNIVERSITY OF SHEFFIELD, UK),		
Length regulation in a bacterial cell-surface nanomachine: ordered export and assembly in the bacterial flagellum	**10:00**	Gillian Fraser (University of Cambridge, UK
Assembly of an antibacterial speargun: the type VI secretion system	**10:30**	Eric Cascales (Aix-Marseille Université, France)
Posters, exhibition and refreshments	**11:00**	
***Photorhabdus* virulence cassettes: A nano-syringe based toxin secretion and delivery system**	**11:30**	Nick Waterfield (University of Warwick, UK)
The Tat protein export pathway	**12:00**	Tracy Palmer (University of Dundee, UK)
Mechanism of action of Tc toxins	**12:30**	Stefan Raunser (Max Planck Institute of Molecular Physiology, Germany)
Lunch and exhibition	**13:00**	
SESSION CHAIR: MARTIN WELCH (UNIVERSITY OF CAMBRIDGE, UK)		
A tail of phage and tubeworms: How do bacteria mediate animal development?	**14:00**	Nick Shikuma (San Diego State University, USA)
Structural and functional analysis of type III secretion systems	**14:30**	Ariel Blocker (University of Bristol, UK)
Offered oral: Engineering and exploiting flotation – gas vesicle production in enterobacteria	**15:00**	Rita Monson (University of Cambridge, UK)
Offered oral: Allosteric regulation of secretory system ATPases by the second messenger cyclic-di-GMP	**15:15**	Jacob Malone (John Innes Centre, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: NICK WATERFIELD (UNIVERSITY OF WARWICK, UK)		
Molecular mechanism of type IV pilus assembly	**16:00**	Vivianne Goosens (Imperial College London, UK)
Understanding functions of the type VII secretion systems	**16:30**	Meera Unnikrishnan (University of Warwick, UK)
Crystal structures of bacteriophage receptor-binding proteins	**17:00**	Mark van Raaij (Centro Nacional de Biotecnologia - CSIC, Spain)
Session Close	**17:30**	

Posters for this session will be on display Monday and Tuesday

Microbial mechanisms of plant pathology

Location: Tinto Level 0

Session Organisers: Martin Welch (University of Cambridge, UK), Nicola Holden (James Hutton Institute, UK) & Kevin Kavanagh (NUI Maynooth, Ireland)

Session Description: Plant pathogens are often considered less 'sexy' than their mammalian counterparts, yet these species represent a major threat to food production worldwide. Moreover, they employ a bewildering array of mechanisms – often borrowed from, or adapted by their mammalian cousins – with which to subvert host defences (or conversely, sometimes even enhance plant growth). In this session, we aim to explore the diverse strategies used by bacteria, fungi and viruses to colonise plant tissues (to the advantage or to the detriment of the host). Topics ranging from the origin(s) and impact of Ash die-back, the roles played by quorum sensing and cyclic-di-GMP in controlling bacterial infection, PAMPs, oomycete effectors and viral infections will be covered by the World's top experts in these areas. We will also explore why some organisms seem to form mutualistic (rather than pathogenic) relationships with their hosts, and address the cutting-edge technologies that have been developed to investigate these mechanisms and interactions. This is a session for anyone with an interest in the molecular mechanisms that underpin microbial pathogenicity.

SESSION CHAIR: MARTIN WELCH (UNIVERSITY OF CAMBRIDGE, UK)		
Genome and virulence regulatory mechanisms of *Dickeya zeae*	**10:00**	Lian-Hui Zhang (A*Star, Singapore)
Fungi challenge global food security	**10:30**	Sarah Gurr (University of Exeter, UK)
Posters, exhibition and refreshments	**11:00**	
SESSION CHAIR: NICOLA HOLDEN (JAMES HUTTON INSTITUTE, UK)		
Elucidating and re-designing regulatory networks underlying plant–pathogen interaction	**11:30**	Adam Talbot (University of York, UK)
Regulation of enzyme production in soft rot enterobacteria	**12:00**	Minna Pirhonen (University of Helsinki, Finland)
The threat to plant health from invasive alien *Phytophthora* species	**12:30**	Richard O'Hanlon (Department of Agriculture, Ireland)
Lunch and exhibition	**13:00**	
SESSION CHAIR: KEVIN KAVANAGH (NUI MAYNOOTH, IRELAND)		
Delivery and activity of *Phytophthora* effectors that suppress plant immunity	**14:00**	Paul Birch (University of Dundee, UK)
Regulation of receptor kinase-mediated immune signaling	**14:30**	Cyril Zipfel (Sainsbury Laboratory, UK)
Offered oral: Flagellin application perturbs the microbiota thriving at the barley-root soil interface	**15:00**	Manuel Blank (Dundee at the James Hutton Institute, UK)
Offered oral: Using bacteria to fight bacteria: Parasitisation of ferredoxin-uptake receptors in *Pectobacterium*	**15:15**	Catriona Thompson (University of Glasgow, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: DANIEL WALKER (UNIVERSITY OF GLASGOW, UK)		
Plant–virus interactions: the role of sub-nuclear structures	**16:00**	Michael Taliansky (James Hutton Institute, UK)
A sleigh ride through the SNO: Role of *S*-nitrosylation in plant immunity	**16:30**	Gary Loake (University of Edinburgh, UK)
A persistent reservoir of a genomic island in *Pseudomonas syringae* pv. *Phaseolicola*	**17:00**	Dawn Arnold (University of the West of England, UK)
Session Close	**17:30**	

Posters for this session will be on display Monday and Tuesday

Professional Development Session: Post-PhD – Finding a career that suits you

Location: Lammermuir Suite Level 2

Session Organisers: Microbiology Society Professional Development Committee

Session Description: Making a decision about what to do after your PhD can be daunting. When considering the lack of academic positions for newly qualified PhD researchers, it can be helpful to think about the breadth of career options available to you as a highly trained professional scientist – with skills and aptitudes that you may not yet have realised. Dr Sarah Blackford, author of *Career Planning for Research Bioscientists*, will demonstrate her PhD Career Choice Indicator – showing users how to identify initial career options by looking at their skills and passions. During the afternoon session, participants will also hear from microbiologists who have had interesting career paths and learn top tips for how to build their CV for the career they want – including a chance for their CV to be reviewed by their peers. This session is aimed at early career researchers; however, is suitable for those looking to make their next career step.

Welcome to the session	**11:00**	David Whitworth (University of Aberystwyth, UK)
Your career – what next?	**11:05**	Sarah Blackford (Society for Experimental Biology and the University of Lancaster, UK)
Networking lunch	**13:00**	
Microbiology careers case studies	**14:00**	Rocky Cranenburgh (Chief Scientific Officer at Prokarium Ltd, UK) Liz Sockett (University of Nottingham, UK) Antonia Johnston (Production Editor at BMJ, UK) Mark Saxon (Head of Public Affairs GB at The Coca-Cola Company, UK) David Chismon (Senior Research Consultant at MWR InfoSecurity, UK) Jennifer Cottell (Clinical Scientist at Micropathology Ltd, UK)
CV workshop	**15:30**	Maria Fernandes (Microbiology Society, UK) David Chismon (MWR InfoSecurity, UK)
Session Close	**17:00**	

Discover Wiley Microbiology

onlinelibrary.wiley.com/subject/microbiology

Wiley proudly partners with 1,200+ prestigious organizations that collectively represent more than 14 million members worldwide – from small societies and think tanks to large international associations, not-for-profits, and other organizations. These include the Society for Applied Microbiology, the International Society of Protistologists, the Japanese Society for Bacteriology, the Japanese Society for Virology, and the Japanese Society for Host Defense Research.

Wiley's publishing partners enjoy numerous benefits including **global reach:**

Articles can be read online anywhere, any time on Wiley Online Library, which has 13.4 million monthly unique visitors.

Worldwide resources:

Wiley has established relationships with more than 40,000 library customers covering every country in the world. Our 5,000 international colleagues are based at 50 Wiley locations across 22 countries.

And **a range of services and customer support:**

Wiley offers a raft of resources to assist authors, customers, editors, members, readers, and societies.

Find out more about our publishing programme:

onlinelibrary.wiley.com/subject/microbiology

WILEY

17 - 274423

DAY 2

Tuesday 3 April

Regulation of RNA expression during virus infection

Location: Pentland Level 3

Session Organisers: Colin Crump (University of Cambridge, UK), Alain Kohl (MRC-University of Glasgow Centre for Virus Research, UK), Joanna Parish (University of Birmingham, UK) & Silke Schepelmann (NIBSC, UK)

Session Description: Control of expression of virus and host RNA during virus infection is fundamental to the life cycle of all viruses. RNA production is essential for virus replication, gene expression and manipulation of the host environment. Viruses have evolved complex mechanisms of transcription activation, control and termination including epigenetic regulation and recruitment of host factors to promoters and transcriptional enhancers. In addition, the production of non-coding RNAs is essential for some viruses to manipulate the cellular environment and support virus replication. Protein production often requires complex post-transcriptional processing of viral RNAs and nuclear export, facilitated by hijacking host cell systems. This two-day symposium will provide an overview of the regulation of virus transcription of diverse viruses and the many ways in which viruses manipulate cellular gene expression to support productive virus infection.

SESSION CHAIR: SILKE SCHEPELMANN (NIBSC,UK) & ALAIN KOHL (MRC-UNIVERSITY OF GLASGOW CENTRE FOR VIRUS RESEARCH, UK)		
Continuous and discontinuous RNA synthesis in coronaviruses	**10:15**	Luis Enjuanes (Spanish National Centre for Biotechnology, Spain)
Chromatin control of gammaherpesvirus latency	**10:45**	Paul Lieberman (Wistar Institute, USA)
Offered oral: Population diversity of genome intermediates following imprecise recombination events in enteroviruses	**11:15**	Kirsten Bentley (University of St Andrews, UK)
Posters, exhibition and refreshments	**11:30**	
SESSION CHAIR: SILKE SCHEPELMANN (NIBSC,UK) & ALAIN KOHL (MRC-UNIVERSITY OF GLASGOW CENTRE FOR VIRUS RESEARCH, UK)		
Dissecting the initial steps of transcription and genome replication in the non-segmented negative strand RNA viruses	**12:00**	Rachel Fearns (Boston University, USA)
Tales of the unexpected: regulation of viral transcription and mis-regulation of host small RNA pathways	**12:30**	John Carr (University of Cambridge, UK)
Offered oral: Rapid mammalian adaptation of an avian H9N2 influenza virus	**13:00**	Holly Shelton (The Pirbright Institute, UK)
Lunch and exhibition	**13:15**	
SESSION CHAIR: JOANNA PARISH (UNIVERSITY OF BIRMINGHAM, UK) & ALAIN KOHL (MRC-UNIVERSITY OF GLASGOW CENTRE FOR VIRUS RESEARCH, UK)		
The role of the Merkel cell polyomavirus early gene products in the regulation of viral gene expression and long-term persistence of viral episomes	**14:00**	Nicole Fischer (University Medical Centre, Germany)
Influenza virus RNA synthesis and innate immune sensing	**14:30**	Ervin Fodor (University of Oxford, UK)
Offered oral: The role of host cell miRNAs in the KSHV lytic replication cycle	**15:00**	Sophie Schumann (University of Leeds, UK)
Offered oral: Molluscum contagiosum HLA-I homologue MC080 promotes CD8+ T-cell evasion and modulates NK cell recognition by downregulating endogenous classical HLA-I, HLA-E and MICA008	**15:15**	Hana Elasifer (Cardiff University, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: JOANNA PARISH (UNIVERSITY OF BIRMINGHAM, UK) & ALAIN KOHL (MRC-UNIVERSITY OF GLASGOW CENTRE FOR VIRUS RESEARCH, UK)		
The multifunctional herpes simplex virus protein ICP27 plays a pivotal role in regulating viral gene expression	**16:00**	Rozanne Sandri-Goldin (University of California, Irvine, USA)
Regulation of human papillomavirus gene expression at the level of RNA processing	**16:30**	Stefan Schwartz (Lunds University, Sweden)
Offered oral: Novel family of peptides with potent antiviral activity against influenza A viruses	**17:00**	Seema Jasim (The Roslin Institute, University of Edinburgh, UK)
Offered oral: Retroviral invasion of the koala genome part II. What is it doing to the koalas?	**17:15**	Rachael Tarlinton (University of Nottingham, UK)
Session Close	**17:30**	

Posters for this session will be on display for the full duration of the conference

Scientific Publishing: How to write a manuscript for submission

Location: Lammermuir Suite Level -2

Session Organisers: Kalai Mathee (Florida International University, USA) & Norman Fry (Public Health England, UK)

Session Description: Effective communication of scientific findings in both oral and written forms is critical. Poorly communicated research can adversely impact a scientist's career. In addition, poor English can preclude the proper assessment of the quality of a scientist's work during the peer-review process. This in part is due to lack of proper instruction in these key areas. The workshop will focus on PhD students, postdoctoral fellows and early career scientists who are seeking to improve their skills in the preparation of manuscripts for publication in peer-reviewed journals. A certificate of completion will be provided to all participants. At the end of the workshop, the participants will:

- Understand the rigorous process of peer-review in scientific publishing.
- Understand what editors are looking for in a manuscript.
- Have the opportunity to meet and network with editors who are highly knowledgeable in their respective fields.
- Understand the Society's publishing submissions process.
- Understand the structure of different types of manuscripts.
- Have the opportunity to receive feedback on their work and ask questions.

Participants' self-introductions to rest of group	**10:00**	Kalai Mathee (Florida International University, USA) Norman Fry (Public Health England, UK) Editors-in-Chief, ***Journal of Medical Microbiology***
Group discussion	**10:30**	
Components of a manuscript	**10:50**	
Choosing a journal and article type, and the importance of instructions to authors	**12:00**	
How to respond to reviewers' comments	**12:15**	
Authorship guidelines	**12:30**	
JMM publishing submission process	**12:40**	
Conclude and wrap up	**12:50**	
Lunch break – networking session/one-to-one sessions with reviewers	**13:00**	
Session Close	**14:30**	

Geomicrobiology

Location: Sidlaw Level 3

Session Organisers: Joanne Santini (University College London, UK) & Thomas Clarke (University of East Anglia, UK)

Session Description: Geomicrobiology is the study of the role of micro-organisms in influencing geological processes including geochemical cycles. While much of the discipline is less than 40 years old, it is fundamental to the understanding of the origin of life and the role of microbes in the cycling of elements in the environment. Recent advances in the field have come about largely by new approaches (e.g. the 'comics' technologies, stable isotope probing, biophysical and microscopy techniques) that allow the detailed study of cultured and uncultured micro-organisms and the impact they have on the environment. This session will include topics on the origin of life and evolution, microbial energetics and metabolism, microbial ecology, biomineralisation and mineral precipitation, bioremediation and weathering.

SESSION CHAIR: JOANNE SANTINI (UNIVERSITY COLLEGE LONDON, UK)		
How metagenomics-based approaches illuminate diversity and metabolic potential of subsurface microbiomes and their influence on biogeochemical cycling	**10:15**	Cindy Castelle (University of California, Berkeley, USA)
Bacterial metabolism of isoprene: a missing link in the biogeochemical cycling of isoprene	**10:45**	Colin Murrell (University of East Anglia, UK)
Halophiles at the limit of existence	**11:15**	Terry McGenity (University of Essex, UK)
Posters, exhibition and refreshments	**11:45**	
SESSION CHAIR: MARCUS EDWARDS (UNIVERSITY OF EAST ANGLIA, UK)		
The geomicrobiology of the nuclear fuel cycle	**12:15**	Jon Lloyd (University of Manchester, UK)
Novel insights into microbial production of dimethylsulphoniopropionate (DMSP) and dimethylsulphide (DMS)	**12:45**	Jonathan Todd (University of East Anglia, UK)
Lunch and exhibition	**13:15**	
SESSION CHAIR: THOMAS OSBORNE (UNIVERSITY COLLEGE LONDON, UK) & MARCUS EDWARDS (UNIVERSITY OF EAST ANGLIA, UK)		
Importance of lithoautotrophy in shallow groundwaters	**14:00**	Kirsten Küsel (Friedrich-Schiller University, Jena, Germany)
Offered oral: Relating the effects of soil hydrophobicity at atomic, biomolecular, core and national scales	**14:30**	Geertje van Keulen (Swansea University, UK)
Offered oral: The cryptosphere – viable spores in deep geothermal waters not detectable by standard microbiological techniques	**14:45**	Henrik Sass (Cardiff University, UK)
Diversity and diversification of ammonia oxidisers	**15:00**	James Prosser (University of Aberdeen, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: THOMAS CLARKE (UNIVERSITY OF EAST ANGLIA, UK)		
Microbes, minerals and biotechnology	**16:00**	Julea Butt (University of East Anglia, UK)
Hydrogen as a microbial fuel	**16:30**	Alison Parkin (University of York, UK)
Evolutionary interplay between biology's metallome and the geoenvironment of the planet	**17:00**	Wolfgang Nitschke (CNRS, Marseille)
Session Close	**17:30**	

Posters for this session will be on display Monday and Tuesday

Microbial mechanisms of plant pathology

Location: Tinto Level 0

Session Organisers: Martin Welch (University of Cambridge, UK), Nicola Holden (James Hutton Institute, UK) & Kevin Kavanagh (NUI Maynooth, Ireland)

Session Description: Plant pathogens are often considered less 'sexy' than their mammalian counterparts, yet these species represent a major threat to food production worldwide. Moreover, they employ a bewildering array of mechanisms – often borrowed from, or adapted by their mammalian cousins – with which to subvert host defences (or conversely, sometimes even enhance plant growth). In this session, we aim to explore the diverse strategies used by bacteria, fungi and viruses to colonise plant tissues (to the advantage or to the detriment of the host). Topics ranging from the origin(s) and impact of Ash die-back, the roles played by quorum sensing and cyclic-di-GMP in controlling bacterial infection, PAMPs, oomycete effectors and viral infections will be covered by the World's top experts in these areas. We will also explore why some organisms seem to form mutualistic (rather than pathogenic) relationships with their hosts, and address the cutting-edge technologies that have been developed to investigate these mechanisms and interactions. This is a session for anyone with an interest in the molecular mechanisms that underpin microbial pathogenicity.

