ESCMID/ASM Conference on

Drug Development to Meet the Challenge of Antimicrobial Resistance

Lisbon, Portugal
4 – 7 September 2018

FINAL PROGRAMME

ESCMID
MANAGING INFECTIONS
PROMOTING SCIENCE

AMERICAN
SOCIETY FOR
MICROBIOLOGY

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Programme Committee

- Murat Akova, Ankara, Turkey
- Maiken Arendrup, Copenhagen, Denmark
- Sujata Bhavnani, Schenectady, NY, United States
- Marco Cavaleri, London, United Kingdom
- Herman Goossens, Antwerp, Belgium
- David Hooper, Boston, MA, United States
- William Hope, Liverpool, United Kingdom
- John Rex, Wellesley, MA, United States
- Jesús Rodríguez Baño, Seville, Spain
- Keith Rodvold, Chicago, IL, United States
- Michael Sharland, London, United Kingdom
- Judith Steenbergen, Boston, MA, United States
- Sumathi Nambiar, Washington D.C., United States

Conference Objectives

Background:

Antimicrobial drug resistance (AMR) remains a pressing public health problem. This conference focusses on the development of new antimicrobial agents. It is a multidisciplinary meeting that involves basic scientists, clinical academics, regulatory bodies, funding bodies and the pharmaceutical industry. Its scope stretches from chemistry to clinical development, from neonates to adults, from bacteria to fungi – all with a global perspective. The meeting is practical and interactive, with plenty of time for networking. Beyond invited sessions, peer-reviewed original data in the form of posters are also presented.

Challenges:

Drug development for AMR is a rapidly moving field. The stakes are high. A difficult risk-benefit balance must be struck. There are relatively few new classes of antibiotics and each requires highly skilled and experienced investigators to ensure these compounds reach patients. This meeting is the forum where those issues are discussed and debated.

Venue Details

Intercontinental Lisbon
R. Castilho 149, 1099-024 Lisbon
Portugal

About Lisbon

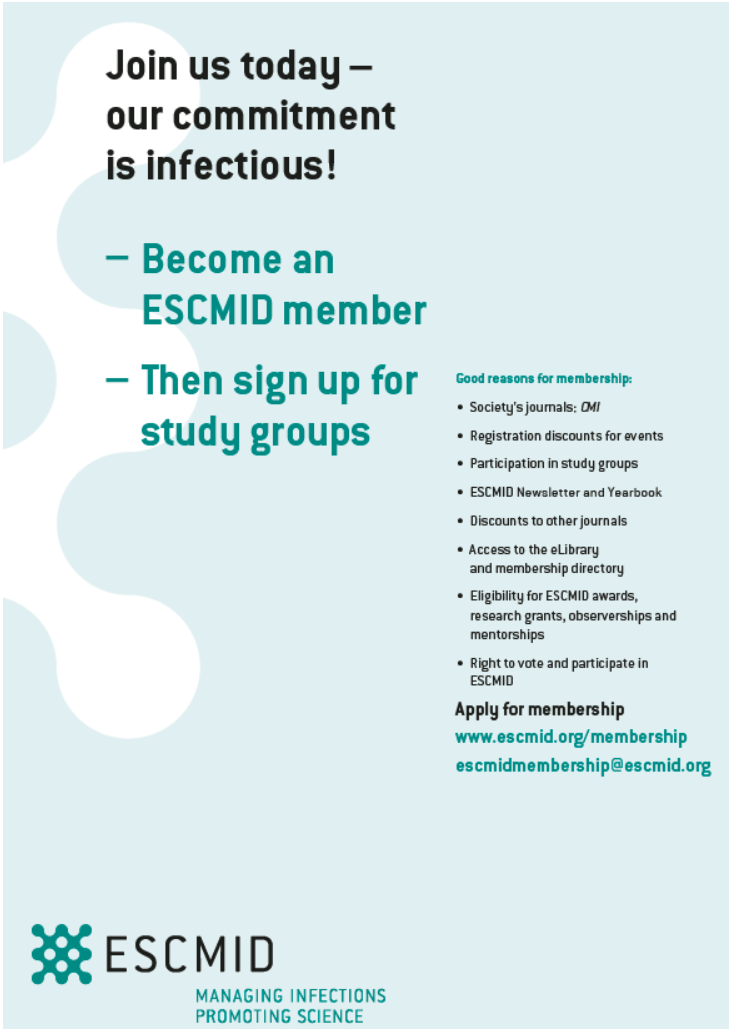
Lying in the western Iberian Peninsula on the River Tagnus and on the Atlantic Ocean, Lisbon is the westernmost capital city in continental Europe. With a warm Mediterranean climate, the Portuguese capital is one of the warmest metropolis in Europe during the winter months. As one of the oldest cities in the world, Lisbon is full of historical landmarks and boasts a robust culture.

The hilly landscape and ancient structures are sure to impress. Although Lisbon is a relatively large city, and is home to nearly 3 million residents, navigating is made easy using the public transport system. A recognisable activity setting Lisbon apart from Europe is their funiculars. Be sure not to miss out on taking a ride in the famous Tram 28, transporting you around Lisbon's historical sights and best attractions.

