



# ***International Meeting on Emerging Diseases and Surveillance***

**Vienna, Austria • November 4–7, 2016**



***Organized by***

International Society for Infectious Diseases (ISID)  
ProMED-mail, the Program for Monitoring Emerging Diseases

**FINAL PROGRAM**



# PROUD SPONSOR

of IMED 2016

With a shared vision to develop partners  
and find solutions to infectious diseases  
*across the globe.*



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**2016**

# **IMED**

***International Meeting  
on Emerging Diseases  
and Surveillance***



**Organized by**

International Society for Infectious Diseases (ISID)  
ProMED-mail, the Program for Monitoring Emerging Diseases



**FINAL PROGRAM**



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*International Meeting on Emerging Diseases and Surveillance 2016*

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It is our pleasure to welcome you to the Sixth International Meeting on Emerging Diseases and Surveillance, IMED 2016 in Vienna, Austria from 4–7 November 2016. For those whose work deals with threats from infectious agents, IMED 2016 is once again bringing leading scientists, clinicians and policy makers to Vienna to present new knowledge and breakthroughs and discuss how to discover, detect, understand, prevent, and respond to outbreaks of emerging pathogens.

Since the last IMED in 2014, newly emerged diseases and outbreaks of familiar ones have continued to challenge us. The West African Ebola outbreak presented an unparalleled crisis of global proportions and there are many lessons yet to be learned from it. MERS coronavirus continues to challenge the Middle East, spreading dangerously in the healthcare setting, and showed its global threat with a major outbreak in the Republic of Korea. Eruptions of highly pathogenic avian influenza in poultry, wild birds and humans continue to occur. Zika virus appeared for the first time in the Americas, spreading widely in this region with plentiful competent vectors. A frightening role in fetal malformation has emerged. Diseases at the human-wildlife interface ranging from rabies to plague to Nipah continue to draw our attention. Growing resistance by pathogens to all types of therapeutic agents raises fundamental obstacles to our ability to respond to outbreaks and pandemics. We have witnessed the use of chemical weapons in the Syrian conflict and the threat of intentional use of biological agents for nefarious purposes remains as real as ever. The European migrant crisis has raised questions regarding the re-emergence of infectious diseases and the monitoring and screening of migrants arriving in Europe and elsewhere.

Since its inception, IMED has been a summit that unifies our approach to pathogens in the broadest ecological context. Drawing together human and veterinary health specialists, IMED serves as a true One Health forum where those working in diverse specialties and diverse regions can meet, discuss, present and challenge one another with findings and new ideas. While pathogens emerge and mutate, our methodology for detection, surveillance, prevention, control, and treatment also continue to evolve. New approaches to vaccination and isolation, the uses of novel data sources and genomics, novel laboratory methods, rapid point-of-care diagnostics, risk communication, political and societal responses to outbreaks have all seen innovation and change that will be explored at IMED 2016.

ProMED and the International Society for Infectious Diseases (ISID), along with all of our co-sponsors and participating organizations, look forward to welcoming you to Vienna. ,

Larry MADOFF  
Co-Chair, Scientific Program Committee  
Editor, ProMED-mail, ISID

Britta LASSMANN  
Co-Chair, Scientific Program Committee  
Program Director, ISID



## IMED Scientific Committee

- |  |                                |
|--|--------------------------------|
| Larry Madoff, <i>Co-Chair</i> , USA    | Damien Joly, Canada            |
| Britta Lassmann, <i>Co-Chair</i> , USA | William Karesh, USA            |
| Jacques Acar, France                   | Daniel Lucey, USA              |
| Marylyn Addo, Germany                  | Kenneth Mandl, USA             |
| Uzma Bashir, Pakistan                  | Nina Marano, USA               |
| Lucille Blumberg, South Africa         | Ghassan Matar, Lebanon         |
| Timothy Brewer, USA                    | Marc Mendelson, South Africa   |
| John Brownstein, USA                   | Niwaël Mtui-Malamsha, Tanzania |
| Michael Catchpole, Sweden              | Tin Tin Myaing, Myanmar        |
| Jon Cohen, United Kingdom              | Norbert Nowotny, Austria & UAE |
| Giuseppe Cornaglia, Italy              | Albert Osterhaus, Germany      |
| Sidi Coulibaly, Burkina Faso           | Julio Pinto, Italy             |
| Jonathan Epstein, USA                  | Philip Polgreen, USA           |
| Onder Ergonul, Turkey                  | Marjorie Pollack, USA          |
| David Fisman, Canada                   | Natalia Pshenichnaya, Russia   |
| Antoine Flahault, Switzerland          | Eva Schernhammer, Austria      |
| Louise Gresham, USA                    | Arnon Shimshony, Israel        |
| Rana Hajjeh, Egypt                     | Paul Tambyah, Singapore        |
| David Harper, United Kingdom           | Jaime Torres, Venezuela        |
| David Heymann, United Kingdom          | Effy Vayenna, Switzerland      |
| Jim Hughes, USA                        | Jack Woodall, Brazil           |