SESSION CHAIR: NICOLA HOLDEN (JAMES HUTTON INSTITUTE, UK)		
Investigating plant symbioses in the root using cell type-specific analysis	**10:00**	Miriam Gifford (University of Warwick, UK)
Improving plant health by bacterial volatiles	**10:30**	Choong-Min Ryu (Korea Research Institute of Bioscience and Biotechnology, South Korea)
Posters, exhibition and refreshments	**11:00**	
SESSION CHAIR: RITA MONSON (UNIVERSITY OF CAMBRIDGE, UK)		
Endophytic colonisation from roots to seeds: ecology and how plants can benefit	**11:30**	Angela Sessitsch (Austrian Institute of Technology, Austria)
Colonisation of crop plants by *Salmonella enterica*	**12:00**	Adam Schikora (JKL, Germany)
Offered oral: Gene expression analyses of the bacterial tree pathogens *Gibbsiella quercinecans* and *Brenneria goodwinii in vitro* and *in planta*	**12:30**	James Doonan (Bangor University, UK)
Offered oral: Multi–omic profiling of the microbiome-host interactions in acute oak decline	**12:45**	Martin Broberg (Bangor University, UK
Lunch and exhibition	**13:00**	
SESSION CHAIR: KEVIN KAVANAGH (NUI MAYNOOTH, IRELAND)		
The role of the host microenvironment in plant disease development	**14:00**	Gail Preston (University of Oxford, UK)
Action and reaction of host and mycotoxin during the development of *Fusarium* head blight disease	**14:30**	Fiona Doohan (University College Dublin, Ireland)
Offered oral: Characterisation of ϕM1 and ϕRC10, two phages of the phytopathogen, *Pectobacterium atrosepticum,* capable of escaping two type III toxin-antitoxin/abortive infection systems through mutations in a single viral gene	**15:00**	Ray Chai (University of Cambridge, UK)
Offered oral: Using network-extracted ontologies to identify novel genes with roles in appressorium development in the rice blast fungus *Magnaporthe oryzae*	**15:15**	Ryan Ames (University of Exeter, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: MARTIN WELCH (UNIVERSITY OF CAMBRIDGE, UK)		
The ins and outs of the wheat root microbiome	**16:00**	Tim Mauchline (Rothamsted Research, UK)
Defining the host control of the rhizosphere bacterial microbiota	**16:30**	Davide Bulgarelli (University of Dundee, UK)
Up-and down-regulation of quorum-sensing in the niche-constructing pathogen *Agrobacterium tumefaciens*	**17:00**	Denis Faure (CNRS, France)
Session Close	**17:30**	

Posters for this session will be on display Monday and Tuesday

Synthetic and systems approaches to microbiology

Location: Fintry Level 3

Session Organisers: Meriem El Karoui (University of Edinburgh, UK), Teuta Pilizota (University of Edinburgh, UK), Susan Rosser (University of Edinburgh, UK) & Colin Robinson (University of Kent, UK)

Session Description: Synthetic and systems biology approaches are revolutionising basic biological research, promising a paradigm shift in the way biology as a science is approached. As the cost of DNA synthesis plummets, and large scale DNA assembly is within our reach, synthetic and systems biology are promising to bring our understanding of microbes to the level needed for large-scale engineering. Systems biology approaches provide tools needed to understand key cellular physiological functions and ultimately create the basis for robust and reliable cell engineering. The tools of synthetic and systems biology go hand-in-hand, and this session will bring together leaders working at the intersection of these fields to provide a timely update on the state-of-the-art. Themes covered will include synthetic biology in extreme conditions, microbial interactions, designing biology and microbial factories. Together the session will provide an exciting overview of the field which, looks set to make a significant impact on industrial biotechnology as well as more fundamental microbiology research.

SESSION CHAIR: TEUTA PILIZOTA (UNIVERSITY OF EDINBURGH, UK)		
Coacervate micro-droplets as artificial cellular mimics	**10:15**	Dora Tang (Max Planck Institute of Molecular Cell Biology and Genetics, Germany)
Synthetic biological construction: Beyond 'bio-inspired' in the design of new materials and fabrication systems	**10:45**	Martyn Dade-Robertson (Newcastle University, UK)
Rapid streamlining of *E. coli* by genome-wide editing techniques	**11:15**	György Pósfai (Biological Research Centre, Hungary)
Posters, exhibition and refreshments	**11:45**	
SESSION CHAIR: TEUTA PILIZOTA (UNIVERSITY OF EDINBURGH, UK)		
Offered oral: Design and construction of a genetic tool with constitutive promoters of varying strength to study function and evolution of proteins from distantly related bacteria in *Escherichia coli*	**12:15**	Kavita Yadav (Uppsala University, Sweden)
Offered oral: Optimising the production of bulk chemicals from carbon monoxide using a genome-scale model of *Clostridium autoethanogenum*	**12:30**	Thomas Millat (University of Nottingham, UK)
Engineering an artificial bacterial flagellar motor using DNA scaffold nanotechnology	**12:45**	Richard Berry (University of Oxford, UK)
Lunch and exhibition	**13:15**	
SESSION CHAIR: ELINOR THOMPSON (UNIVERSITY OF GREENWICH, UK)		
Metabolic engineering of microalgae as green cell factories	**14:00**	Olaf Kruse (University of Bielefeld, Germany)
Engineering of cyanobacteria for production of high-value products: optimization of electron transport and metabolon formation	**14:30**	Poul Erik Jensen (University of Copenhagen, Denmark)
Offered oral: Tapping the unused potential of photosynthesis with a heterologous electron sink	**15:00**	Adokiye Berepiki (University of Southampton, UK)
Offered oral: Microalgae as cell factories: synthetic transfer RNA genes as genetic engineering tools for the *Chlamydomonas reinhardtii* chloroplast	**15:15**	Rosanna Young (University College London, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: ELINOR THOMPSON (UNIVERSITY OF GREENWICH, UK)		
Plug and play – developing tuneable gene expression in microalgae using synthetic biology approaches	**16:00**	Alison Smith (University of Cambridge, UK)
Synthesis of anti-bacterial proteins using the *Chlamydomonas* chloroplast as a production platform	**16:30**	Saul Purton (University College London, UK)
Offered oral: Novel synthetic biology approaches for high-value compound production in *Chlamydomonas reinhardtii*	**17:00**	Julie Zedler (University of Kent, UK)
Offered oral: High-yield secretion of recombinant proteins from the microalga *Chlamydomonas reinhardtii*	**17:15**	Yumiko Sakuragi (University of Copenhagen, Denmark)
Session Close	**17:30**	

Posters for this session will be on display for the full duration of the conference

Prokaryotic Infection Forum

Location: Moorfoot Level 0

Session Organisers: Shelia Patrick (Queen's University Belfast, UK), Sabine Tötemeyer (University of Nottingham, UK)

Session Description: Offered papers will be presented in areas related to infections caused by prokaryotes of human, veterinary or botanical significance including epidemiology, diagnosis, identification, typing, pathogenesis, treatment, antimicrobial agents and resistance, prevention, virulence factors, host responses and immunity, transmission, and models of infection at the cell, tissue or whole organism level.

SESSION CHAIR: SHEILA PATRICK (QUEEN'S UNIVERSITY BELFAST, UK) & SABINE TÖTEMEYER (UNIVERSITY OF NOTTINGHAM, UK)		
Antibiotics, resistance and you	**10:00**	Adam Roberts (University College London, UK)
Offered oral: Small colony variants: Size isn't everything	**10:30**	Benjamin Johns (Cardiff Metropolitan University, UK)
Offered oral: Uncovering the lock and key of *Escherichia coli*–platelet interactions	**10:45**	Dearbhla Lenehan (University College Dublin, Ireland)
Offered oral: Propionic acid induces rapid evolution of Crohn's-associated AIEC	**11:00**	Michael Ormsby (University of Glasgow, UK)
Flash poster presentation: Characterising the host response to Group A streptococcal septic arthritis	**11:15**	Jenny Clarke (University of Liverpool, UK)
Flash poster presentation: Development of a three-dimensional airway epithelial cell model to study pathogen interactions within the bovine respiratory tract	**11:20**	Daniel Cozens (University of Glasgow, UK)
Flash poster presentation: Stx2a toxin enhances animal-to-animal transmission of PT21/28 EHEC 0157	**11:25**	Stephen Fitzgerald (The Roslin Institute, University of Edinburgh, UK)
Posters, exhibition and refreshments	**11:30**	
Offered oral: The *Streptococcus agalactiae* virulence regulator CovR affects the pathogenesis of urinary tract infection	**12:00**	Matthew Sullivan (Griffith University, Australia)
Offered oral: Effect of the endocarditis-associated *Staphylococcus aureus* leukotoxin, LukAB, on polymorphonuclear leukocyte migration	**12:15**	Cara Nethercott (Monash Biomedicine Discovery Institute, Australia)
Offered oral: SLIC by name, slick by nature	**12:30**	Robert Hammond (University of St Andrews, UK)
Offered oral: Development of a next-generation sequencing metagenomics pipeline for rapid sepsis diagnosis	**12:45**	Gemma Kay (University of East Anglia, UK)
Session Close	**13:00**	

Posters for this session will be on display Monday and Tuesday

Aquatic microbiology: New model organisms and new challenges

Location: Kilsyth Level 0

Session Organisers: Anastasios Tsaousis (University of Kent, UK), Sonja Rueckert (Edinburgh Napier University, UK) & David Montagnes (University of Liverpool, UK)

Session Description: We will review our current understanding on aquatic microbial communities (protists, bacteria, viruses), including their ecological roles in the oceans, their diversity, functions and behaviours but also their origins and evolution. The session will be divided into two parts: In the first part, we will discuss the different genetic models that have been developed for marine microeukaryotes/protists, based on the recent initiative from the Gordon and Betty Moore foundation on 'Increasing the Potential of as Experimental Model Systems through the Development of Genetic Tools'. The second session will examine the diversity, ecology and evolution of various groups of organisms within these aquatic ecosystems and review the current status quo and potential future applications, which will allow us to deeply understand the complexity and relations of the aquatic micro-organisms in these ecosystems.

SESSION CHAIR: ANASTASIOS TSAOUSIS (UNIVERSITY OF KENT, UK) & DAVID BASS (NATURAL HISTORY MUSEUM, LONDON, UK)		
Gordon and Betty Moore Foundation Initiatives and introduction to the session	**10:00**	Jon Kaye (Moore Foundation, USA)
Genome editing in *Thalassiosira pseudonana* and *Fragilariopsis cylindrus*: challenges and opportunities for diatom research	**10:30**	Thomas Mock (University of East Anglia, UK)
Posters, exhibition and refreshments	**11:00**	
SESSION CHAIR: ANASTASIOS TSAOUSIS (UNIVERSITY OF KENT, UK) & DAVID BASS (NATURAL HISTORY MUSEUM, LONDON, UK)		
Functional genomic approaches to understand diatom biology	**11:30**	Angela Falciatore (Université Pierre et Marie Curie, France)
A symbiotic apicomplexan and the bacteria that make it possible	**12:00**	Christopher Lane (University of Rhode Island, USA)
Offered oral: Algal polysaccharide utilisation by saprotrophic planktonic marine fungi	**12:30**	Michael Cunliffe (Marine Biological Association of the UK, UK)
Offered oral: Developing *Corallochytrium limacisporum*, an enigmatic unicellular opisthokont, as a new model organism	**12:45**	Maria Rubio (Institute of Evolutionary Biology (CSIC-UPF), Spain)
Lunch and exhibition	**13:00**	
SESSION CHAIR: SONJA RUECKERT (EDINBURGH NAPIER UNIVERSITY, UK) & CHRISTOPHER LANE (UNIVERSITY OF RHODE ISLAND, USA)		
Developing a new transfection system for *Naegleria*	**14:00**	Anastasios Tsaousis (University of Kent, UK)
Diplonemids - extremely diverse marine protists with unknown function	**14:30**	Julius Lukes (University of South Bohemia, Czech Republic)
Offered oral: Abundance of carbapenem-resistant bacteria in wastewater treatment plant	**15:00**	Tomislav Ivankovic (University of Zagreb, Croatia)
Offered oral: UniEuk: a universal taxonomic framework and integrated reference gene databases to synergise research in eukaryotic biology, ecology and evolution	**15:15**	Cédric Berney (UPMC & CNRS – Station Biologique, France)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: SONJA RUECKERT (EDINBURGH NAPIER UNIVERSITY, UK) & CHRISTOPHER LANE (UNIVERSITY OF RHODE ISLAND, USA)		
Genetic manipulation in dinozoans: a key to unlocking the many mysteries of these bizarre cells	**16:00**	Ross Waller (University of Cambridge, UK)
Offered oral: Virus resistance affects evolutionary response of the picoeukaryote *Ostreococcus tauri* to environmental change	**16:30**	Sarah Heath (University of Edinburgh, UK)
Toward establishment of model organisms for marine protist taxa: successful transfection protocols for the marine protists *Bodo caudatus* and *Monosiga brevicolis*	**16:45**	Virginia Edgcomb (Woods Hole Oceanographic Institution, USA)
Session Close	**17:15**	

Posters for this session will be on display for the full duration of the conference

Clinical Virology Network

Location: Cromdale Hall Level -2

Session Organisers: Miren Iturriza-Gomara (University of Liverpool, UK) & Matthew Donati (Public Health England, UK)

Session Description: This session will involve a range of clinical virology cases which relate to studies relevant to clinical virology network. Different aspects of clinical virology that will be covered include differential diagnosis of encephalitis, management of hepatitis, diversity of rotavirus sequences and diagnosis of respiratory infections.

SESSION CHAIR: MATTHEW DONATI (PUBLIC HEALTH ENGLAND, UK) AND MARK ZUCKERMAN (KING'S COLLEGE HOSPITAL NHS FOUNDATION TRUST, UK)		
Hepatitis in pregnancy	**14:00**	Will Irving (Nottingham University Hospitals NHS Trust, UK)
Evidence base for treating neonates and progress towards universal screening for congenital CMV infection	**14:30**	Paul Griffiths (Royal Free London NHS Foundation Trust, UK)
CVN business	**15:00**	Mark Zuckerman (King's College Hospital NHS Foundation Trust, UK)
Exhibition and Refreshments	**15:30**	
SESSION CHAIR: MATTHEW DONATI (PUBLIC HEALTH ENGLAND, UK) AND MARK ZUCKERMAN (KING'S COLLEGE HOSPITAL NHS FOUNDATION TRUST, UK)		
Commercial representatives presentations	**16:00**	
Zika virus	**16:30**	Zaneeta Dhesi (University College London Hospital, UK)
RSV infections – are we any closer to an immunisation programme	**17:00**	Simon Drysdale (Oxford University Hospitals NHS Foundation Trust, UK)
Session Close	**17:30**	

Posters for this session will be on display for the full duration of the conference

Scientific Publishing: How to review scientific manuscripts

Location: Lammermuir Suite Level -2

Session Organisers: Kalai Mathee (Florida International University, USA) & Norman Fry (Public Health England, UK)
Session Description: Most reviewers have not received any formal instruction or guidance in the analysis of the various components of a manuscript. This workshop will address how to critique a manuscript and how to write a report. This will be a beneficial workshop for those who are seeking to improve their skills in reviewing manuscripts for scientific journals as part of the peer-review process. In addition, it would help in understanding of requirements for successful publication of manuscripts. The targeted audience will include post-doctoral fellows, and early-career scientists. At the end of the workshop, the participants will:

- Understand the rigorous process of peer-review in scientific publishing.
- Understand what editors are looking for from their reviewers upon invitation to review.
- Have the opportunity to meet and network with well-published editors.
- Have the opportunity to review an article.
- Have the opportunity to ask questions and receive feedback.