Lisbon is full of inexpensive entertainment and food, with specialities ranging from fish dishes to wines. The famous Portuguese music style fado was originated in the Alfama district and is a must. With more than 40 fado houses throughout the city and the Museum of Fado, there are plenty of opportunities to enjoy the musical tradition. A visit to the Moorish São Jorge Castle, built in the mid-11th century, located on a hilltop provides breath-taking views overlooking the city's historic centre. Lisbon's main attractions are sure to entice your taste buds with the best custard tarts in the world and Ginjinha (cherry liqueur) served in chocolate cups.

- © Turismo de Lisboa

About ESCMID



Since its founding in 1983, ESCMID has evolved to become Europe's leading society in clinical microbiology and infectious diseases with members from all European countries and all continents. For more than 30 years, ESCMID has been an influential component in the professional lives of microbiologists and infectious disease specialists and now reaches more than 8,000 individual and 33,000 affiliated members around the world. ESCMID, based in Basel, Switzerland, welcomes new colleagues from all nations.

ESCMID Membership

ESCMID offers a basic membership. We also offer a full membership which includes a discount for those 35 years of age or younger or for those under 40 years of age upon proof of training status. You can sign up for membership online (credit card payment) for one to five years, and as soon as payment is complete you can immediately take advantage of membership benefits.

About ASM

The American Society for Microbiology is the largest single life science society, composed of over 30,000 scientists and health professionals. ASM's mission is to promote and advance the microbial sciences through conferences, publications, certifications, and educational opportunities. For more information, visit asm.org.

AMERICAN SOCIETY FOR MICROBIOLOGY

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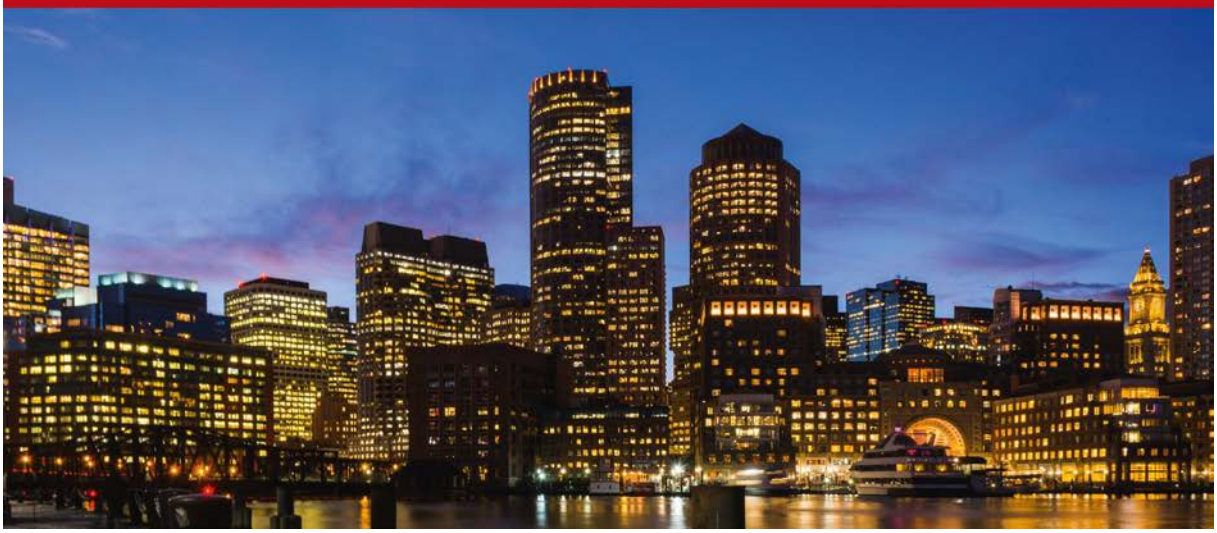
SAVE THE DATE

ASM/ESCMID Conference on Drug Development

*Workshop on Tuesday, September 3

September 4 – 6, 2019
Boston, Massachusetts



Faculty

Below you find the full Faculty list of the ESCMID/ASM Conference on Drug Development to Meet the Challenge of Antimicrobial Resistance. It is sorted alphabetically by last name, the affiliation is below.

TITLE	NAME	LASTNAME	CITY	COUNTRY
Prof.	Murat	Akova	Ankara	Turkey
Hacettepe University School of Medicine				
Pharm. D.	Paul	Ambrose	New York (NY)	US
Institute for Clinical Pharmacodynamics				
Prof.	David	Andes	Madison (WI)	US
University of Wisconsin, School of Medicine and Public Health				
Dr.	Christine	Årdal	Oslo	Norway
Norwegian Institute of Public Health				
Prof.	Maiken Cavling	Arendrup	Copenhagen	Denmark
Statens Serum Institut				
Pharm. D.	Sujata	Bhavnani	New York (NY)	US
Institute for Clinical Pharmacodynamics				
PhD Fellow	Sara	Boyd	Liverpool	UK
University of Liverpool				
Dr.	Harald	Brüssow	Leuven	Belgium
KU Leuven, Laboratory of Gene Technology				
Dr.	Marco	Cavaleri	London	UK
European Medicines Agency				
Dr.	Ryan	Cirz	San Francisco (CA)	US
Achaogen				
Prof.	Barry	Cookson	London	UK
University College London				
Dr.	Edward	Cox	Silver Spring (MD)	US
US Food and Drug Administration				
Mr.	Aaron	Dane	Macclesfield	UK
DaneStat Consulting Limited				
Dr.	Marlieke	De Kraker	Geneva	Switzerland
Geneva University Hospitals				
Dr	Andrea	Decker	Basel	Switzerland
Novartis				
Prof.	David W.	Denning	Manchester	UK
University of Manchester				
Dr.	George	Drusano	Orlando (FL)	US
University of Florida, Institute for Therapeutic Innovation,				
Dr.	Michael	Dudley	Parsippany-Troy Hills (NJ)	US
The Medicines Company				

Dr.	Roger	Echols	Florham Park (NJ)	US
Shionogi Inc.				
Dr.	Steven	Gelone	Philadelphia (PA)	US
Nabriva Therapeutics				
Dr.	Haileyesus	Getahun	Geneva	Switzerland
World Health Organization				
Prof.	Christian	Giske	Stockholm	Sweden
Karolinska Institutet				
Prof.	Herman	Goossens	Edegem	Belgium
Antwerp University Hospital				
Dr.	John	Griffin	San Francisco (CA)	US
Numerate				
Dr.	David	Hooper	Boston (MA)	US
Harvard Medical School				
Prof.	William	Hope	Liverpool	UK
University of Liverpool, Institute of Translational Medicine				
Dr.	David	Huang	New York (NY)	US
Motif Bio Inc.				
Prof.	Ian	Gilbert	Dundee	UK
University of Dundee, School of Life Sciences				
BSc, MBA	Kevin	Krause	San Francisco (CA)	US
Achaogen				
MSc	Jeremy	Knox	London	UK
Wellcome Trust				
Dr.	Troy	Lister	Cambridge (MA)	US
Spero Therpaeutics				
Prof.	David	Livermore	Norwich	UK
University of East Anglia, Norwich Medical School				
Dr.	Shawn R.	Lockhart	Atlanta (GA)	US
Centers for Disease Control and Prevention				
Prof.	Alasdair	MacGowan	Bristol	UK
North Bristol NHS Trust				
Prof.	Marc	Mendelson	Cape Town	South Africa
Groote Schuur Hospital, University of Cape Town				
Dr.	Terry	Miller	Silver Spring (MD)	US
US Food and Drug Administration				
Dr.	Heinz	Moser	San Francisco (CA)	US
Novartis (NIBR)				
Dr.	Sumathi	Nambiar	Silver Spring (MD)	US
US Food and Drug Administration				
Dr.	Seamus	O'Brien	Crewe	UK
Global Antibiotic Research & Development Partnership				
Pharm. D.	Nikolas	Onufrak	Chapel Hill (NC)	US
University of North Carolina, Eshelman School of Pharmacy				

Prof.	Peter	Pappas	Birmingham (AL)	US
University of Alabama, School of Medicine				
Dr.	Amanda	Paschke	Kenilworth (NJ)	US
Merck				
Dr.	Jean	Patel	Atlanta (GA)	US
Centers for Disease Control and Prevention				
Prof.	Mical	Paul	Haifa	Israel
Rambam Health Care Center				
Prof.	Sharon	Peacock	London	UK
London School of Hygiene and Tropical Medicine				
Prof.	Rosanna	Peeling	London	UK
London School of Hygiene and Tropical Medicine				
Prof.	John R.	Perfect	Durham (NC)	US
Duke University School of Medicine				
Dr.	Steven	Projan	New York (NY)	US
MedImmune - AstraZeneca (Retired)				
Prof.	John	Rex	Boston (MA)	US
F2G Ltd.				
Prof.	Jesús	Rodríguez-Baño	Sevilla	Spain
Hospital Universitario Virgen Macarena				
Dr.	Keith A.	Rodvold	Chicago (IL)	US
University of Illinois at Chicago, College of Pharmacy				
Dr.	Claire	Sadler	Alderley Edge	UK
ApconiX				
Dr.	Junko	Sato	Tokyo	Japan
Pharmaceuticals and Medical Devices Agency				
Dr.	Judith	Steenbergen	King of Prussia (PA)	US
Paratek Pharmaceuticals				
Dr.	Eric	Stern	Boston (MA)	US
SeLux Diagnostics, Inc				
Prof.	Evelina	Tacconelli	Tübingen	Germany
Universitätsklinikum Tübingen				
Dr.	Ursula	Theuretzbacher	Vienna	Austria
Center for Anti-Infective Agents				
Dr.	Andrew	Tomaras	Sain Louis (MO)	US
BacterioScan Inc.				
Dr.	John	Tomayko	Cambridge (MA)	US
Spero Therpaeutics				
Dr.	Didem	Torumkuney	Brentford	UK
GlaxoSmithKline Pharma (GSK) GmbH				