Participants' self-introduction to rest of group	**14:00**	Kalai Mathee (Florida International University, USA) Norman Fry (Public Health England, UK) Editors-in-Chief, ***Journal of Medical Microbiology***
Why should you review?	**14:20**	
Review components I - Title, Abstract, Introduction, Materials and Methods	**14:30**	
Review components II - Results, Discussion, References, Acknowledgment, Figures, Tables	**15:15**	
Reporting back to the Editor	**16:30**	
Backend of publication	**16:40**	
Conclude and wrap up	**16:45**	
One-to-one session with reviewers	**16:55**	
Session Close	**17:30**	

Prokaryotic genetics and genomics forum

Location: Moorfoot Level 0

Session Organisers: Lori Snyder (Kingston University, UK), Ryan Seipke (University of Leeds, UK) & Thorsten Allers (University of Nottingham, UK)

Session Description: Offered papers on all aspects of the genes and genomes of prokaryotes and their mobile elements will be considered, including their sequencing, transcription, translation, regulation, chromosome dynamics, gene transfer, population genetics and evolution, taxonomy and systematics, comparative genomics, metagenomics, bioinformatics and synthetic biology.

SESSION CHAIR: LORI SNYDER (KINGSTON UNIVERSITY, UK)		
The genomics of *Borrelia burgdorferi*	**14:00**	Clare Fraser (University of Maryland, USA)
Offered oral: Increasing the number of replication origins in *Escherichia coli* is surprisingly problematic for chromosomal replication	**14:30**	Juachi Dimude (Brunel University London, UK)
SESSION CHAIR: THORSTEN ALLERS (UNIVERSITY OF NOTTINGHAM, UK)		
Offered oral: Contrasting evolutionary fortunes for prophages in an epidemic *Salmonella* lineage	**14:45**	Sian Owen (University of Liverpool, UK)
Offered oral: Staged induction of toxin expression and export in *Vibrio cholerae*	**15:00**	Jainaba Manneh (University of Birmingham, UK)
Offered oral: Genomic bases of long-term adaptation to environmental conditions in two major representatives of the marine bacterial phytoplankton, *Prochlorococcus* and *Synechococcus*	**15:15**	Hugo Doré (Paris-Sorbonne University, France)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: RYAN SEIPKE (UNIVERSITY OF LEEDS, UK)		
Offered oral: A structurally complex anti-σ factor from *Bacillus subtilis* plays a key role in sensing acidic growth conditions	**16:00**	Maria Davis (University of New Brunswick, Canada)
Offered oral: The *in vivo* RNA interactome of the Gram-positive model organism *Bacillus subtilis*	**16:15**	Adam Callan-Sidat (University of Warwick, UK)
Offered oral: Diverse mechanisms of compensatory evolution promote plasmid maintenance in bacterial communities	**16:30**	James Hall (University of York, UK)
SESSION CHAIR: LORI SNYDER (KINGSTON UNIVERSITY, UK)		
Offered oral: Evolution of host specificity and virulence of *Pseudomonas syringae* on *Prunus*	**16:45**	Michelle Hulin (NIAB-EMR, UK)
Offered oral: Regulation of arsenite oxidation by the AioXSR sensory transduction system of Rhizobium sp. str. NT-26	**17:00**	Paula Corsini (University College London, UK)
Offered oral: Regulation of enteroaggregative *Escherichia coli* virulence by the master regulator, AggR	**17:15**	Muhammad Yasir (University of Birmingham, UK)
Session Close	**17:30**	

Posters for this session will be on display Monday and Tuesday

DAY 3

Wednesday 5 April

Virus Workshop: Gene expression and replication

Location: Pentland Level 3

Session Organisers: Gill Elliott (University of Surrey, UK) & Jo Parish (University of Birmingham, UK)

Session Description: This workshop will focus on the regulation of viral and host gene expression at the transcriptional and post-transcriptional level by virally encoded factors and address how viruses control the replication of their genomes. The workshop will cover the breadth of virology – human, non-human animal, plant and bacterial – with contributions from early career researchers particularly welcomed.

SESSION CHAIR: GILL ELLIOTT (UNIVERSITY OF SURREY, UK) & JO PARISH (UNIVERSITY OF BIRMINGHAM, UK)		
Offered oral: Mutations within a predicted FFAT-like domain in foot-and-mouth disease virus 3A and the effects on viral replication	**10:15**	Emma Howes (The Pirbright Institute, UK)
Offered oral: Investigating the essential role of the nsP3 macro domain in Chikungunya virus replication	**10:27**	Grace C. Roberts (University of Leeds, UK)
Offered oral: Structural and biochemical analysis of protein/RNA interactions during initiation of dengue virus genome replication.	**10:39**	Lauren Branfield (University of Leeds, UK)
Offered oral: Altering the CG content of the HIV-1 *gag* sequence attenuates viral replication	**11:03**	Irati Antzin Anduetza (King's College London, UK)
Offered oral: The role of structured RNA in Chikungunya virus genome replication	**11:15**	Catherine Kendall (University of Leeds, UK)
Posters, exhibition and refreshments	**11:27**	
SESSION CHAIR: GILL ELLIOTT (UNIVERSITY OF SURREY, UK) & JO PARISH (UNIVERSITY OF BIRMINGHAM, UK)		
Offered oral: Illuminating the non-structural protein organisation of hepatitis C virus replication complexes: a super-resolution microscopy approach	**11:50**	Christopher Bartlett (University of Leeds, UK)
Offered oral: Investigating the mechanisms by which ANP32 proteins support influenza A polymerase function	**12:02**	Bhakti Mistry (Imperial College London, UK)
Offered oral: Modulation of chloride channels inhibits Chikungunya virus genome replication	**12:14**	Marietta Müller (University of Leeds, UK)
Offered oral: Dependency of HIV-1 replication on the glycolytic metabolism of primary $CD4^+$ T-cells	**12:26**	Maia Kavanagh Williamson (King's College London, UK)
Offered oral: CTCF regulates differentiation-dependent HPV gene expression	**12:38**	Ieisha Pentland (University of Birmingham, UK)
Offered oral: EBNA-LP enables Epstein–Barr virus gene expression by facilitating transcription factor recruitment to viral genomes early after infection	**12:50**	Rob White (Imperial College London, UK)
Offered oral: Characterisation of the human cytomegalovirus US12 family gene products	**13:02**	Hester Nichols (Institute of Infection and Immunity, School of Medicine, Cardiff University, UK)
Lunch and exhibition	**13:14**	
SESSION CHAIR: GILL ELLIOTT (UNIVERSITY OF SURREY, UK) & JO PARISH (UNIVERSITY OF BIRMINGHAM, UK)		
Offered oral: FMDV replication is dependent on alternative mutually-exclusive polyprotein processing pathways	**14:00**	Morgan Herod (University of Leeds, UK)
Offered oral: The viral 2A peptide has an extended conformation in the ribosomal exit tunnel	**14:12**	Pippa Harvey (Newcastle University, UK)
Offered oral: Anti-splicing drugs inhibit HPV16 E2 protein expression during the human papillomavirus replication cycle	**14:24**	Arwa Faizo (University of Glasgow, UK)

Offered oral: *cis*-acting RNA sequences regulate HIV-1 envelope and Vpu translation	**14:36**	Jonathan Sumner (King's College London, UK)
Offered oral: Insights into the mechanism of apoptosis inhibition by the viral BCL-2 homologue, BHRF1	**14:48**	Leah Fitzsimmons (University of Birmingham, UK)
Offered oral: Genetic analysis of the relationship between EBNA3C-RBPJ interaction and gene regulation during Epstein–Barr virus transformation of B-cells	**15:00**	Adam Gillman (Imperial College London, UK)
Offered oral: Inter-segment RNA–RNA interactions mediate genome segment packaging in the rotaviruses and other members of the *Reoviridae*	**15:12**	Mark Boyce (University of Oxford, UK)
Offered oral: Rational attenuation of murine norovirus by mutations in the multifunctional capsid shell domain	**15:24**	Jia Lu (University of Cambridge, UK)
Posters, exhibition and refreshments	**15:36**	
SESSION CHAIR: GILL ELLIOTT (UNIVERSITY OF SURREY, UK) & JO PARISH (UNIVERSITY OF BIRMINGHAM, UK)		
Offered oral: Transcriptomic signatures differentiate survival from fatal outcomes in humans infected with Ebola virus	**16:00**	Natasha Rickett (University of Liverpool, UK)
Offered oral: Functional analysis of the cell-cycle regulator RGC-32 in EBV-infected cells	**16:12**	Sarika Khasnis (University of Sussex, UK)
Offered oral: Novel insights into diseases of T- and NK-cells caused by Epstein–Barr virus infection	**16:24**	Paul Collins (University of Birmingham, UK)
Offered oral: The human cytomegalovirus IE1 protein employs STAT2/3- and nucleosome-dependent mechanisms to mediate viral reactivation from latency	**16:36**	Michael M. Nevels (University of St Andrews, UK)
Offered oral: BCL3 acts as a host cell restriction factor for Epstein–Barr virus reactivation	**16:48**	Alison Sinclair (University of Sussex, UK)
Session Close	**17:00**	

Posters for this session will be on display for the full duration of the conference

Epigenetics and non-coding RNA

Location: Harris Level 1

Session Organisers: Susan Crosthwaite (University of Manchester, UK), Daniela Delneri (University of Manchester, UK) & Ian Roberts (Institute of Food Research, UK)

Session Description: Important functions for non-coding RNAs are currently being revealed in organisms belonging to all domains of life. These include regulation of gene expression via chromatin remodelling, transcriptional interference and altered transcript stability. This session will address the global analysis and evolution of microbial non-coding RNAs, their regulation, mechanism of action, and their place in synthetic biology. The emerging evidence that microbes can take-up RNA from their immediate environment will be addressed, as well as the biology of small ncRNAs that shuttle between eukaryotic microbes and their hosts in cross-kingdom missions of defense and counter defense.

SESSION CHAIR: IAN ROBERTS (INSTITUTE OF FOOD RESEARCH, UK)		
tRNA neochromosme in synthetic yeast genome	**10:30**	Patrick Yizhi Cai (University of Edinburgh, UK)
Flash poster presentation: Development of small interfering RNAs to treat fungal disease	**11:00**	Mireille van der Torre (University of Manchester, UK)
Flash poster presentation: Gaining insight in to the physiological role of small RNAs expressed in *Burkholderia cenocepacia*	**11:05**	Sanne Kiekens (University of Ghent, Belgium)
Flash poster presentation: The role of long non-coding RNAs in human cytomegalovirus infection	**11:10**	Saranya Ramachandran (University of Edinburgh, UK)
Flash poster presentation: A novel phase-variable epigenetic regulatory mechanism in *Listeria monocytogenes* that affects bacterial cell division	**11:15**	Irene Vacca (University of Leicester, UK)
Flash poster presentation: Functional profiling and genetic interaction map of non-coding RNAs in yeast	**11:20**	Marcin Fraczek (University of Manchester, UK)
Flash poster presentation: The Grc RNAs are a novel family of antisense regulatory RNAs that regulate the replication of the Gifsy bacteriophages of *Salmonella* Typhimurium and the viral lysis–lysogeny decision.	**11:25**	Nicolas Wenner (University of Liverpool, UK)
Posters, exhibition and refreshments	**11:30**	
SESSION CHAIR: IAN ROBERTS (INSTITUTE OF FOOD RESEARCH, UK)		
Challenges and opportunities of ribosomal DNA micro-heterogeneity detection and analysis in yeast NGS datasets	**12:00**	Jo Dicks (Institute of Food Research, UK)
Evolution and function of intron sequences in yeast	**12:30**	Sam Griffiths-Jones (University of Manchester, UK)
Lunch and exhibition	**13:00**	
SESSION CHAIR: SUSAN CROSTHWAITE (UNIVERSITY OF MANCHESTER, UK)		
Cross-kingdom RNAi in plant–pathogen interactions	**14:00**	Hailing Jin (University of California, Riverside, USA)
Abundant non-coding RNA involved in early *Dictyostelium discoideum* development is conserved in dictyostelid social amoebae	**14:30**	Fredrik Söderbom (Uppsala University, Sweden)
TBC	**15:00**	Katarzyna Hooks (CNRS, University of Bordeaux, France)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: SUSAN CROSTHWAITE (UNIVERSITY OF MANCHESTER, UK)		
RNAi-directed epigenetic gene silencing	**16:00**	Marc Bühler (Friedrich Miescher Institute for Biomedical Research, Switzerland)
Small RNAs and heterochromatin regulation in fission yeast	**16:30**	Elizabeth Bayne (University of Edinburgh, UK)

Offered oral: Secretion of small RNAs and an Argonaute by the gastrointestinal nematode *Heligmosomoides polygyrus*: at the host interface	**16:30**	Franklin Wang-ngai Chow (University of Edinburgh, UK)
Offered oral: Identification of small regulatory RNAs in *Burkholderia cenocepacia*	**16:45**	Andrea Sass (Ghent University, Belgium)
Session Close	**17:00**	

Posters for this session will be on display for the full duration of the conference

Microbial physiology, metabolism and molecular mechanisms forum

Location: Sidlaw Level 3

Session Organisers: Steve Michell (University of Exeter, UK) & Sarah Kuehne (University of Birmingham, UK)

Session Description: This forum will consider offered papers on all aspects of prokaryotic metabolism and physiology, including fundamental research on the biochemistry and structure of prokaryotic cells, cell growth and division, cell architecture and differentiation, synthesis and transport of macromolecules, ions and small molecules and the cell cycle; but also on the role of physiology in microbial engineering, signalling and communication, sensing and cellular responses, the molecular mechanisms behind these phenomena and their potential applications.

SESSION CHAIR: STEVE MICHELL (UNIVERSITY OF EXETER, UK)		
Bacterial hydrogen metabolism: a link to the dawn of time, and a role in a sustainable future	**10:15**	Frank Sargent (University of Dundee, UK)
Offered oral: Regulation and function of the *Escherichia coli* Rtc RNA repair system	**10:45**	Ioly Kotta-Loizou (Imperial College London, UK)
Offered oral: Modelling the metabolism of the tsetse microbiome	**11:00**	Rebecca Hall (University of York, UK)
Posters, exhibition and refreshments	**11:15**	
SESSION CHAIR: SARAH KUEHNE (UNIVERSITY OF BIRMINGHAM, UK)		
Offered oral: Investigating the link between the gut microbiota and the brain through mass spectrometry imaging	**11:45**	Heather Hulme (University of Glasgow, UK)
Offered oral: Dissecting the structural and catalytic role of a symmetric ferroxidase centre in encapsulated ferritins	**12:00**	Cecilia Piergentili (Newcastle University, UK)
Offered oral: Novel regulators of gas vesicle, flagellum and antibiotic production in *Serratia*	**12:15**	Alex Quintero Yanes (University of Cambridge, UK)
Offered oral: The glyoxylate shunt as a target for antibacterial intervention in *Pseudomonas aeruginosa*	**12:30**	Alyssa McVey (University of Cambridge, UK)
Offered oral: Transcriptional control of primary carbon metabolism in *Pseudomonas*	**12:45**	Rosaria Campilongo (Istituto Pasteur-Fondazione Cenci Bolognetti, Italy)
Session Close	**13:00**	

Posters for this session will be on display Wednesday and Thursday

Virus Workshop: Antivirals and vaccines

Location: Fintry Level 3

Session Organisers: Stephen Griffin (University of Leeds, UK) & Silke Schepelemann (NIBSC, UK)

Session Description: The availability of antiviral small molecules and vaccines has historically lagged behind those targeting bacteria. Accordingly, the public health issues represented by both common and emerging virus infections are considerable, with effective treatments lacking in many cases. Research aimed at translating laboratory findings into either novel or improved anti-viral strategies is therefore a priority. This workshop will highlight ongoing research into burgeoning therapies for important human and animal viral pathogens, encompassing all stages of therapeutic development ranging from the test tube to *in vivo* studies. The workshop will cover the breadth of virology – human, non-human animal, plant and bacterial – with contributions from early career researchers particularly welcomed.