MD	Larry	Tsai	Watertown (MA)	US
Tetraphase Pharmaceuticals				
Dr.	Evan	Tzanis	Boston (MA)	US
Paratek Pharmaceuticals Inc				
Prof.	Gerard D.	Wright	Hamilton (ON)	Canada
McMaster University, Faculty of Health Sciences				

Programme

Tuesday, 4 September 2018		
Time:	**Programme:**	**Chair / Speaker:**
09:50 - 10:00	**Opening and Welcome**	William Hope (ESCMID), David Hooper (ASM)
10:00 - 12:00	**Bootcamp: Medicinal Chemistry**	Chairpersons: John Griffin, Heinz Moser
	Drug-likeness: Physicochemical roperties in small-molecule drug iscovery	Andrea Decker
	Drug discovery of antibiotics: The importance of physicochemical properties	Heinz Moser
	Emerging artificial intelligence approaches in drug discovery and their application to antibiotic design	John Griffin
	Roundtable discussion	Andrea Decker, John Griffin, Heinz Moser, John H. Rex
12:00 - 13:00	**Lunch and Poster Viewing**	
13:00 - 15:00	**Bootcamp: Preclinical Toxicology**	Chairperson: Ursula Theuretzbacher
	Pitfalls in preclinical development from the regulatory perspective (FDA)	Terry Miller
	Making safety a part of drug design	Claire Sadler
	Real life story of unexpected toxicity - Lessons to learn	Ryan Cirz
	Roundtable discussion	Terry Miller, Claire Sadler, Ryan Cirz, Ursula Theuretzbacher
15:00 - 15:30	**Coffee Break**	
15:30 - 17:00	**Regulatory Roundtable**	Marco Cavaleri, Sumathi Nambiar, Edward Cox, Junko Sato
19:00 - 21:00	**Wellcome-sponsored Cocktail Reception**	

Wednesday, 5 September 2018		
Time:	**Programme:**	**Chair / Speaker:**
08:30 - 11:00	**New Antibacterial Agents**	Chairpersons: William Hope, Keith Rodvold
	Cefiderocol	Roger M. Echols
	Relebactam + Imipenem/Cilastatin	Amanda Paschke
	Eravacycline	Larry Tsai
	Omadacycline	Evan Tzanis
	Iclaprim	David Huang
	Lefamulin	Steven Gelone
11:00 - 11:30	**Coffee Break**	
11:30 - 12:00	**Young Investigator Lecture: Clinical trial design, clinical endpoints, recruitment issues for clinical trials in AMR**	Chairpersons: Sumathi Nambiar, Jesús Rodríguez-Baño / Speaker: Marlieke de Kraker
12:00 - 13:30	**Lunch and Poster Viewing**	
13:30 - 14:30	**Plenary: Preparing for the Black Swans of resistance**	Chairperson: Murat Akova / Speaker: David Livermore
14:30 - 14:40	**Short Break**	
14:40 - 16:10	**Rapid Diagnostic Testing for AMR**	Chairpersons: Maiken Cavling Arendrup, Judith Steenbergen
	Next generation AST: Rapid results and expanded antibiotic menus	Eric Stern
	Streamlining antibacterial clinical development through the use of rapid diagnostics	Andrew Tomaras
	Clinical Applications: Implementation and clinical management	Rosanna Peeling
16:10 - 16:30	**Coffee Break**	
16:30 - 18:00	**Pharmacodynamics of Adjunctive Therapies: Paradigm Changing Therapies**	Chairpersons: Sujata Bhavnani, Marco Cavaleri
	Regulatory perspectives	Marco Cavaleri
	Antibiotic potentiators	Troy Lister
	Bacterial growth rate modulators	Paul Ambrose
	Monoclonal antibodies	Steven Projan
	Phage therapy	Harald Brüssow

Thursday, 6 September 2018		
Time:	**Programme:**	**Chair / Speaker:**
08:30 - 10:30	**Building the Evidence Base to Inform AMR-Related Decision-Making**	Chairperson: John H. Rex
	Policy overview: Why is surveillance important and what do policy makers need?	Jeremy Knox
	The global policy/IACG perspective	Haileyesus Getahun
	Surveillance Landscape: Overview of current programmes and initiatives	Sharon Peacock
	Surveillance in pharma: A case-study for data sharing.	Barry Cookson
	Roundtable discussion	Jeremy Knox, Kevin Krause, Seamus O'Brien, Evelina Tacconelli, Didem Torumkuney
10:30 - 11:00	**Coffee Break**	
11:00 - 11:30	**Young Investigator Lecture: Metallobetalactamases (Epidemiology, Drug Design, Diagnosis and Treatment)**	Chairpersons: David C. Hooper, David Livermore / Speaker: Sara Boyd
11:30 - 12:30	**Plenary: Stewardship of New and Last-Resort Antibiotics in LIMCs - Balancing Access and Control?**	Chairperson: David C. Hooper / Speaker: Marc Mendelson
12:30 - 14:00	**Lunch and Poster Viewing**	
14:00 - 15:30	**Antifungal agents and Antifungal Drug Development**	Chairpersons: Maiken Cavling Arendrup, Sumathi Nambiar
	Five unmet medical needs for antifungal chemotherapy	David W. Denning
	Review of the antifungal pipeline	John R. Perfect
	Design and conduct of Phase II and III clinical trials for new antifungal agents	Peter Pappas
15:30 - 16:00	**Coffee Break**	
16:00 - 17:30	**Approaches to Tackle AMR in Low-to-Middle Income Countries**	Chairperson: Marc Mendelson
	Challenges and barriers to optimal dosing of old drugs for the management of common bacterial infections in LMICs	Alasdair MacGowan
	What is the evidence base for combinations of old antibiotics for the treatment of MDR bacteria?	Evelina Tacconelli
	Do we need new financial models to secure supply of old antibiotics?	Christine Årdal

Friday, 7 September 2018		
Time:	**Programme:**	**Chair / Speaker:**
08:30 - 10:00	**Breakpoints for new Antimicrobial Agents**	Chairperson: Maiken Cavling Arendrup
	The role of breakpoint committees in the development of new antibacterial agents - EUCAST	Christian Giske
	The role of breakpoint committees in the development of new antibacterial agents - US perspective	Jean Patel
	The role of breakpoint committees in the development of new antifungal agents	Shawn R. Lockhart
	How to define wild type distributions of target organisms	Maiken Cavling Arendrup
	Discussion	
10:00 - 10:30	**Coffee Break**	
10:30 - 11:00	**Young Investigator Lecture: Pharmacokinetics/Pharmacodynamics**	Chairpersons: George Drusano, Alasdair MacGowan / Speaker: Nikolas Onufrak
11:00 - 12:00	**Plenary: Days of Future Passed: What is Needed to Discover and Develop new Antimicrobials?**	Chairperson: Murat Akova / Speaker: Michael Dudley
12:00 - 13:30	**Lunch and Poster Viewing**	
13:30 - 15:00	**Clinical Trial Design for AMR**	Chairpersons: Herman Goossens, Jesús Rodríguez-Baño
	Alternative designs to test new antibiotics	Aaron Dane
	Challenges for pathogen-target trials	Jesús Rodríguez-Baño
	Advanced observational studies for MDR pathogens: useful or confounding?	Mical Paul
	Challenges of trials with new antibiotics: The view of the industry	John Tomayko
15:00 - 15:30	**Coffee Break**	
15:30 - 17:00	**Drug Discovery in Academia**	Chairperson: David C. Hooper
	Drugs from bugs of bugs – An unexpected source and collaboration	David Andes
	Discovering antibiotic adjuvants to extend the life of existing drugs	Gerry D Wright
	Overview of techniques used in drug discovery	Ian Gilbert

Posters

Following the submissions of many strong abstracts, the Programme Committee members have selected a range to be displayed as posters, to be hanging in the venue throughout the conference. The posters are grouped into 7 categories, listed alphabetically below:

Category 1: Biofilm

1 Potential of marine Actinomycetes for the reduction of biofilm formation.

21 New insights into the effect of azithromycin on *Pseudomonas aeruginosa* attachment.

47 Glutathione deactivates *Pseudomonas aeruginosa* virulence factor pyocyanin function, enhances antibiotic efficacy in killing biofilms and facilitates host cellular growth.

65 Unravelling the antibiofilm mechanism of action of the viral-derived membrane-active peptide pepR.

71 The influence of marine bacteria-derived biosurfactants on *Staphylococcus aureus* and *Proteus mirabilis* biofilm formation.

118 Screening of the selected properties of biofilm-forming pathogenic bacteria isolated from horses.

125 A study of antibiotic susceptibility and biofilm production of bacteria isolated from diabetic foot ulcer patients.

Category 2: Drug Discovery

23 Shotgun and functional metagenomic approach to unravel antimicrobial potential of microbial communities from Western Balkans glacial lakes sediments.

25 Analysis of *Escherichia coli* essential genes in the complete genomes of 63 strains: a search for new therapeutic alternatives.

28 Receptor specificity and mode of action of SAHKI, an inhibitor of two-component histidine kinase, in attenuating infections caused by multiple drug resistant *Staphylococcus aureus*.

30 Phagemid-based expression of synthetic sRNA to silence Shiga toxins: a strategy towards RNA-based therapeutics.

36 Genome wide profiling of *Mycobacterium tuberculosis* exposed to novel anti-tuberculosis agents thienothiazole carboxamide (TTCA) derivatives.

37 Structure-activity relationships of thienothiazole carboxamide (TTCA) series for identification of novel anti-tubercular agents.

38 Antibacterial and synergistic activity of Δ9-tetrahydrocannabinol.

39 In quest of a novel scaffold to combat MDR/XDR tuberculosis.

42 Miniaturization of whole-cell bacterial bioreporter assay to identify quorum-sensing interference activity of chemical compounds.