SESSION CHAIR: SILKE SCHEPELEMANN (NIBSC, UK)		
Offered oral: Inhibition of Semliki Forest virus replication through disruption of lipid homeostasis	**10:15**	David Ulaeto (Defence Science and Technology Laboratory – Porton Down, UK)
Offered oral: Determine the molecular and biophysical importance of phospholipids on the avian influenza virus infectivity	**10:27**	Lamyaa Al-Dalawi (University of Nottingham, UK)
Offered oral: Detecting neuraminidase antibodies using influenza NA pseudotyped lentiviruses	**10:39**	George Carnell (University of Kent, UK)
Offered oral: Phenotypic changes in cell-passaged H3N2 influenza isolates – implications for serology testing and development of improved assay	**10:51**	Jonathan Brown (Imperial College London, UK)
Offered oral: Towards small-molecule entry inhibitors of BK polyomavirus infection	**11:03**	Daniel Hurdiss (University of Leeds, UK)
Posters, exhibition and refreshments	**11:15**	
SESSION CHAIR: SILKE SCHEPELEMANN (NIBSC, UK)		
Offered oral: Targeting host cell ATP-sensitive potassium (KATP) channels as potential anti-viral therapeutics against polyomavirus-associated nephropathy	**11:40**	Margarita-Maria Panou (University of Leeds, UK)
Offered oral: A comprehensive comparison of different strategies to create attenuated genomes of foot-and-mouth disease virus (FMDV): Live-cell imaging analyses using fluorescent FMDV replicons	**11:52**	Fiona Tulloch (University of St Andrews, UK)
Offered oral: *Mycobacterium ulcerans* mouse model refinement for pre-clinical profiling of vaccine candidates	**12:04**	Angele Benard (Wellcome Trust Sanger Institute, UK)
Offered oral: Activation of *in vitro* immune responses using a novel lentiviral vector	**12:16**	Rebecca McLean (Moredun Research Institute, UK)
Offered oral: Modular cell-based platform for high-throughput identification of compounds that target a viral interferon antagonist of choice: Identification of novel compounds that inhibit respiratory syncytial virus NS2 and human cytomegalovirus IE1	**12:28**	Catherine Adamson (University of St Andrews, UK)
Offered oral: Preclinical characterization of PC786, a novel inhaled respiratory syncytial virus specific non-nucleoside polymerase inhibitor	**12:40**	Kazuhiro Ito (Pulmocide Ltd, UK)
Lunch and exhibition	**12:52**	
SESSION CHAIR: STEPHEN GRIFFIN (UNIVERSITY OF LEEDS, UK)		
Offered oral: Investigation into the role of the S1 and S2 subunit of the coronavirus IBV S gene in inducing a protective immune response	**14:00**	Sarah Keep (The Pirbright Institute, UK)

Offered oral: Analysis of the tropism of recombinant infectious bronchitis viruses and their ability to confer protection against homologous challenge	**14:12**	Samantha Ellis (The Roslin Institute, University of Edinburgh, UK)
Offered oral: The antigenic relationships of outer coat protein VP2, between distinct bluetongue virus (BTV) serotypes	**14:24**	Petra Fay (The Pirbright Institute, UK)
Offered oral: Replication-deficient strains: insights into the next generation of bluetongue virus vaccines	**14:36**	Cristina Celma (London School of Hygiene & Tropical Medicine, UK)
Offered oral: Assembly of defective African horse sickness virus particles: rational design of vaccines for all serotypes	**14:48**	Valeria Lulla (University of Cambridge, UK)
Offered oral: Development of small molecule inhibitors of Ebola virus genome replication	**15:00**	Victoria Easton (University of Leeds, UK)
Offered oral: Turning up the heat on flaviviruses: Hsp70 inhibitors with potent antiviral activity against diverse flaviviruses in primary human dendritic cells	**15:12**	Kevin Maringer (University of Surrey, UK
Offered oral: Broad-spectrum antiviral activity of arbidol extends to hemorrhagic fever viruses and Zika virus	**15:24**	Stephen Polyak (University of Washington, USA)
Posters, exhibition and refreshments	**15:36**	
SESSION CHAIR: STEPHEN GRIFFIN (UNIVERSITY OF LEEDS, UK)		
Offered oral: A novel moo-noclonal antibody platform: from antibody to vaccine design, and back again	**16:00**	Richard Urbanowicz (University of Nottingham, UK)
Offered oral: Human parainfluenza 3: an effective *in vitro* model for therapeutic candidates	**16:12**	Anna Smielewska (University of Cambridge, UK)
Offered oral: Parallel HCV culture systems reveal differences in the development of NS5A inhibitor resistance by genotype 3	**16:24**	Lorna Kelly (University of Leeds, UK)
Offered oral: The massive decline of clinically relevant high-risk human papillomavirus (HR-HPV) infection in Scotland	**16:36**	Kate Cuschieri (NHS Lothian, UK)
Session Close	**17:00**	

Posters for this session will be on display for the full duration of the conference

Virus Workshop: Pathogenesis

Location: Carrick Level 1

Session Organisers: James Stewart (University of Liverpool, UK) & Andrew Macdonald (University of Leeds, UK)

Session Description: Understanding disease development mechanistically at the cellular, genetic and whole organism level is a vital element in the development of novel therapeutic strategies such as vaccines and small molecule inhibitors. To this end, this workshop will serve as a forum for the presentation of new and exciting data pertaining to all aspects of the pathogenesis of virus infection. The workshop will cover the breadth of virology – human, non-human animal, plant and bacterial – with contributions from early career researchers particularly welcomed.

SESSION CHAIR: : ANDREW MACDONALD (UNIVERSITY OF LEEDS, UK) & JAMES STEWART (UNIVERSITY OF LIVERPOOL, UK)		
Offered oral: Human norovirus infection of primary human B-cells	**10:00**	Christiane Wobus (University of Michigan, USA)
Offered oral: HPV E5 oncoprotein interacts with the pro-apoptotic PRAF2 protein	**10:12**	David Kealy (University of Leeds, UK)
Offered oral: A *Staphylococcus aureus* protein enhances influenza A virus replication	**10:24**	Mariya Goncheva (The Roslin institute, University of Edinburgh, UK)
Offered oral: Investigating changes to the host cell proteome during BK polyomavirus infection	**10:36**	Laura Caller (University of Cambridge, UK)
Offered oral: Delay of hepatic differentiation induced by hepatitis C virus infection	**10:48**	Abigail Bloy (University of Leeds, UK)
Posters, exhibition and refreshments	**11:00**	
Offered oral: Murine Ifnar1 knockout and wild-type central and peripheral nervous system co-cultures reveal early cell targets of Brazilian isolate ZIKV infection	**11:30**	Stephanie Cumberworth (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: KLK6-mediated degradation of Keratin10 is commonly employed by skin-tropic viruses to propagate in skin and is required for blister formation in VZV infection	**11:42**	Cristina Tommasi (UCL Great Ormond Street Institute of Child Health, UK)
Offered oral: Transcriptome analysis of ovine pulmonary adenocarcinoma and similarities with human lung adenocarcinoma	**11:54**	Anna Eleonora Karagianni (Moredun Research Institute, UK)
Offered oral: CD4 and CD8 T-cell responses to human cytomegalovirus proteins expressed by latently infected cells	**12:06**	George Sedikides (University of Cambridge, UK
Offered oral: Swine influenza infectiousness and transmission: identifying new biomarkers	**12:18**	Laetitia Canini (University of Edinburgh, UK)
Offered oral: Merkel cell polyomavirus small tumour antigen expression is sufficient to drive an epithelial to mesenchymal transition	**12:30**	Nnenna Nwogu (University of Leeds, UK
Offered oral: Do pathogenic simian immunodeficiency viruses bypass live attenuated vaccine protection through extension of the breadth of cells they infect?	**12:42**	Jo Hall (NIBSC, UK)
Lunch and exhibition		
SESSION CHAIR: : ANDREW MACDONALD (UNIVERSITY OF LEEDS, UK) & JAMES STEWART (UNIVERSITY OF LIVERPOOL, UK)		
Offered oral: A role for serine phosphorylation in regulating the cellular interactions of NS5A	**14:00**	Niluka Goonawardane (University of Leeds, UK)
Offered oral: Characterisation of deformed wing virus growth *in vitro* and *in vivo*	**14:12**	Olesya Gusachenko (University of St Andrews, UK)

Offered oral: The role of SPZ1 in high-risk human papillomavirus (HR-HPV)-caused oncogenesis	**14:24**	Itziar Serrano (University of Edinburgh, UK)
Offered oral: Ribonucleoprotein structure in pathogenic orthobunyaviruses	**14:36**	Francis Hopkins (University of Leeds, UK)
Offered oral: The extended open reading frame of the influenza NP protein in the 2009 pandemic strain contributes to pathogenicity	**14:48**	Eleanor Gaunt (The Roslin Institute, University of Edinburgh, UK)
Offered oral: Are New World monkeys more susceptible to Zika virus?	**15:00**	Neil Almond (NIBSC, UK)
Offered oral: JNK signalling is required during the human papillomavirus life cycle	**15:12**	Ethan Morgan (University of Leeds, UK)
Offered oral: A new type of viral RNA links 1918 influenza virus virulence to RNA polymerase activity	**15:24**	Aartjan te Velthuis (University of Oxford, UK)
Posters, exhibition and refreshments	**15:36**	
Offered oral: Oncolytic herpes virus (oHSV) cell killing in a three-dimensional epithelial tumour cell culture system	**16:00**	Ilaria Epifano (University of Glasgow, UK)
Offered oral: Hepatitis C (HCV) E1E2 envelope glycoprotein can interfere with HIV-1 infection	**16:12**	Lindsay McKay (The Institute of Infection and Global Health, UK)
Offered oral: The impact of macrophage phenotype on the response to influenza A virus infection	**16:24**	Marlynne Nicol (The Roslin Insitute and R(D)SVS, University of Edinburgh, UK)
Offered oral: Dysregulation of microRNA expression in sheep lung following jaagsiekte sheep retrovirus infection	**16:36**	Maria Contreras Garcia (Moredun Research Institute, UK)
Offered oral: SNAP-tagged Chikungunya virus replicons improve visualisation of non-structural protein 3 (nsP3) by fluorescence microscopy	**16:48**	Roland Remenyi (University of Leeds, UK)
Offered oral: Characterisation of the role of the deubiquitylase USP45 in Chikungunya virus infection	**17:00**	Naomi Coombes (University of Liverpool, UK)
Session Close	**17:15**	

Posters for this session will be on display for the full duration of the conference

Virus Workshop: Evolution and virus populations

Location: Ochil Level 1

Session Organisers: Erica Bickerton (The Pirbright Institute, UK) & Adrian Fox (FERA, UK)

Session Description: Virus evolution can affect important characteristics such as replication host range tropism, and pathogenesis. On the other hand, there are constraints imposed by nucleotide sequences and proteins they encode. This workshop will address questions related to these topics. The workshop will cover the breadth of virology – human, non-human animal, plant and bacterial – with contributions from early career researchers particularly welcomed.

SESSION CHAIR: ERICA BICKERTON (THE PIRBRIGHT INSTITUTE, UK) & ADRIAN FOX (FERA, UK)		
Offered oral: Archaeogenetic reconstruction of the chimpanzee to human zoonotic transmission of herpes simplex virus 2 (HSV2)	**10:00**	Simon Underdown (Oxford Brookes University, UK)
Offered oral: Finishing two novel shearwaterpox viruses from Pacific shearwaters unveils deep recombination among avipoxviruses	**10:12**	Subir Sarker (La Trobe University, Australia)
Offered oral: Environmental bacteriophages isolated against *Dickeya solani*	**10:24**	Andrew Day (University of Cambridge, UK)
Offered oral: Counting host switches during the evolution of human-infective RNA viruses	**10:36**	Lu Lu (Institute of Evolutionary Biology, UK)
Offered oral: Comparative analysis of mammalian viruses found in human and animal enteric samples from Vietnam	**10:48**	Carlijn Bogaardt (University of Edinburgh, UK)
Posters, exhibition and refreshments	**11:00**	
SESSION CHAIR: ERICA BICKERTON (THE PIRBRIGHT INSTITUTE, UK) & ADRIAN FOX (FERA, UK)		
Offered oral: PCR-sequencing of the bovine diarrhoea virus genome reflects quasi-species variation defined by next-generation sequencing	**11:30**	George Russell (Moredun Research Institute, UK)
Offered oral: Using next-generation sequencing to investigate HIV-1 transmission	**11:42**	David Bibby (Public Health England, UK)
Offered oral: Characterisation of novel alphacoronaviruses in European rodents and shrews	**11:54**	Theocharis Tsoleridis (University of Nottingham, UK)
Offered oral: Deformed wing virus diversity: identification of sequences associated with disease in a globally distributed viral pathogen of honey bees	**12:06**	Christopher Moffat (University of St Andrews, UK)
Offered oral: Detecting human cytomegalovirus recombination signatures in clinical samples	**12:18**	Nicolas Suarez (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: Ebola glycoprotein mutations: from branched amino acid to branched phylogeny tree	**12:30**	Richard Urbanowicz (University of Nottingham, UK)
Offered oral: IBV selection versus mutation: Development of a whole-genome sequencing protocol for IBV	**12:42**	Graham Freimanis (The Pirbright Institute, UK)
Session Close	**13:00**	

Posters for this session will be on display for the full duration of the conference

Heterogeneity and polymicrobial interactions in biofilms

Location: Tinto Level 0

Session Organisers: Angela Nobbs (University of Bristol, UK), Mark Webber (University of Birmingham, UK), Rebecca Hall (University of Birmingham, UK) & Kim Hardie (University of Nottingham, UK)

Session Description: In the natural environment or human body, microbes are seldom found in isolation. Rather, they tend to occur in complex communities, each exquisitely adapted and able to respond to the specific environmental conditions. Heterogeneity – microbial, spatial and metabolic – is a characteristic of all communities. In the first stages of development of a microbial population on a surface, substratum recognition – involving surface structure, composition and microbial adhesins – is key. Then, intermicrobial communication processes such as quorum sensing, metabolic dependencies, genetic exchange, and synergistic or antagonistic events orchestrate development of the overall population. Such interactions often extend beyond the boundaries of microbial classification, resulting in the formation of polymicrobial communities, with interplay between bacteria, fungi and/or viruses. These communities are dynamic, exhibiting spatio-temporal variation and continual adaptation to micro-environments within the population. Better understanding of such complexity presents huge challenges, yet is essential for us in the future to be able to control a spectrum of microbial community associated events in medicine, dentistry, agriculture and industry. We are only in the initial stages of uncovering the secrets of what these communities contain, how they may affect the environment and disease progression, the implications for antimicrobial development, and how we may exploit them for our benefit. Nonetheless, with advances in imaging and -omics technologies, mathematical modelling and combining forces from multiple disciplines, we are making new discoveries about these populations. This session aims to bring together world leaders in the study of complex communities from the prokaryotic, virology and eukaryotic divisions to summarise recent advances in this rapidly expanding area of research, and to identify future ambitions for the field.

SESSION CHAIR: ANGELA NOBBS (UNIVERSITY OF BRISTOL, UK)		
Unravelling autotransporter interactions in biofilms	**10:00**	Mark Schembri (University of Queensland, Australia)
Offered oral: Optimisation of biofilm models to facilitate the monitoring of antimicrobial penetration	**10:30**	James Brown (University of Nottingham, UK)
Tuning interaction forces for positioning within biofilms	**10:45**	Berenike Maier (University of Cologne, Germany)
Posters, exhibition and refreshments	**11:15**	
The effect of surface topography on microbial adhesion	**11:45**	Joanna Verran (Manchester Metropolitan University, UK)
Offered oral: Laboratory X-ray microtomography as a tool for 3D visualisation of biofilm in porous media made up of zeolite	**12:15**	Tomislav Ivankovic (University of Zagreb, Croatia)
Distribution and structure of biofilms in clinical specimens – a paradox emerging	**12:30**	Paul Stoodley (The Ohio State University, USA)
Lunch and exhibition	**13:00**	
SESSION CHAIR: MARK WEBBER (UNIVERSITY OF BIRMINGHAM, UK)		
Experimental evolution in biofilms to understand adaptation during infections	**14:00**	Vaughn Cooper (University of Pittsburgh, USA)
The *Candida albicans* biofilm lifestyle: adaptation to hypoxia and adhesion	**14:30**	Christophe d'Enfert (Institut Pasteur, France)
Parallel evolution in bacterial biofilm development	**15:00**	Jeremy Webb (University of Southampton, UK)
Posters, exhibition and refreshments	**15:30**	
Modelling multiple strain *C. difficile* infection	**16:00**	Jane Freeman (University of Leeds, UK)
Offered oral: Killing by type VI secretion drives genetic phase separation, favouring the evolution of cooperation	**16:30**	Luke McNally (University of Edinburgh, UK)
Offered oral: Complex metabolic traits regulate biofilm heterogeneity in *Candida albicans*	**16:45**	Ranjith Rajendran (University of Glasgow, UK)
The ecology of the microbiome: Networks, competition, and stability	**17:00**	Katharine Coyte (Memorial Sloan Kettering Cancer Center, USA)
Session Close	**17:30**	

Posters for this session will be on display Wednesday and Thursday

Microbial genomics: From single cells to large populations

Location: Moorfoot Level 0

Session Organisers: Nicholas Thomson, (Sanger Institute, UK), Alan McNally (Nottingham Trent University, UK) & Sam Sheppard (University of Bath, UK)

Session Description: Microbial genomics has matured into a distinct discipline, and now influences most other areas of microbiology. The ability to generate, with relative ease, individual and population microbial genome data sets has facilitated new insights into microbial evolution, phylogeography, epidemiology and outbreaks as well as allowing the development of novel approaches to measure and model how genetic variation impacts on phenotype variation. In this symposium we will bring together world-leading speakers to present the very latest research encompassing how microbial genomics is developing beyond initial glimpses of microbial diversity, to the next stages of research in this maturing field. Presentations will cover very fine scale resolution mapping of evolutionary dynamics from large population studies. The symposium will then move on to show how we can go back to biology with such genomic data sets, using tools such as genome-wide association studies (GWAS) to elucidate biological differences within and between populations. Finally, we will look at cutting-edge approaches that allow us to study the impact of genome variation between individual cells within populations, and the evolutionary events occurring in single cells or single infected cells. Talks will be built around these overarching themes and not around any specific microbe. We will also highlight approaches and technologies that have been used in other systems that may also be relevant/applicable to microbial genomics with biology at the focal point.

SESSION CHAIR: NICHOLAS THOMSON (SANGER INSTITUTE, UK) & KATE BAKER (SANGER INSTITUTE, UK)		
Origins of pandemic cholera from environmental gene pools (and its fate within patients)	**10:00**	Jesse Shapiro (University of Montreal, Canada)
Towards a deep understanding of microbial evolution from genomes	**10:30**	Francisco Rodriguez-Valera (Universitas Miguel Hernandez, Spain)
Posters, exhibition and refreshments	**11:00**	
LUCA and the Universal tree of life: breaking the phylogenetic impasses	**11:30**	Patrick Forterre (Institut Pasteur, France)
Offered oral: Comparative analyses of selection operating on non-translated intergenic regions of diverse bacterial species using whole-genome sequence data	**12:00**	Harry Thorpe (University of Bath, UK)
Offered oral: How does bacterial genetic background potentiate the evolution of antibiotic resistance?	**12:15**	Jessica Hedge (University of Oxford, UK)
Disentangling the fragmented evolutionary history of prokaryotes	**12:30**	James McInerney (University of Manchester, UK)
Lunch and exhibition	**13:00**	
SESSION CHAIR: SAM SHEPPARD (UNIVERSITY OF BATH, UK) & GUILLAUME MÉRIC (UNIVERSITY OF BATH, UK)		
Using genomics to understand the pathogenicity of *Staphylococcus aureus*	**14:00**	Ruth Massey (University of Bath, UK)
Genomic changes and ecological contexts associated with emerging bacterial infections	**14:30**	Lucy Weinert (University of Cambridge, UK)
Sequential waves of sexually transmitted shigellosis in men who have sex with men driven by common determinants of antimicrobial resistance	**15:00**	Kate Baker (Sanger Institute, UK)
Posters, exhibition and refreshments	**15:30**	
Within-host evolution of cystic fibrosis pathogens	**16:00**	Josie Bryant (Sanger Institute, UK)
Offered oral: An evolutionary genomic history of Legionnaires' disease in Scotland	**16:30**	Bryan Wee (The Roslin Institute, University of Edinburgh, UK)
Offered oral: The *Legionella* genus genome: a global view of the genus evolution	**16:45**	Laura Gomez (Institut Pasteur, France)
Structure, evolution and transmission of *Enterococcus faecium* populations	**17:00**	Rob Willems (Utrecht University, The Netherlands)
Session Close	**17:30**	

Posters for this session will be on display Wednesday and Thursday

Aquatic microbiology: New model organisms and new challenges

Location: Kilsyth Level 0

Session Organisers: Anastasios Tsaousis (University of Kent, UK), Sonja Rueckert (Edinburgh Napier University, UK) & David Montagnes (University of Liverpool, UK)

Session Description: We will review our current understanding on aquatic microbial communities (protists, bacteria, viruses), including their ecological roles in the oceans, their diversity, functions and behaviours but also their heir origins and evolution. The session will be divided into two parts: In the first part, we will discuss the different genetic models that have been developed for marine microeukaryotes/protists, based on the recent initiative from the Gordon and Betty Moore foundation on 'Increasing the Potential of Marine Microeukaryotes as Experimental Model Systems through the Development of Genetic Tools'. The second session will examine the diversity, ecology and evolution of various groups of organisms within these aquatic ecosystems and review the current status quo and potential future applications, which will allow us to deeply understand the complexity and relations of the aquatic micro-organisms in these ecosystems.

SESSION CHAIR: DAVID BASS (NATURAL HISTORY MUSEUM, LONDON, UK) & JACKIE PARRY (LANCASTER UNIVERSITY, UK)		
Using tintinnid ciliates as a model group to uncover biodiversity patterns in marine microbes	**10:00**	John Dolan (CNRS, France)
Gregarine apicomplexan parasites of deep-sea invertebrates	**10:30**	Sonja Rueckert (Edinburgh Napier University, UK)
Assuming Arrhenius?	**11:00**	David Montagnes (University of Liverpool, UK)
Posters, exhibition and refreshments	**11:30**	
SESSION CHAIR: DAVID BASS (NATURAL HISTORY MUSEUM, LONDON, UK) & JACKIE PARRY (LANCASTER UNIVERSITY, UK)		
Offered oral: Nutrient recycling facilitates long-term stability of microbial phototroph–heterotroph interactions in marine systems	**12:00**	Joseph Christie-Oleza (University of Warwick, UK)
Offered oral: Prokaryotic niche partitioning in suspended versus sinking marine particles	**12:15**	Manon Duret (University of Southampton, UK)
Is a plankton a plankton a plankton: overcoming challenges of species-specificity in plankton behaviour and physiology to derive general patterns	**12:30**	Susanne Menden-Deuer (University of Rhode Island, USA)
Lunch and exhibition	**13:00**	
SESSION CHAIR: DAVID MONTAGNES (UNIVERSITY OF LIVERPOOL, UK) & JOHN DOLAN (CNRS, FRANCE)		
Environmental impact assessment of salmon aquaculture using DNA barcoding of ciliates	**14:00**	Thorsten Stoeck (University of Kaiserslautern, Germany)
Biosensing the annual bloom in the North Pacific	**14:30**	Julie Robidart (National Oceanography Centre, UK)
Exploring the melting microbial frontiers of our frozen planet	**15:00**	Arwyn Edwards (Aberystwyth University, UK)
Posters, exhibition and refreshments	**15:30**	
SESSION CHAIR: DAVID MONTAGNES (UNIVERSITY OF LIVERPOOL, UK) & JOHN DOLAN (CNRS, FRANCE)		
The pathobiome concept: an emerging view of the microbial dynamics of disease	**16:00**	David Bass (Natural History Museum, London, UK)
Offered oral: The role of cell and particle characteristics in the adhesion of *E. coli* to suspended intertidal sediments	**16:30**	Adam Wyness (University of St Andrews, UK)
Offered oral: Desert dust source of iron to the globally important diazotroph *Trichodesmium:* A physiological and transcriptomic study	**16:45**	Despo Polyviou (University of Southampton, UK)
Tracking tiny eukaryotic algae in the wild	**17:00**	Alexandra Z. Worden (Monterey Bay Aquarium Research Institute, USA)
Session Close	**17:30**	

Posters for this session will be on display for the duration of the conference

Clinical Virology Network

Location: Cromdale Hall Level -2

Session Organisers: Miren Iturriza-Gomara (University of Liverpool, UK) & Matthew Donati (Public Health England, UK)

Session Description: This session will involve a range of clinical virology cases which relate to studies relevant to clinical virology network. Different aspects of clinical virology that will be covered include differential diagnosis of encephalitis, management of hepatitis, diversity of rotavirus sequences and diagnosis of respiratory infections.

SESSION CHAIR: STEPHEN WINCHESTER (FRIMLEY HEALTH NHS FOUNDATION TRUST, UK) & MIREN ITURRIZA-GOMARA (UNIVERSITY OF LIVERPOOL, UK)		
Offered oral: Real-world outcomes of DAA therapy for chronic hepatitis C virus infection in the HCV Research UK National cohort	**10:00**	Will Irving (NIHR Nottingham Digestive Diseases Biomedical Research Unit, UK)
Offered oral: Serum plasma proteins associated with acute Hanta virus infection in a pregnant woman	**10:12**	Sarah Bar-Yaacov (University of Liverpool, UK)
Offered oral: Whole-genome sequencing of adenovirus in immunocompromised paediatric patients directly from clinical samples elucidates molecular epidemiology	**10:24**	Charlotte Houldcroft (University of Cambridge, UK)
Offered oral: Development of next generation-sequencing as routine diagnostics in UCLH: challenges and opportunities on influenza virus	**10:36**	Jade Raffle (University College London, UK)
Offered oral: Hepatitis E virus: Whole-genome sequencing as a new tool for understanding HEV epidemiology and phenotypes in Europe	**10:48**	Tamer Abdelrahman (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: DisCVR: Rapid viral diagnosis from NGS data	**11:00**	Maha Maabar (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: Screening for chronic hepatitis E virus (HEV) infection using a commercial antigen assay and a novel neutralisation test confirming specificity	**11:12**	Michael Ankcorn (NHS Blood and Transplant and Public Health England, UK
Offered oral: An investigation of Epstein–Barr virus gene regulation and host immune response in prospectively collected blood specimens from paediatric liver and multi-visceral transplant recipients	**11:24**	Rahul Bagga (King's College Hospital NHS Foundation Trust, UK)
Exhibition and refreshments	**11:36**	
SESSION CHAIR: WILL IRVING (NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST, UK)		
Offered oral: Metagenomic viral sequencing for non-targeted pathogen identification utilising the MinION	**12:00**	Liana Kafetzopoulou (NIHR Health Protection Research Unit in Emerging and Zoonotic Infections, UK)
Offered oral: Deep sequencing for diagnosis of encephalitis	**12:12**	Julianne Brown (Great Ormond Street Hospital NHS Foundation Trust, UK)
Offered oral: Varied Ebola virus (EBOV) neutralising antibody responses in convalescent plasma	**12:24**	Charlene Adaken (University of Liverpool, UK)
Lunch and exhibition	**13:00**	
SESSION CHAIR: WILL IRVING (NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST, UK)		
Commercial representatives presentations	**14:00**	
Neglected tropical viruses	**14:30**	Daniel Bausch (World Health Organization, USA)
Blood-borne virus infection in organ donors	**15:00**	Richard Tedder (Public Health England Colindale, UK)

Gastroenteritis virus surveillance and management	**15:30**	David Allen (London School of Hygiene and Tropical Medicine, UK)
Exhibition and refreshments	**16:00**	
Session Close	**17:30**	

Posters for this session will be on display for the duration of the conference

Microbial cell surfaces

Location: Sidlaw Level 3

Session Organisers: Stephen Michell (University of Exeter, UK) & Martin Welch (University of Cambridge, UK)

Session Description: Offered papers on all aspects of the cell surfaces of prokaryotes will be considered, including membrane composition, carbohydrate and lipid biology and extracellular structures such as capsule, flagella and pili.

SESSION CHAIR: MARTIN WELCH (UNIVERSITY OF CAMBRIDGE, UK) AND		
Predatory *Bdellovibrio bacteriovorus* invade through and modify Gram-negative bacterial cell surfaces	**14:00**	Liz Sockett (University of Nottingham, UK)
Structural and molecular biology of type IV secretion systems	**14:30**	Gabriele Waksman (Birkbeck University of London, UK)
Offered oral: Intermembrane cross-talk in *E. coli*	**15:00**	Patrice Rassam (University of Oxford, UK)
Posters, exhibition and refreshments	**15:15**	
Lipoteichoic acid synthesis and function in Gram-positive bacteria	**15:45**	Angelika Grundling (Imperial College London, UK)
Offered oral: *Clostridium difficile* S-layer biogenesis and the role of the accessory Sec secretion pathway	**16:15**	Joseph Kirk (University of Sheffield, UK)
Offered oral: Solving a 25-year-old mystery: treadmilling by FtsZ filaments drives peptidoglycan synthesis and bacterial cell division	**16:30**	Seamus Holden (Newcastle University, UK)
Iron acquisition by *Mycobacterium tuberculosis*	**16:45**	Michael Niederweis (University of Alabama, USA)
Session Close	**17:15**	

Posters for this session will be on display for Wednesday and Thursday

Virus Workshop: Innate immunity

Location: Lammermuir Level -2

Session Organisers: Kate Bishop (The Francis Crick Institute, UK) & Alain Kohl (MRC-University of Glasgow Centre for Virus Research, UK)

Session Description: The innate immune system represents the first line of defence of all living organisms against infection, and in recent years our knowledge of the battle between viruses and innate immunity has increased substantially. This workshop will highlight novel host defence mechanisms and uncover a myriad of virus evasion strategies. The workshop will cover the breadth of virology – human, non-human animal, plant and bacterial where appropriate – with contributions from early career researchers particularly welcomed.

SESSION CHAIR: KATE BISHOP (THE FRANCIS CRICK INSTITUTE, UK) & ALAIN KOHL (MRC-UNIVERSITY OF GLASGOW CENTRE FOR VIRUS RESEARCH, UK)		
Offered oral: Control of the innate immune response by the sapovirus protease NS6	**14:00**	Myra Hosmillo (University of Cambridge, UK)
Offered oral: Evasion of host innate immunity by Newcastle disease virus (NDV) V protein and its pathogenic consequences	**14:12**	Manoja Rasamanikkam (St George's University of London, UK)
Offered oral: Differential phosphatase and tensin homologue (PTEN) expression in chicken and duck cells may explain the differences in antiviral response between these species	**14:24**	Sanjeeva Kumar (School of Veterinary Medicine and Science, UK)
Offered oral: Adaptation of an avian-origin influenza A virus to a mammal involves key changes in NS1 function	**14:36**	Caroline Chauche (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: TLR4 is implicated in respiratory syncytial virus infection and concomitant innate immune responses	**14:48**	Lindsay Broadbent (Centre for Experimental Medicine, Queen's University Belfast, UK)
Offered oral: The envelope gene of transmitted HIV-1 resists a late IFNγ-induced block	**15:00**	Sam Wilson (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: Characterisation of the innate immune response to adeno-associated virus in the presence of neutralising antibodies	**15:12**	Sarah Caddy (MRC-LMB, UK)
Offered oral: A multi-species comparison of vertebrate interferomes	**15:24**	Andrew Shaw (MRC-University of Glasgow Centre for Virus Research, UK)
Posters, exhibition and refreshments	**15:36**	
SESSION CHAIR: KATE BISHOP (THE FRANCIS CRICK INSTITUTE, UK) & ALAIN KOHL (MRC-UNIVERSITY OF GLASGOW CENTRE FOR VIRUS RESEARCH, UK)		
Offered oral: ISG expression screening reveals the genus-specific antibunyaviral activity of ISG20	**16:00**	Junije Feng (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: Structural elucidation of the rabies virus P-protein axis: The molecular basis for evasion of innate immunity	**16:12**	Gregory Moseley (University of Melbourne, Australia)
Offered oral: Duck vs chicken: IFITM proteins as determinants of host susceptibility to avian influenza virus	**16:24**	Nikki Smith (The Roslin Institute, University of Edinburgh, UK)
Offered oral: Resistance of transmitted founder HIV-1 to IFITM-mediated restriction	**16:36**	Toshana Foster (King's College London, UK)
Offered oral: Inhibition of parainfluenza virus 5 ribonucleoprotein function by protein ISGylation	**16:48**	David Hughes (University of St Andrews, UK)
Offered oral: Spatial regulation of PML-NB mediated intrinsic antiviral immunity to herpes simplex virus 1 (HSV-1) infection	**17:00**	Ashley Roberts (MRC-University of Glasgow Centre for Virus Research, UK)
Session Close	**17:15**	

Posters for this session will be on display for the duration of the conference

Virus Workshop: Morphogenesis, egress and entry

Location: Ochil Level 1

Session Organisers: David Evans (University of St Andrews, UK) & Colin Crump (University of Cambridge, UK)

Session Description: The assembly of the virus particle, egress from the cell, receptor binding and uncoating are critical events in the life cycle of all viruses. This workshop will focus on the molecular mechanisms involved in these processes. The workshop will cover the breadth of virology – human, non-human animal, plant and bacterial – with contributions from early career researchers particularly welcomed.