43 In vitro characterization of novel *Pseudomonas aeruginosa* quorum sensing inhibitors identified by *in silico* screening.

44 **Targeting quorum sensing: discovery of LsrK inhibitors.**

53 **Next-generation antimicrobials based on CRISPR-Cas3 enhanced bacteriophages.**

55 **High density transposon mutant profiling enables the discovery and development of novel antimicrobials.**

59 **Evaluating bacterial thermoregulation mechanisms as an alternative drug target.**

61 **Modulation of quorum sensing in a Gram-positive pathogen by linear molecularly imprinted polymers with anti-infective properties.**

62 **Investigation of narrow spectrum targets in antibacterial drug discovery.**

70 **Carbonyl cyanide m-chlorophenylhydrazone (CCCP) and no other efflux pump inhibitor reversed resistance to polymyxins in Enterobacteriaceae isolated from bloodstream infections.**

74 **A new endolysin from *Acinetobater baumannii* Ab105Φ1 bacteriophage with Gram-negative antimicrobial activity.**

75 **Antimicrobial activity from mutant lytic phage obtained from the Ab105-2φ prophage harbouring clinical strain of *Acinetobacter baumannii*.**

91 **Screening and synergy study applications for new antibacterial compounds against ESKAPE bacteria.**

97 **New tricks for old drugs – Uncovering the mechanism of action of thioridazine in *Salmonella Typhimurium.***

98 **Repurposing zinc and cobalt organometallic compounds as effective antimicrobials against Gram-positive and -negative bacteria.**

112 **A polypharmacological approach to address antibacterial resistance: inhibition of histidine kinases by targeting the ATP-binding domain.**

114 **Understanding the bacterial permeation of drug-like molecules.**

130 **Identification of drug and vaccine candidates based on functional annotation of hypothetical proteins in *Neisseria gonorrhoeae*.**

134 **Small-molecule anti-virulence agents F12 and F19 against Gram-positive pathogens.**

135 **Synthesis and evaluation of novel bacterial topoisomerase inhibitors with reduced hERG inhibition.**

137 **Repurposing of a non-antimicrobial drug to treat bacterial infections caused by Gram-negative pathogens.**

142 **Identification of potential narrow-spectrum antibiotics for the treatment of bacterial enteric infections through a phenotypic screening in *Shigella flexneri*.**

147 **Discovery of FtsZ and FtsA inhibitors.**

148 **Prediction of novel antimicrobials using large screening data.**

L5 **Antibiofilm activity of ocellatin peptides against multidrug-resistant *Pseudomonas aeruginosa.***

Category 3: Drug Development

15 Towards new β-lactamase inhibitors: chemistry- and modeling-driven approaches.

17 Octapeptins: new lipopeptides for XDR Gram-negative infections.

18 Glycopeptide derivatives with potent activity against multi-drug resistant pathogenic bacteria.

31 BARDA's model to support antibiotic development.

33 Getting drug into Gram-negative bacteria: exploiting the porins pathway.

35 Potential antimicrobials fighting XDR-pathogens; a study on the isolation and characterization of lytic bacteriophages effective on colistin resistance *Klebsielle pneumoniae.*

45 Fighting bacterial skin infections with tetraspanin-derived peptides.

46 Spectrum of activity of RX-P2382, a novel class of bacterial ribosome inhibitor.

49 The safety of iclaprim among diabetic patients for the treatment of acute bacterial skin and skin structure infections (ABSSSI): pooled REVIVE studies.

50 Surveillance of iclaprim activity: *in vitro* susceptibility of drug-susceptible and -resistant beta-hemolytic Streptococci collected between 2012 and 2016 from skin and skin structure infections.

51 *In vitro* activities of omadacycline against rapidly growing mycobacteria.

52 Iclaprim activity against clinical isolates causing acute bacterial skin and skin structure infections (ABSSSI) in the phase 3 REVIVE-1 and REVIVE-2 studies.

54 Building a European laboratory network for anti-infective clinical rrials – COMBACTE LAB-Net: 5 years in.

56 SMT-571: the development of a novel oral antibiotic to treat multi-drug resistant *Neisseria gonorrhoeae.*

57 Characterization of novel cyclic polypeptides with potent *in vitro* and *in vivo* activity against multidrug-resistant Gram-negative pathogens, and with reduced nephrotoxicity relative to colistin.

58 Pharmacokinetics and efficacy of ceftolozane/tazobactam in the treatment of experimental *Pseudomonas aeruginosa* pneumonia in persistently neutropenic rabbit model.

60 Surveillance of iclaprim activity: *in vitro* susceptibility of Gram-positive skin and skin structure pathogens collected during 2004-2016.

63 A phase 3, randomized, double-blind, multi-center study to compare the safety and efficacy of IV to oral omadacycline to moxifloxacin for the treatment of adult patients with CABP (the OPTIC Study).

64 A phase 3 randomized, double-blind, multi-center study to compare the safety and efficacy of oral omadacycline to oral linezolid for treating adult subjects with ABSSSI (OASIS-2 study).