SESSION CHAIR: DAVID EVANS (UNIVERSITY OF ST ANDREWS, UK) & COLIN CRUMP (UNIVERSITY OF CAMBRIDGE, UK)		
Offered oral: Dissection of hepatitis B virus (HBV) entry into hepatocytes, and identification of species-specific limitations	**14:00**	Antonia Evripioti (Imperial College London, UK)
Offered oral: Crystal structure of a distinct viral capsid/ssDNA complex illuminates how viruses assemble into infectious virions	**14:12**	Subir Sarker (La Trobe University, Australia)
Offered oral: Structural and functional characterisation of calicivirus binding and entry	**14:24**	Michaela Conley (MRC-University of Glasgow Centre for Virus Research)
Offered oral: The primary enveloped virion of herpes simplex virus 1 characterised by cryo-electron microscopy	**14:36**	Juan Fontana (Astbury Centre for Structural Molecular Biology, University of Leeds, UK)
Offered oral: Bioorthogonal chemical analysis of herpesvirus early genome transport and nuclear presentation	**14:48**	Eiki Sekine (Imperial College London, UK)
Offered oral: Agnoprotein is an essential egress factor during the BK polyomavirus life cycle	**15:00**	Gemma Swinscoe (University of Leeds, UK)
Offered oral: Investigating cellular proteins involved in HSV-1 egress	**15:12**	Md Firoz Ahmed (University of Cambridge, UK)
Offered oral: Close your eyes and count to 10: Insights into genome segment assortment in reovirus	**15:24**	Jack Bravo (University of Leeds, UK)
Posters, exhibition and refreshments	**15:36**	
SESSION CHAIR: DAVID EVANS (UNIVERSITY OF ST ANDREWS, UK) & COLIN CRUMP (UNIVERSITY OF CAMBRIDGE, UK)		
Offered oral: Bluetongue virus serotype 26 (BTV-26): an arbovirus that is not able to infect or replicate in a *Culicoides* vector species	**16:00**	Marc Guimera Busquets (The Pirbright Institute, UK)
Offered oral: Rewriting nature's ssRNA viral assembly manual	**16:12**	Nikesh Patel (Astbury Centre for Structural Molecular Biology, University of Leeds, UK)
Offered oral: Packaging signal mediated assembly of enteroviruses	**16:24**	Rebecca Chandler Bostock (Astbury Centre for Structural Molecular Biology, University of Leeds, UK)
Offered oral: *In situ* intranuclear herpesvirus capsid structure from frozen cells by cryo-electron tomography	**16:36**	Swetha Vijayakrishnan (MRC-University of Glasgow Centre for Virus Research, UK)
Offered oral: The structural features of a Geminivirus particle revealed by cryo-electron microscopy	**16:48**	Emma Hesketh (University of Leeds, UK)
Offered oral: Membrane permeability induced by foot-and-mouth disease virus capsid protein VP4	**17:00**	Jessica Swanson (The Pirbright Institute, UK)
Offered oral: Effects of EGFR mutations during influenza A virus infection of non-small cell lung carcinoma cell lines	**17:12**	Basma Bahsoun (University of Kent, UK)
Session Close	**17:30**	

Posters for this session will be on display for the duration of the conference

DNA FLOW TECHNOLOGY

Molecular diagnostic kits based on Multipex PCR and Macroarray Chip

DNA FLOW Technology is based on the amplification of target DNA by PCR and subsequent hybridisation by reverse dot blot with specific DNA probe arrays immobilised in a nylon membrane.

The hybridisation platform allows the binding of the amplified DNA product to its complimentary probe in a three-dimensional environment through the membrane pores. This allows the process to be very fast, very sensitive and very effective.

The biotinylated PCR products are visualised through an immune-enzymatic colorimetric system and the signals are automatically captured and analysed.

The systems includes the enzyme Uracil-DNA-Glycosylase to prevent contamination with PCR products that could cause false positive results.

SEPSIS Flow Chip enables the simultaneous detection and identification of more than 40 pathogens and 20 antibiotic resistance genes – within 4 hours!

- Gram + bacteria
- Gram - bacteria
- Fungi
- Resistance genes:
  - mecA
  - vanA, vanB
  - ESBL
  - Carbapenemases

FLOW Chips are available for:

- Antimicrobial Resistance
- Bacterial CNS
- Viral CNS
- Tick Borne infections
- HPV

Coming soon: STI, Respiratory Infections

Supplied in the UK and Ireland by:
Oxford Biosystems Ltd
Email: sales@oxfordbiosystems.com
Phone: +44(0) 1235 431390

OXFORD Biosystems
www.oxfordbiosystems.com

master diagnóstica
www.masterdiagnostica.com

CE IVD

DAY 4

Thursday 6 April

Regulation of RNA expression during virus infection

Location: Pentland Level 3

Session Organisers: Colin Crump (University of Cambridge, UK), Alain Kohl (MRC-University of Glasgow Centre for Virus Research, UK), Joanna Parish (University of Birmingham, UK) & Silke Schepelmann (NIBSC, UK)

Session Description: Control of expression of virus and host RNA during virus infection is fundamental to the life cycle of all viruses. RNA production is essential for virus replication, gene expression and manipulation of the host environment. Viruses have evolved complex mechanisms of transcription activation, control and termination including epigenetic regulation and recruitment of host factors to promoters and transcriptional enhancers. In addition, the production of non-coding RNAs is essential for some viruses to manipulate the cellular environment and support virus replication. Protein production often requires complex post-transcriptional processing of viral RNAs and nuclear export, facilitated by hijacking host cell systems. This two-day symposium will provide an overview of the regulation of virus transcription of diverse viruses and the many ways in which viruses manipulate cellular gene expression to support productive virus infection.

SESSION CHAIR: COLIN CRUMP (UNIVERSITY OF CAMBRIDGE, UK) & SILKE SCHEPELMANN (NIBSC, UK)		
Targeting herpesvirus ribonucleoprotein particle assembly: a novel antiviral strategy	**09:30**	Ade Whitehouse (University of Leeds, UK)
Molecular biology of flaviviruses	**10:00**	Alex Khromykh (University of Queensland, Australia)
Posters, exhibition and refreshments	**10:30**	
SESSION CHAIR: JOANNA PARISH (UNIVERSITY OF BIRMINGHAM, UK) & COLIN CRUMP (UNIVERSITY OF CAMBRIDGE, UK)		
The hijacking of host gene enhancers by Epstein–Barr virus and its role in lymphoma development	**11:00**	Michelle West (University of Sussex, UK)
Offered oral: Non-enveloped RNA viruses: escaping the endosome	**11:30**	Elisabetta Groppelli (University of Leeds, UK)
Offered oral: Spatiotemporal and biochemical analysis of nascent nuclear proteome and involvement of ICP22 during HSV-1 infection revealed by click chemistry	**11:45**	Su Hui Catherine Teo (Imperial College London, UK)
Lunch and poster presentations	**12:00**	
SESSION CHAIR: JOANNA PARISH (UNIVERSITY OF BIRMINGHAM, UK) & COLIN CRUMP (UNIVERSITY OF CAMBRIDGE, UK)		
Liver-specific microRNA-122: Biogenesis and role in hepatitis C virus replication	**13:00**	Catherine Jopling (University of Nottingham, UK)
Offered oral: The gene expression signatures of model human cell lines infected with the Ebola virus, Makona variant or Reston virus	**13:30**	Andrew Bosworth (Health Protection Research Unit in Emerging & Zoonotic Infections, UK)
Offered oral: Respiratory virus infection up-regulates TRPV1, TRPA1 and ASICS3 receptors on airway cells: Potential targets for therapy in asthma and chronic obstructive pulmonary disease	**13:45**	Sara Louise Cosby (Queen's University Belfast, UK)
Systems biology analysis of lytic HSV-1 infection	**14:00**	Lars Dölken (University of Munich, Germany)
Session Close	**14:30**	

Posters for this session will be on display for the full duration of the conference

Microbial cell surfaces

Location: Sidlaw Level 3

Session Organisers: Stephen Michell (University of Exeter, UK) & Martin Welch (University of Cambridge, UK)

Session Description: Offered papers on all aspects of the cell surfaces of prokaryotes will be considered, including membrane composition, carbohydrate and lipid biology and extracellular structures such as capsule, flagella and pili.

SESSION CHAIR: STEPHEN MICHELL (UNIVERSITY OF EXETER, UK)		
Bacterial motility: swimming and gliding	**09:15**	Howard Berg (Havard University, USA)
Offered oral: Mycobacterial cell surface hydrophobicity – a factor promoting bacterial aerosolisation and transmission of disease?	**09:45**	Natalie Garton (University of Leicester, UK)
Building a morphologically complex bacterial biofilm – spatial organisation of transcriptional control and c-di-GMP signalling in *E. coli* macrocolony biofilms	**10:00**	Regine Hengge (Free University of Berlin, Germany)
Posters, exhibition and refreshments	**10:30**	
SESSION CHAIR: STEPHEN MICHELL (UNIVERSITY OF EXETER, UK) & VANESSA PFIFFER (HUMBOLDT-UNIVERSITÄT ZU BERLIN, GERMANY)		
Regulation of peptidoglycan synthesis during cell division	**11:00**	Waldemar Vollmer (Newcastle University, UK)
Light harvesting: a critical role for the surfaces of photosynthetic bacteria	**11:30**	Carrie Harwood (University of Washington, USA)
Lunch and poster presentations	**12:00**	
SESSION CHAIR: STEPHEN MICHELL (UNIVERSITY OF EXETER, UK)		
Type VI secretion system mediated neighbour predation fosters horizontal gene transfer in *Vibrio cholerae*	**13:00**	Melanie Blokesch (École Polytechnique Fédérale de Lausanne, Switzerland)
Offered oral: Poacic acid and echinocandins inhibit fungal β-1,3-glucan synthesis via alternative mechanisms	**13:30**	Keunsook Kathy Lee (University of Aberdeen, UK)
Cellulose – an extracellular matrix component of *Salmonella* Typhimurium biofilms of many talents	**13:45**	Ute Römling (Karolinska Institutet, Sweden)
Offered oral: Coordination of cell wall synthesis and outer membrane constriction during *E. coli* cell division	**14:15**	Alexander Egan (Newcastle University, UK)
Refreshments	**14:30**	
SESSION CHAIR: STEPHEN MICHELL (UNIVERSITY OF EXETER, UK) & SEAMUS HOLDEN (NEWCASTLE UNIVERSITY, UK)		
Cracking the crystal shell: S-layer structure and function	**14:45**	Robert Fagan (University of Sheffield, UK)
Offered oral: Expression of the *Escherichia coli* cell division zipA gene at different growth rates	**15:15**	Laura Cueto (Centro Nacional de Biotecnologia-CSIC, Spain)
Bacterial cell wall peptidoglycan architecture and dynamics	**15:45**	Simon Foster (University of Sheffield, UK)
Offered oral: Regulation of *Enterococcus faecalis* cell chain length is required for virulence in the zebrafish model of infection	**16:15**	Stephane Mesnage (University of Sheffield, UK)
Session Close	**16:30**	

Posters for this session will be on display for the full duration of the conference

Environmental and applied microbiology forum

Location: Fintry Level 3

Session Organisers: Ryan Seipke (University of Leeds, UK) & Nicola Holden (The James Hutton Institute, UK)

Session Description: Offered papers focusing on any area in microbial ecology, including (non-human) host–microbe communities and interactions, marine and freshwater microbiology, soil and geomicrobiology, and air-, cryo- and extremophile microbiology will be presented.

SESSION CHAIR: NICOLA HOLDEN (THE JAMES HUTTON INSTITUTE, UK)		
Bacteria reactivate motility by repurposing a nitrogen regulatory system	**09:30**	Robert Jackson (University of Reading, UK)
Offered oral: Gene expression of sulfide-oxidising *Sulfurimonas* sp. strain CVO during nitrate-mediated biocorrosion	**10:00**	Sven Lahme (Newcastle University, UK)
Offered oral: T4-like environmental phage ϕCBH8 'activates' ToxINPa-mediated 'altruistic suicide' in *Serratia*	**10:15**	Bihe Chen (University of Cambridge, UK)
Posters, exhibition and refreshments	**10:30**	
SESSION CHAIR: RYAN SEIPKE (UNIVERSITY OF LEEDS, UK)		
Offered oral: Comparative metabolomics of Antarctic and sub-Arctic Actinobacteria	**11:00**	Katherine Duncan (Strathclyde Univerisity, UK)
Offered oral: High throughput of novel antimicrobial compounds in TruLarvTM *Galleria mellonella*	**11:15**	Nicola Senior (BioSystems Technology, UK)
Offered oral: Responses of the soil microbiome to phosphate fertilisation in grassland	**11:30**	Achim Schmalenberger (University of Limerick, Ireland)
Offered oral: Bioproduction of platform N-heterocycles using engineered *E. coli* strains	**11:45**	Valentine Anyanwu (University of Nottingham, UK)
Session Close	**12:00**	

Posters for this session will be on display Wednesday and Thursday

Epigenetics and Non-coding RNA

Location: Harris Level 1

Session Organisers: Susan Crosthwaite (University of Manchester, UK), Daniela Delneri (University of Manchester, UK) & Ian Roberts (University of Manchester, UK)

Session Description: Important functions for non-coding RNAs are currently being revealed in organisms belonging to all domains of life. These include regulation of gene expression via chromatin remodelling, transcriptional interference and altered transcript stability. This session will address the global analysis and evolution of microbial non-coding RNAs, their regulation, mechanism of action, and their place in synthetic biology. The emerging evidence that microbes can take-up RNA from their immediate environment will be addressed, as well as the biology of small ncRNAs that shuttle between eukaryotic microbes and their hosts in cross-kingdom missions of defense and counter defense.

SESSION CHAIR: IAN ROBERTS (UNIVERSITY OF MANCHESTER, UK)		
Nuclear RNA decay pathways aid rapid remodelling of gene expression in yeast	**09:30**	David Tollervey (University of Edinburgh, UK)
Non-coding transcription, gene expression and replication in yeast	**10:00**	Françoise Stutz (University of Geneva, Switzerland)
Posters, exhibition and refreshments	**10:30**	
SESSION CHAIR: SUSAN CROSTHWAITE (UNIVERSITY OF MANCHESTER, UK)		
Antisense transcription interference and the tight repression of genes in budding yeast	**10:45**	Alain Jacquier (Institut Pasteur, France)
Intergenic non-coding transcription utilises an RNA-based mechanism to drive transcriptional interference	**11:15**	Lidia Vasilieva (University of Oxford University, UK)
Session Close	**12:00**	

Posters for this session will be on display for the full duration of the conference

Critical health challenges in medical mycology

Location: Carrick Level 1

Session Organisers: Mick Tuite (University of Kent, UK) & Neil Gow (University of Aberdeen, UK)

Session Description: This session will highlight recent developments in the area of fungal pathogenesis and in particular the threats caused by emerging fungal pathogens. In addition to considering the molecular basis of pathogenicity, speakers will also explore the host–pathogen interaction, highlighting the challenges we face in tackling this increasing threat to global human health. By better understanding the pathobiology of fungal diseases, we will be able to generate new, more effective diagnostics, novel therapeutic approaches and new antifungal drugs. The session is being run jointly with the Medical Mycology and Fungal Immunology (MMFI) Consortium based at the University of Aberdeen. Early career researchers will be encouraged to present their recent findings through offered papers.

SESSION CHAIR: MICK TUITE (UNIVERSITY OF KENT, UK)		
New and improved tools in the diagnosis of invasive fungal infection	**09:30**	Elizabeth Johnson (Public Health England, UK)
Offered oral: Low titre *Pneumocystis jirovecii* infections: more than just colonisation?	**10:00**	Oliver Schildgen (Kliniken der Stadt Köln GmbH, Germany)
Offered oral: *Candida albicans* is a moving target for the immune system as it adapts to host signals	**10:15**	Alistair Brown (University of Aberdeen, UK)
Posters, exhibition and refreshments	**10:30**	
SESSION CHAIR: NEIL GOW (UNIVERSITY OF ABERDEEN, UK)		
Challenges in the treatment of non-*Candida albicans* infections: a preclinical perspective	**10:45**	Jill Adler-Moore (California State Polytechnic University, USA)
Offered oral: Temporal and behavioural differences in phagocytosis of pathogenic fungi by peritoneal macrophages	**11:15**	Maria Alonso (University of Aberdeen, UK)
Offered oral: Counteracting nutritional immunity: zinc assimilation by the human fungal pathogen *Candida albicans*	**11:30**	Duncan Wilson (University of Aberdeen, UK)
***Cryptococcus*: cell invader and host hijacker**	**11:45**	Robin May (University of Birmingham, UK)
Session Close	**12:15**	

Posters for this session will be on display for the full duration of the conference

Anaerobe 2017: molecular, genomic and metagenomic insights into anaerobic infection

Location: Ochil Level 1

Session Organisers: Sheila Patrick (Queen's University Belfast, UK), Sarah Kuehne (University of Birmingham, UK) & Sabine Tötemeyer (University of Nottingham, UK)

Session Description: Anaerobes, in the context of infection, are defined as requiring strict anaerobic conditions for isolation from clinical samples. This session will highlight insights obtained from metagenomic/whole-genome sequencing, molecular aspects of virulence and the impact of change in antimicrobial use in both medical and veterinary infection. Microbial community interactions will be considered in relation to: the ovine foot-rot microbiota and the key role of *Dichelobacter nodosus*; human oral microbiota changes and progression in periodontal disease; gut microbiota/*Clostridium difficile* interactions; and *Propionibacterium acnes* skin microbiota and human disease associations. *Clostridium perfringens,* classically associated with gas gangrene and lethal post-abortion septicaemia after unregulated pregnancy termination in humans, has emerged as a major cause of necrotising enteritis in poultry, linked with a ban on in-feed antibiotics. Similarly, reduction in antibiotic prescription for a 'sore throat' has been linked to the rise in *Fusobacterium necrophorum* infection, potentially lethal in healthy young adults. In contrast, increase in the use of metronidazole, for example in *Helicobacter pylori* eradication, may contribute to the spread of nim-mediated resistance within the gut microbiota, leading to lethal multi-drug resistant *Bacteroides fragilis* infection in humans. The symposium will provide insight into current and emerging/re-emerging anaerobic infection of both medical and veterinary importance.

SESSION CHAIRS: SHEILA PATRICK (QUEEN'S UNIVERSITY BELFAST, UK) & SARAH KUEHNE (UNIVERSITY OF NOTTINGHAM, UK)		
***Clostridium perfringens*-mediated myonecrosis: it is not all about toxins**	**09:30**	Julian Rood (Monash University, Australia)
***Dichelobacter nodosus* in the interdigital skin: the primary instigator of inflammation in footrot or setting the scene for opportunists?**	**10:00**	Sabine Tötemeyer (University of Nottingham, UK)
Posters, exhibition and refreshments	**10:30**	
SESSION CHAIRS: SHEILA PATRICK (QUEEN'S UNIVERSITY BELFAST, UK) & SARAH KUEHNE (UNIVERSITY OF NOTTINGHAM, UK)		
High frequency recombination in *Bacteroides fragilis*: diversity, virulence and antimicrobial resistance	**10:45**	Garry Blakely (University of Edinburgh, UK)
Offered oral: Microaerobiosis and intestinal epithelial contact influence virulence of enteroaggregative *E. coli*	**11:15**	Samuel Ellis (Institute of Food Research, UK)
FISHing anaerobes from mouth to gut: Who are the key players?	**11:30**	Annette Moter (Deutsches Herzzentrum Berlin, Germany)
Lunch and poster presentations	**12:00**	
SESSION CHAIR: SABINE TÖTEMEYER (UNIVERSITY OF NOTTINGHAM, UK)		
***Propionibacterium acnes* typing: insights into disease association**	**13:00**	Emma Barnard (UCLA, USA)
Offered oral: Characterisation of LuxS-dependent biofilm formation by *Clostridioides difficile*	**13:30**	Ross Slater (University of Warwick, UK)
***Clostridium difficile* – microbiota interactions in the gut model**	**13:45**	Caroline Chilton (University of Leeds, UK)
Refreshments	**14:15**	
SESSION CHAIR: SABINE TÖTEMEYER (UNIVERSITY OF NOTTINGHAM, UK)		
Mechanisms of metronidazole resistance in anaerobes: the Nim conundrum	**14:30**	David Leitsch (Vetsuisse Faculty Berne, Switzerland)
***Fusobacterium necrophorum*: just a sore throat?**	**15:00**	Trefor Morris (Anaerobe Reference Unit, Cardiff)
Nidogens are therapeutic targets for the prevention of tetanus	**15:30**	Kinga Bercsenyi (Cancer Research UK and University College London, UK)
Session Close	**16:00**	

Posters for this session will be on display Wednesday and Thursday

Heterogeneity and polymicrobial interactions in biofilms

Location: Tinto Level 0

Session Organisers: Angela Nobbs (University of Bristol, UK), Mark Webber (University of Birmingham, UK), Rebecca Hall (University of Birmingham, UK) & Kim Hardie (University of Nottingham, UK)

Session Description: In the natural environment or human body, microbes are seldom found in isolation. Rather, they tend to occur in complex communities, each exquisitely adapted and able to respond to the specific environmental conditions. Heterogeneity – microbial, spatial and metabolic – is a characteristic of all communities. In the first stages of development of a microbial population on a surface, substratum recognition – involving surface structure, composition and microbial adhesins – is key. Then, intermicrobial communication processes such as quorum sensing, metabolic dependencies, genetic exchange, and synergistic or antagonistic events orchestrate development of the overall population. Such interactions often extend beyond the boundaries of microbial classification, resulting in the formation of polymicrobial communities, with interplay between bacteria, fungi and/or viruses. These communities are dynamic, exhibiting spatio-temporal variation and continual adaptation to micro-environments within the population. Better understanding of such complexity presents huge challenges, yet is essential for us in the future to be able to control a spectrum of microbial community associated events in medicine, dentistry, agriculture and industry. We are only in the initial stages of uncovering the secrets of what these communities contain, how they may affect the environment and disease progression, the implications for antimicrobial development, and how we may exploit them for our benefit. Nonetheless, with advances in imaging and -omics technologies, mathematical modelling and combining forces from multiple disciplines, we are making new discoveries about these populations. This session aims to bring together world leaders in the study of complex communities from the prokaryotic, virology and eukaryotic divisions to summarise recent advances in this rapidly expanding area of research, and to identify future ambitions for the field.

SESSION CHAIR: MARK WEBBER (UNIVERSITY OF BIRMINGHAM, UK)		
The contribution of extracellular DNA to the architecture of oral biofilms	**09:30**	Nick Jakubovics (Newcastle University, UK)
Offered oral: *Pseudomonas aeruginosa* can kill *Candida albicans* hyphae by mechanisms that require a functional type 3 secretion system	**10:00**	Emily Dixon (University of Birmingham, UK)
Taking inspiration from the structure of bacterial biofilms	**10:15**	Cait MacPhee (University of Edinburgh, UK)
Posters, exhibition and refreshments	**10:45**	
Filamentous fungal biofilms in drinking water distribution systems	**11:00**	Nelson Lima (University of Minho, Portugal)
Adaptation of *Pseudomonas aeruginosa* in the respiratory tract	**11:30**	Jo Fothergill (University of Liverpool, UK)
Lunch and poster presentations	**12:00**	
SESSION CHAIR: REBECCA HALL (UNIVERSITY OF BIRMINGHAM, UK)		
Polymicrobial infections: Building walls and making the host pay	**13:00**	Marvin Whiteley (University of Texas, USA)
Studies on the virome of the entomopathogenic fungus *Beauveria bassiana* reveal novel dsRNA elements and mild hypervirulence	**13:30**	Robert Coutts (University of Hertfordshire, UK)
The endobacterium of an arbuscular mycorrhizal fungus: bacterial genetic determinants tell us about physiology and co-evolution of an ancient association	**14:00**	Alessandra Salvioli Di Fossalunga (Università degli Studi di Torino, Italy)
Refreshments	**14:30**	
Heterogeneity and polymicrobial interactions in biofilms	**14:45**	Gordon Ramage (University of Glasgow, UK)
Offered oral: Molecular basis of pathogenic group B *Streptococcus* interactions with fungus *Candida albicans*	**15:15**	Grace Pidwill (University of Bristol, UK)
Molecular analysis of complex bacterial–fungal interactions	**15:30**	Nora Grahl (Geisel School of Medicine, USA)
Session Close	**16:00**	

Posters for this session will be on display Wednesday and Thursday

Microbial genomics: From single cells to large populations

Location: Moorfoot Level 0

Session Organisers: Nicholas Thomson (Sanger Institute, UK), Alan McNally (Nottingham Trent University, UK) & Sam Sheppard (University of Bath, UK)

Session Description: Microbial genomics has matured into a distinct discipline, and now influences most other areas of microbiology. The ability to generate, with relative ease, individual and population microbial genome data sets has facilitated new insights into microbial evolution, phylogeography, epidemiology and outbreaks as well as allowing the development of novel approaches to measure and model how genetic variation impacts on phenotype variation. In this symposium we will bring together world-leading speakers to present the very latest research encompassing how microbial genomics is developing beyond initial glimpses of microbial diversity, to the next stages of research in this maturing field. Presentations will cover very fine scale resolution mapping of evolutionary dynamics from large population studies. The symposium will then move on to show how we can go back to biology with such genomic data sets, using tools such as genome-wide association studies (GWAS) to elucidate biological differences within and between populations. Finally, we will look at cutting-edge approaches that allow us to study the impact of genome variation between individual cells within populations, and the evolutionary events occurring in single cells or single infected cells. Talks will be built around these overarching themes and not around any specific microbe. We will also highlight approaches and technologies that have been used in other systems that may also be relevant/applicable to microbial genomics with biology at the focal point.

SESSION CHAIR: ALAN MCNALLY (NOTTINGHAM TRENT UNIVERSITY, UK) & LUCY WEINERT (UNIVERSITY OF CAMBRIDGE,UK)		
Studying bacterial gene expression during infection with RNA-seq	**09:30**	Jay Hinton (University of Liverpool, UK)
Watching antibiotic resistance evolve: the MEGA-plate	**10:00**	Michael Baym (Harvard University, USA)
Posters, exhibition and refreshments	**10:30**	
Linking genomic islands and bacterial population dynamics	**10:45**	Nick Croucher (Imperial College London, UK)
Offered oral: Towards a true bacterial transcriptome: *in vivo* RNA-seq of an attaching and effacing pathogen	**11:15**	James Connolly (University of Glasgow, UK)
Microbial GWAS and the biology of infection	**11:30**	Daniel Wilson (University of Oxford, UK)
Lunch and poster presentations	**12:00**	
SESSION CHAIR: NICK CROUCHER (IMPERIAL COLLEGE LONDON, UK), DANIEL WILSON (UNIVERSITY OF OXFORD, UK)		
100 years after William Bateson – what can we learn about epistasis by today's statistical machine learning?	**13:00**	Jukka Corander (Insitute for Basic Medical Science, Norway)
Offered oral: Large recombination events readily occurring in biofilm cultures of *Streptococcus pneumoniae*	**13:30**	Lauren Cowley (Harvard T. H. Chan School of Public Health, USA)
Offered oral: High resolution genomic view of cholera within Dhaka city	**13:45**	Daryl Domman (Wellcome Trust Sanger Institute, UK)
Interleukin-22 signalling in hIPSC-derived intestinal organoids	**14:00**	Jessica Forbester (Wellcome Trust Sanger Institute, UK)
Refreshments	**14:30**	
SESSION CHAIR: NICK CROUCHER (IMPERIAL COLLEGE LONDON, UK) & DANIEL WILSON (UNIVERSITY OF OXFORD, UK)		
Microfluidics and virtual microfluidics for microbial genome sequencing	**14:45**	Paul Blainey (Broad Institute, USA)
Offered oral: Use of machine-learning (SVM) for source attribution of *Salmonella Typhimurium* and *Escherichia coli*	**15:15**	Nadejda Lupolova (The Roslin Institute, University of Edinburgh, UK)
Using single-cell transcriptomics to understand cellular heterogeneity	**15:30**	John Marioni (EBI, UK)
Session Close	**16:00**	

Posters for this session will be on display Wednesday and Thursday

Cell biology of pathogen entry into host cells

Location: Kilsyth Level 0

Session Organisers: Gareth Bloomfield (University of Cambridge, UK), Jason King (University of Sheffield, UK) & Jason Mercer (University College London, UK)

Session Description: Intracellular pathogens have evolved many strategies to enter the cytoplasm of their hosts in order to replicate, assemble new progeny and evade immune detection. Viruses and bacteria can subvert host cell behaviour in diverse ways, inducing or modifying the full compendium of cellular endocytic pathways and/or reprogramming normal maturation of cellular vesicular carriers and endomembrane systems. We propose a session that will bring together microbiologists and cell biologists who study pathogen entry, membrane trafficking and pathogen-induced cytoskeletal rearrangement. The session will seek to emphasise how pathogens are the ideal tools to probe the function of host cell systems, define novel host–pathogen interactions and uncover possible targets for cell-based therapeutic intervention.

SESSION CHAIR: JASON MERCER (UNIVERSITY COLLEGE LONDON, UK		
Manipulation of host membrane systems for productive poxvirus infection	**09:00**	Jason Mercer (University College London, UK)
HIV-1 activates T-cell signalling independently of antigen to drive viral spread	**09:30**	Clare Jolly (University College London, UK)
Offered oral: Fluorescent tracking of Bunyamwera virus in live cells reveals the requirement for cellular potassium channels during the early stages of the bunyavirus lifecycle	**10:00**	Samantha Hover (University of Leeds, UK)
Molecular mechanism of viral gene silencing by Morc2 and the Human Silencing Hub	**10:15**	Yorgo Modis (University of Cambridge, UK)
Posters, exhibition and refreshments	**10:45**	
SESSION CHAIR: CARMEN BUCHREISER (INSTITUT PASTEUR, FRANCE)		
Breaking barriers: viral entry and infection of polarised cell surfaces	**11:00**	Nicholas Lennemann (University of Pittsburgh, USA)
Substitutions in influenza haemagglutinin for cross-species transmission	**11:30**	Qinghua Wang (Baylor College of Medicine, USA)
Lunch and poster presentations	**12:00**	
SESSION CHAIR: CLARE JOLLY (UNIVERSITY COLLEGE LONDON, UK)		
Offered oral: Intracellular invasion & carcinogenesis of an oral pathogen	**13:00**	Juliana Delatorre Bronzato (University of Dundee, UK)
Offered oral: A role for host cell exocytosis in InlB-mediated internalisation of *Listeria monocytogenes*	**13:15**	Hoan Ngo (University of Otago, New Zealand)
Offered oral: Regulation of the BLOC3- and Rab32-dependent anti-microbial (BRAM) pathway	**13:30**	Hongjiao Yu (Institute of Medical Sciences, UK)
***Legionella pneumophila* targets the host sphingolipid metabolism and manipulates autophagy**	**13:45**	Carmen Buchreiser (Institut Pasteur, France)
Ubiquitination targets *Toxoplasma gondii* for endo-lysosomal destruction in IFNψ-stimulated human cells	**14:15**	Eva Frickel (The Francis Crick Institute, UK)
Refreshments	**14:45**	
SESSION CHAIR: YORGO MODIS (UNIVERSITY OF CAMBRIDGE, UK)		
Viral genome hide and seek: encapsidation versus host immunity	**15:15**	Leo James (University of Cambridge, UK)
The HIV glycan shield	**15:45**	Katie Doores (King's College London, UK)
Entry and uncoating strategies followed by animal viruses	**16:15**	Ari Helenius (ETH Zurich, Switzerland)
Session Close	**16:45**	

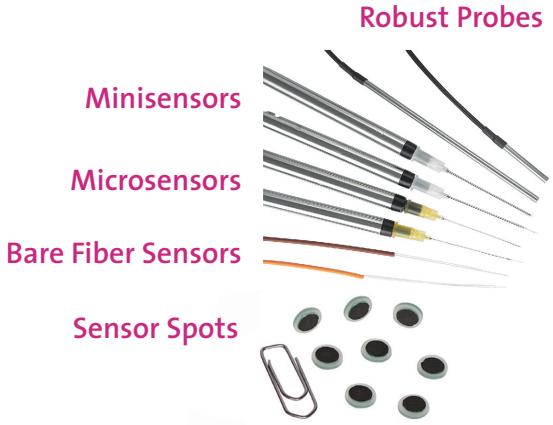
Posters for this session will be on display for the full duration of the conference

Optical Oxygen Sensor Systems

FireStingO_2 meter

One Device – Many Applications with different fiber-optic oxygen sensors

Oxygen Sensors



NEW – FireStingGO_2

Pocket Oxygen Meter
with long-term logging

pyroscience
sensor technology

TRADE EXHIBITION

Located in Lennox Suite Level -2

Exhibition

MICROBIOLOGY SOCIETY

The Microbiology Society is a membership organisation for scientists who work in all areas of microbiology. It is the largest learned microbiological society in Europe with a worldwide membership based in universities, industry, hospitals, research institutes and schools. The Society publishes key academic journals, organises international scientific conferences and provides an international forum for communication among microbiologists and supports their professional development. The Society promotes the understanding of microbiology to a diverse range of stakeholders, including policy-makers, students, teachers, journalists and the wider public, through a comprehensive framework of communication activities and resources.