68 Outer membrane protein targeting antibiotics (OMPTAs): *in vitro* and *in vivo* characterization of a novel class of compounds.

72 Project pillar phase II: provision of clinical strains.

80 *In vitro* activity evaluation of a next-generation polymyxin, SPR206, against non-fermentative Gram-negative bacilli responsible for human infections.

81 **Activity of investigational polymyxin-B-like compound (SPR206) against set of Enterobacteriaceae organisms responsible for human infections.**

84 **Assessment of AUC-Based Therapeutic Drug Management (TDM) algorithms for plazomicin therapy in patients with bloodstream Infection (BSI).**

85 **Pharmacokinetic/pharmacodynamic target attainment analyses to support plazomicin dose selection and recommendations for interpretive criteria for *in vitro* susceptibility testing for Enterobacteriaceae.**

86 **Population pharmacokinetic analyses for plazomicin using pooled data from phase 1, 2 and 3 studies.**

87 **Targeting polymyxin- and carbapenem-resistant *Klebsiella pneumoniae* (KPC-KP) via a novel, integrated mechanistic approach.**

88 **Comprehensive Penicillin-Binding Protein (PBP) occupancy patterns of 18 drugs in *Acinetobacter baumannii*.**

93 **A panel of MDR *P. aeruginosa* clinical isolates for pharmacology studies with murine lung and thigh infection models.**

95 **Lead development of PolC polymerase inhibitors against resistant Gram-positive pathogens.**

96 **Activity of antimicrobial peptides against *Mycobacterium abscessus*.**

99 **Lysin CF-301 (Exebacase) resensitizes methicillin-resistant *Staphylococcus aureus* (MRSA) to penicillin derivatives and first-generation cephalosporin.**

100 **Pharmacokinetics/pharmacodynamics (PK/PD) of plazomicin (PLZ) against carbapenem-resistant Enterobacteriaceae (CRE) in neutropenic murine thigh infection and pneumonia models.**

101 **Method for generating a pharmacokinetic/pharmacodynamic (PK/PD) breakpoint from murine infection studies with multiple strains.**

103 **A novel approach to decrease efflux-mediated drug resistance in *Neisseria gonorrhoeae*.**

104 **High-dose nitric oxide inhibits growth of *Mycobacterium abscessus*.**

107 **The role of whole genome sequencing on post-marketing surveillance programs: results of the INFORM surveillance program for Ceftazidime-Avibactam in the United States.**

110 **Evaluation of proline-rich antimicrobial peptides for treatment of ventilator-associated pneumoniae.**

111 **Tedizolid *in vitro* activity against a contemporary challenge collection of multidrug-resistant enterococcal clinical isolates.**

113 **Novel inhibitors of leucyl-tRNA synthetase.**

116 **Analysis of Oritavancin *in vitro* activity against enterococcal isolates and resistant subsets.**

117 **Activity of Meropenem-Vaborbactam and Comparator Agents against multidrug-resistant Enterobacteriaceae isolates from the Unites States analyzed by site of infection.**

122 **Nano-mupirocin for the treatment of resistant gonorrhea.**

131 **Population pharmacokinetic analyses for Arbekacin after administration of ME1100 inhalation solution.**

136 Importance of utilizing local Carbapenem-resistant Enterobacteriaceae (CRE) surveillance isolates to determine potential efficacy of novel agents: Meropenem-Vaborbactam (M-V) exhibits robust activity at a US Healthcare Center with a predominance of non-KPC-producing CRE.

138 *In vivo* efficacy of SPR206 in an immunocompetent murine ascending UTI infection model caused by *Escherichia coli*.

139 *In vivo* efficacy of SPR206 in murine lung and thigh infection models caused by multi-drug resistant pathogens *Pseudomonas aeruginosa* and *Acinetobacter baumannii*.

145 Understanding the SAR Interplay for kidney exposure and cytotoxicity facilitates the design of improved Polymyxin derivatives – identification of SPR206 as a development candidate.

146 A GLP 14-day repeat dose toxicology study of SPR206 in monkeys.

L1 Proteomics analysis of proteins associated with urinary tract infections.

L2 Pharmacokinetics and pharmacodynamics of Tebipenem (SPR859) for multidrug-resistant Enterobacteriaceae in a hollow fibre infection model.

L3 Pharmacokinetics and pharmacodynamics of SPR994 for multidrug-resistant Enterobacteriaceae.

149 A hollow-fiber infection model to evaluate the prevention of on-therapy resistance of *Neisseria gonorrhoeae* to Gepotidacin.

Category 4: Epidemiology

10 Epidemiology of Carbapenem-resistant *Klebsiella pneumoniae* in intensive care units of multiprofile hospiatls in Tbilisi, Georgia.

12 Molecular epidemiology and drug susceptibility of *Pseudomonas aeruginosa* in a tertiary care centre in Kosovo.

16 Antibiogram of Gram-negative human pathogens isolated in India.

22 Multiple-antibiotic resistance and presence of CTX-M genes among Enterobacteriaceae isolates from different sources in Iwo, Osun State, Nigeria.