NEW ENGLAND BIOLABS

New England Biolabs (NEB) manufactures reagents for molecular biology and is an industry leader in the supply of restriction enzymes, polymerases, modifying enzymes and DNA ladders. The NEB offering includes *E.coli* expression systems, competent cells and reagents for PCR, qPCR, nucleic acid purification, synthetic biology, glycobiology, epigenetics, RNA analysis and sample preparation for next-generation sequencing.

Cell Signaling Technology (CST) products are exclusively distributed in the UK by NEB. CST is a private, family-owned company active in applied systems biology research. Understanding the importance of using antibodies with high levels of specificity and consistency, CST scientists produce, validate and support all their antibodies in-house.

The corner-stones of NEB's reputation are service excellence and products you can trust.

PUBLIC HEALTH ENGLAND

PHE operates four unique culture collections that provide expertly preserved and authenticated cell lines and microbial strains of known provenance to laboratories worldwide:

- The National Collection of Type Cultures (NCTC
- The National Collection of Pathogenic Viruses (NCPV)
- The National Collection of Pathogenic Fungi (NCPF)
- The European Collection of Authenticated Cell Cultures (ECACC)

The collections are developed, managed and maintained by professionally qualified, dedicated members of scientific staff who work in accordance with internationally recognised quality standards including ISO 9001:2008 and ISO 17025:2005.

Cultures from the collection are used in a vast array of research activities that contribute to improving human health.

VITECH SCIENTIFIC

Vitech Scientific are attending for the second year in a row to showcase the Anoxomat anaerobic and micro-aerophilic culturing system, as well as GloCyte, a CSF cell counter that accurately counts using cell type specific fluorescence rather than morphology. We have a small, but well-established product base supplying scientific instruments to Pathology, Pharmaceutical and University laboratories. We continue in our 30+ year pursuit of excellence in innovation as we deliver the best solutions for scientific professionals. The latest evolution of the Anoxomat is to offer re-designed incubation jars, to accommodate labs that have growing workloads but decreasing available space.

ELECTROLAB BIOTECH LTD

Electrolab Biotech is a British company which specialises in the manufacture of bioreactor systems and ancillary equipment. Based in Gloucestershire and originally established in 1989, we export to most countries. Whether your interest is cell or bacterial, commercial or academic, pharmaceutical, brewing, marine or biofuels research we have the solutions for you. With true autoclavable stir-tank bioreactors ranging from 50 ml working volume up to 2 litres, Electrolab is able to fulfil virtually every benchtop-scale research demand. We also produce small-scale bench-top steam-in-place bioreactor systems, photo-bioreactors, fixed-bed, fluidised bed and air-lift autoclavable systems. Offgas analysis and low-flow peristaltic pumps are manufactured in-house. We supply the Trace Glucose/Lactate analysers and automated samplers, as well as optical density systems from Hamilton & BugLab, and other sensor measurement systems.

R-BIOPHARM RHONE LTD

R-Biopharm Rhone is a wholly owned daughter Company of R-Biopharm-AG founded in 1991 by Dr Ralf Deher in Darmstadt, Germany. R-Biopharm is a leading developer of solutions for Clinical Diagnostics with a worldwide presence via subsidiaries and distributors.

All UK customers are supported from our modern facility on the West of Scotland Science Park in Glasgow and by a network of field-based staff.

Our products include the RIDA®QUICK range of rapid diagnostic tests, the RIDA®SCREEN range of EIA assays including serology testing. These, combined with the RIDA®GENE range of PCR assays and bench-top automation, offer a wide range of solutions to meet the highest demands of today's Clinical testing centres.

All R-Biopharm assays are CE/IVD marked for Clinical Diagnostics use.

STRATECH SCIENTIFIC

Stratech supply over 1.8 million specialist life science research tools for researchers who need consistent, reproducible results. They have built an excellent reputation over 34 years for supplying high-quality, competitively priced, reliable products.

Stratech are not a multi-national super conglomerate biotech company, instead we are family-run business dedicated to delivering exceptional product quality with unbeatable technical support. We are so confident that you will LOVE both our products and our technical support that we guarantee all our products with a full money-back promise.

info@stratech.co.uk
www.stratech.co.uk
01638782600

APOLLO SCIENTIFIC

Apollo Scientific provides a wide range of products to the Life Sciences industry. Areas in which we are particularly strong include Antibiotics, Buffers, Enzyme Substrates, Inhibitors and General Proteins. We also list a large number of recombinant proteins, antibodies, enzymes and growth factors, all at competitive prices. The quality and manufacturing procedures for our products meet the highest standards, and our products are used worldwide for both manufacturing and R&D.

Exhibition

MICROBESNG

MicrobesNG is an innovative microbial genome sequencing and strain repository service.

2017 will be a very exciting and busy year that will see the launch of new services and training tools. Come visit us to find out more!

During the conference we will be running a series of 10 minute 'Trouble Shooting' session from our stand.

These are open to everyone and are designed to provide DNA extraction advice and address common bioinformatics problems such as...

- How to check DNA quality for library preparation before sending samples for sequencing
- DNA extraction directly from strains – NO NEED TO CULTURE!
- "I've got my sequencing data.....what do I do next?"

LI-COR BIOSCIENCES

LI-COR® Biosciences offers a complete discovery process including imaging platforms, analysis software and optimised IRDye® infrared dye reagents for protein and molecular imaging. Our complete solution for Western blot imaging includes the Odyssey® and Odyssey Fc Infrared Imaging Systems, analysis software, and unique IRDye Infrared Dye-based antibodies and reagents. LI-COR also offers the C-DiGit® Blot Scanner for chemiluminescent Western blots as an affordable digital replacement for film. Molecular imaging on the Pearl® Trilogy, well known for its exceptional infrared fluorescent capabilities, now features a bioluminescence channel. Using revolutionary FieldBrite™ Xi optical technologyresults in unparalleled dynamic range that never saturates.

AUSDIAGNOSTICS

AusDiagnostics is a manufacturer and supplier of highly multiplexed, automated molecular assays for the detection of pathogens and antibiotic resistance markers (including respiratory, enteric, STIs, HPV & sepsis) from a wide range of clinical and veterinary samples. Key advantages of our approach are low cost, ease of use and a unique MT-PCR process that preserves the quantitative relationship between pathogens in the original sample. Coupled with easy to use software and an open platform approach, we can supply equipment and IVD kits for laboratories of all sizes.

APPLIKON BIOTECHNOLOGY UK

Applikon Biotechnology is a world leader in the developing and supplying of advanced bioreactor systems and is renowned for bringing new technologies to the market.

These technologies offer advantages in R&D, as well as pilot plant and production scale processes, where we have system solutions from a few millilitres to 5,000 litres.

At this conference Applikon will be exhibiting the miniBio fermenter system, ideal for discovery and/or screening work at small-scale, as well as our SFR Vario.

The SFR vario offers online monitoring of oxygen, pH and biomass – simultaneously.

- Simultaneous real-time measurement of O^2, pH & biomass
- Automatic OUR calculation
- Online measurement of optical density, cell dry weight, cell concentration by correlation with biomass measurements
- Parallel measurements in up to 4 shake flasks
- Wireless data transfer enables easy integration
- Bioprocess development & media optimisation

We look forward to meeting you.

CONSTANT SYSTEMS LTD

Constant Systems Ltd is committed to providing efficient and reliable cell lysis results through our high-pressure Cell Disruptors. Our machines are proven to lyse diverse cell types including bacteria (both Gram-positive and -negative), yeast and algae with up to 100% efficiency. With processing capabilities stretching from individual samples of 1 ml up to a continuous flow of 150 litres per hour, our range of products can lyse almost any size cell culture, plus frozen and solid samples. Also, our on-site ACDP Category 2 laboratory allows us to help optimise protocols and methods according to the individual requirements of our customers.

TAKARA BIO

Takara Bio Europe is a member of the Takara Bio Group, a leading supplier of tools for life scientists worldwide.

Through our brand names TAKARA®, CLONTECH® and CELLARTIS® we develop innovative technologies in the fields of Cell Biology, Molecular Biology, Proteomics and Stem Cell Research.

Key products include SMARTer™ cDNA synthesis kits for Next-Generation Sequencing, the innovative In-Fusion® HD Cloning Plus System, high-performance PCR/qPCR reagents, Tet-regulated gene expression systems, Living Colors® Fluorescent Proteins, as well as a broad choice of viral vectors/particles and transduction tools.

Q MEDICAL TECHNOLOGIES LTD

Q Medical Technologies Ltd, ISO 14001, ISO 9001 & ISO 13485 accredited.

Award-winning independent Medical Distributor based in the UK. Founded in 2004, we exclusively distribute a hand-picked range of Innovative Medical Devices.

- THOR UVC™ Disinfection system: preventing and containing HAI outbreaks. Continuous-wave UV-C eliminates up to 99.9999% of healthcare-associated infection, reducing the risk of transmitting infections via contaminated surfaces. *Clostridium difficile,* Meticillin-resistant *Staphylococcus aureus*, Vancomycin-resistant enterococci, Ebola, Norovirus.
- SurgiMend abdominal and breast reconstruction
- Ellman Radio Frequency surgical units.
- AccuVein none invasive vein viewing (ECACC)
- Airpod, the world's most advanced air-flow patient lateral transfer and repositioning system.

MP BIOMEDICALS

MP Biomedicals is a worldwide corporation committed to the development, manufacturing and marketing of life science and diagnostics products. The company is dedicated to providing scientists and researchers with the most innovative and highest quality tool, combined with superior service to aid them in their quest for ground-breaking discovery and turning the hope for life-changing solutions into a reality.

MP Biomedicals offers a line of more than 55,000 life science research and diagnostic products (in the fields of Molecular Biology, Cell Biology, Immunology, Biochemicals, Rapid Diagnostic, EIA/RIA Diagnostic, etc...) that support academic and government research institutions as well as pharmaceutical and biotechnology companies.

Exhibition

HYBRIGENICS SERVICES SAS

HYBRIGENICS SERVICES is a complete service provider of cutting-edge technologies dedicated to the study of proteins and their interactions in 35+ organisms and any research thematic.

DISCOVER novel interactions in various tissue/cell types with:

- Soluble or Membrane proteins
- DNA
- RNA
- Small molecules

HYBRIBODY: select and validate high-affinity single-domain antibodies

We developed unique bioinformatics tools and provide our customers with a comprehensive technological offering and the expertise of our dedicated scientific teams.

Among our services, our yeast two-hybrid screening technology ULTImate-Y2HTM is extensively used in many research projects. The results obtained at Hybrigenics have been quoted in more than 300 publications.

BIOLINE REAGENTS

Founded in 1992, Bioline is a primary manufacturer and developer of a wide range of specialised molecular biology products for use in areas such as gene expression analysis, genotyping, next-generation sequencing, biomarker analysis, miRNA research, cloning, nucleic acid purification and custom assay development.

Novel products such as our SensiFAST qPCR and MyTaq PCR reagents, provide a powerful amplification platform used around the world in the life science, diagnostic, agricultural, biotechnology, pharmaceutical and research markets.

A Meridian Life Science® Company

ORTHO CLINICAL DIAGNOSTICS

Ortho Clinical Diagnostics is a leading global provider of in vitro diagnostics. We have a proven track record for providing high-quality products and services to the global clinical laboratory communities.

We know that scalable and standardized platforms, competitive test menus, and flexible, automated solutions are essential to help navigate today's challenging landscape – and we are committed to building solutions that address these needs.

Whether testing is done at a main hospital, across a network or at a smaller lab, you will get the same high-quality, reliable results of our brand. It's about simplicity.

INFORS HT

INFORS HT is your specialist for bioreactors, incubation shakers and bioprocess software. You benefit from sophisticated systems, in which your cell lines or microorganisms develop their full potential in a reproducible way, thus contributing to your success.

For your applications, we offer the right solutions:

- Fermentation of microorganisms (bacteria, fungi and yeasts)
- Cell culture (mammalian cells, insect cells, plant cells and algae)
- Biofuel (biodiesel and bioethanol)
- Parallel bioprocesses
- Custom-made bioreactors and incubation shakers
- Bioprocess Platform Software
- Qualification of bioreactors and incubation shakers

Closeness to the customer, high quality, innovation and flexibility are our greatest strengths. See for yourself!

INFORS HT
We bring life to your laboratory.

PCR Biosystems

PCR Biosystems offer a range of best-in-class kits and reagents for real-time PCR, endpoint PCR and cDNA synthesis. Our reagents combine enhanced polymerases with highly developed reaction buffers and advanced hot start chemistry to maximise yield and sensitivity from the simplest to most challenging of reactions. We continuously invest in research and development to bring innovative, high-performing products to market. Comprehensive competitor product comparisons show that on average we outperform all competitors in yield, specificity, sensitivity and speed, giving your reaction the best chance of working as you want it to, first time.

PCRBIOSYSTEMS
simplifying research

Conference Sponsors

VITROS© FOR VIROLOGY.

The right result, first time.

You demand high throughput infectious disease screening.

False positives are not acceptable.

VITROS® systems ensure early virus detection, with full traceability & integrity.

Visit our stand to discover how.

www.orthoclinical.com

Ortho Clinical Diagnostics

5th Mol Micro & 4th M4 Meeting, Birmingham

September 13th and 14th 2017

http://tinyurl.com/mol-micro-bham

IMI@contacts.bham.ac.uk

Organisers:

David Grainger (Birmingham, UK)
Tracey Palmer (Dundee, UK)
Andrew Lovering (Birmingham, UK)
Ian Henderson (Birmingham, UK)
John Helmann (Cornell, USA)

Confirmed Speakers:

Peggy Cotter (North Carolina, USA)
Jeffery Errington (Newcastle, UK)
Carmen Buchrieser (Institut Pasteur, France)
M. Stephen Trent (Georgia, USA)
Miguel A. Valvano (Belfast, UK)
Kai Papenfort (Ludwig-Maximilians, Germany)
Thorsten Allers (Nottingham, UK)
Jan-Willem Veening (Groningen, Netherlands)
Simon Dove (Harvard, USA)
Erin D. Goley (Johns Hopkins, USA)
Junior Award for Microbiology (J.A.M) winner

Microbiology at Elsevier

◀ Scan for more microbiology journals

ELSEVIER

BENEFITS OF PUBLISHING WITH ELSEVIER

Reach more readers

We'll publish your article on ScienceDirect, putting it in the hands of more than 15 million people around the world. We'll also add it to Scopus, the world's largest abstract and citation database of peer-reviewed literature, which covers most of Elsevier's journals.

Choose open access or subscription

You can choose from 1,600+ journals that offer open access options.

Make a splash

We help you promote your work by giving you a Share Link, with 50 days' **unlimited free access** your full article.

Benefit from peer review

Our **Reviewer Recognition Program** engages and rewards reviewers, and features peer review projects and experiments.

Improve your manuscript and celebrate the results

Our WebShop language and illustration services help you make sure your manuscript is the highest quality.

Enjoy state-of-the art, innovative publishing services

Present your research powerfully with our content innovation services, such as AudioSlides, the Virtual Microscope, the Interactive Map Viewer and 3D Molecular Models.

Monitor the impact of your work

Author Stats on a personal dashboard/ Mendeley gives you real time feedback on how your publications are being downloaded, shared and cited.

Learn and develop

Elsevier's **Publishing Campus** supports you with free online training for your publishing and academic career.

Widen access to your research

Our access programs give your article the widest possible outreach, including to the general public – Research4Life, Patient access programs, ATLAS Award and our Postdoc Free Access Program.

elsevier.com/authorbenefits

Charles Darwin House,
12 Roger Street, London,
WC1N 2JU, UK
www.microbiologysociety.org

The Microbiology Society is a membership organisation for scientists who work in all areas of microbiology. It is the largest learned microbiological society in Europe with a worldwide membership based in universities, industry, hospitals, research institutes and schools. The Society publishes key academic journals, organises international scientific conferences and provides an international forum for communication among microbiologists and supports their professional development. The Society promotes the understanding of microbiology to a diverse range of stakeholders, including policy-makers, students, teachers, journalists and the wider public, through a comprehensive framework of communication activities and resources.