32 Drug-resistant pattern of bacterial isolates in infected wounds at Bahir Dar Regional health research laboratory center, Northwest Ethiopia.

34 Antimicrobial resistance, genomic and molecular epidemiologic analysis of *Salmonella* serovars in Hacettepe University Hospitals.

41 *Clostridium difficile* from human and environmental specimens in ICU on clinic of neurosurgery.

48 A survey on multidrug resistance and virulence genes in *Pseudomonas aeruginosa* isolates in a major hospital in Shiraz, Iran.

69 Study of extended spectrum B-Lactamase producing Enterobacteriacae from healthcare workers from different hospitals in Khartoum State 2016-2017.

76 Isolation and characterization of NDM-1 producing *Klebsiella Pneumoniae* from three Palestinian hospitals.

90 Species diversity of IMP-producing *Acinetobacter* isolated from patients in pediatric and neonatal intensive care units: clinical features, diagnosis and treatment.

92 Clavulante stability in widely used child-appropriate formulations is unlikely to be adequate for use in treating young children in Asia.

123 Detection of CPE in rectal swaps using four different phenotypic techniques and Check-Direct CPE multiplex PCR, using PCR and sequencing as a reference methods.

124 Carbapenem-resistant *Acinetobacter baumannii* and *Pseudomonas aeruginosa* bacteremia in Southern Veterans Hospital.

127 Ciprofloxacin-resistant *Salmonella enterica* serovar typhi infections in travelers returning from India to Republic of Korea.

128 Genetic relationships among Fluoroquinolone-resistant *Shigella sonnei* isolates from humans in Republic of Korea, 2008-2016.

129 Comparative analysis of extended-spectrum β-lactamase (ESBL) CTX-M-15-producing *Salmonella enterica* serovar enteritidis isolates from human and chicken in Republic of Korea.

132 Complete genome sequence of a blaKPC-2-positive *Klebsiella pneumoniae* strain isolated from the effluent of an urban sewage treatment plant in Japan.

140 Current oral (PO) regimen options are suboptimal for hospitalized patients with urinary tract infections (UTI) due to contemporary resistant Enterobacteriaceae (ENT): a multicenter analysis.

141 The impact of antibiotic resistance on hospitalized patients with Enterobacteriaceae (ENT) urinary tract infections (UTI): a multicenter analysis.

Category 5: Fungal Infections

4 Development of antifungal biopharmaceutical Dectin1-Fc.

27 Impact of *Bacillus licheniformis* SV1 derived glycolipid on *Candida glabrata* biofilm.

78 Effect of new antifungal peptides resistant to action of MDR pumps on *Candida* cells.

119 *In vitro* susceptibility of five *Candida* species to photodynamic therapy using curcumin as photosensitizer.

L4 Ibrexafungerp (formerly SCY-078) displays potent *in vitro* activity against *C. glabrata* isolates with mutations in fks genes.

Category 6: Management of Resistance

9 Study of ompk35 and ompk36 expression in in Carbapenem Resistant ESBL producing clinical isolates of *Klebsiella pneumoniae.*

19 Effect of amoxicillin metabolites on the induction of resistance to amoxicillin susceptible bacterial strains.

66 Effect of efflux pump inhibitors to efficacy of Meropenem on *Acinetobacter* spp. clinical isolates.

67 Investigating the effect of phenylalanine-arginine-beta-naphthylamide to minimum inhibition concentration of Ciprofloxacin and expression of efflux pump genes in *Acinetobacter baumannii* clinical isolates.

77 Improve awareness and understanding antibiotics resistant through participation in public cultural forums.

83 Optimizing aminoglycoside selection for KPC-producing *Klebsiella pneumoniae* with aminoglycoside modifying enzyme AAC(6')-Ib.

120 Evaluation and interpretation of antimicrobial resistance in patient's Rifampicin- or multidrug-resistant tuberculosis by Northern Iran: an analysis of past 10 years.

133 Growth Inhibition of *Streptococcaceae* in healthy gut flora by Interocin of *Streptococcus intermedius* TYG1620 isolated from a human brain abscess.

Category 7: Plants

5 Studies on the antimicrobials and toxicological properties of the stem bark extracts of *Calophyllum inophyllum* (Linn).

8 Antibacterial potentials of the leaf extracts of Siam weed (*Chromolaena odorata*) on wound isolates.

13 Innate Defense Regulators (IDRs) – agnostic therapy to treat bacterial infections and fight resistance.

40 Growth and biofilm formation inhibition activity against carbapenem resistant *Acinetobacter baumannii* is obtained reproducibly from 7 different water extracts of complex mixes of edible plants.

89 Antibacterial and antioxidant activity of ethanolic extracts of *Uvaria chamae* roots on bacterial multiresistance: involvement of chalcones and dihydrochalcones.

105 Valuation of some plants of the traditional Beninese pharmacopoeia used in the control of pathogenic enterobacteria.

108 Antimicrobial activities of *Thymus vulgaris* and *Cymbopogon citratus.*

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