## ISID Executive Committee:

- |                                      |                              |
|--------------------------------------|------------------------------|
| Jonathan Cohen, UK, <i>President</i> | Keith Klugman, USA           |
| Ursula Theuretzbacher, Austria       | Ziad Memish, Saudi Arabia    |
| Rana Hajjeh, Egypt                   | Marc Mendelson, South Africa |
| Alison Holmes, UK                    | Miguel O'Ryan, Chile         |
| Gagandeep Kang, India                | Paul Tambyah, Singapore      |



## EpiCore

Friday, November 4, 2016 ~ 11.00–13.00 ~ Klimt Ballroom 1/Upper Level

Working with ProMED-mail, EpiCore is a new innovative surveillance program that harnesses the power of volunteers located throughout the world to provide information to help verify outbreaks faster than traditional surveillance methods. Qualified EpiCore members are trained in innovative surveillance techniques and the specific use of the EpiCore platform. They may then respond to requests for information distributed by ProMED-mail moderators via email to members in geographic proximity to an outbreaks or suspected outbreak. Members provide information to EpiCore through a secure web-based system that allows them to maintain their anonymity as desired. The information collected through EpiCore may then be shared through ProMED, a free, nonpolitical system with open and public worldwide distribution. By using innovative surveillance techniques and linking local and international human, animal and environmental health experts, EpiCore enables faster outbreak detection and reporting. [www.epicore.org](http://www.epicore.org)



The **International Society for Infectious Diseases (ISID)**—with more than 80,000 members representing every country in the world—is a non-profit organization committed to supporting infectious disease practitioners in their work to prevent the spread of infectious diseases and investigate and manage infectious disease outbreaks when they occur. ISID recognizes that infectious diseases cross all national and regional boundaries and that effective long-term solutions require international scientific exchange and cooperation. [www.isid.org](http://www.isid.org)



ISID's **Program for Monitoring Emerging Diseases (ProMED)** is one of the largest publicly available emerging disease and outbreak alert systems in the world. ProMED publishes real-time, around the clock reports of infectious disease outbreaks and toxic exposure incidents with commentaries from a worldwide staff of expert moderators. ProMED follows the One Health concept covering emerging diseases and toxin exposures in plant, animal, wildlife, and humans. One of the early innovators in using non-traditional/informal information sources to identify unusual health events around the world, ProMED emphasizes transparency, is open to all sources, is free of political constraints, and is available to anyone free of charge. In addition to the generally focused English version, ProMED is also available in several languages and as regional networks. [www.promedmail.org](http://www.promedmail.org)

#### **ProMed Who's Who**

Lawrence C. Madoff, USA, *Editor*  
Marjorie P. Pollack, USA, *Deputy Editor*  
Stuart Handsides, UK, *Associate Editor*

Donald Kaye, USA, *Associate Editor*  
Matthew Levison, USA, *Associate Editor*  
Jack Woodall, Brazil, *Associate Editor*

#### **ProMed Moderators, Correspondents and other team members**

Sameeh M. Abutarbush, Jordan  
Yaw Afrane, Kenya  
Rodrigo Nogueira Angerami, Brazil  
Batyrbek Aslanov, Russia  
Yin Myo Aye, Thailand  
Susan Baekeland, France  
Uzma Bashir, Pakistan  
Pablo Beldomenico, Argentina  
Abdelali Benkirane, Morocco  
Paritosh Kumar Biswas, Bangladesh  
Maja Carrion, USA  
Sidi Coulibaly, Burkina Faso  
Peter Cowen, USA  
Cristina Ramirez David, USA  
Joanna Eng, USA  
Benson Estambale, Kenya  
Amy Galblum, USA  
Tam Garland, USA  
Jorge Gonzalez-Mendoza, Peru  
Dagmar Hanold, Australia  
Martin Hugh-Jones, USA  
Jocelyn Isadore, USA  
Maria Jacobs, Switzerland  
Laura D. Kramer, USA  
Britta Lassmann, USA  
Daniel R. Lucey, USA  
Larry I. Lutwick, USA

Boubacar Maiga, Mali  
Ghassan Matar, Beirut  
Vadim Melnik, Ukraine  
Laurence Mialot, USA  
Niwael Mtui-Malamsha, Tanzania  
Mubarak S Mustafa, Sudan  
Tin Tin Myaing, Myanmar  
Sharifa Nasreen, Canada  
Quoc Cuong Nguyen, Vietnam  
Maha Obadi, Yemen  
Anna Orsola, USA  
Eskild Petersen, Oman  
Natalia Pshenichnaya, Russia  
Nilufar Rakhmanova, Uzbekistan  
Muhammad Salman, Pakistan  
Nazar Shabila, Iraq  
Arnon Shimshony, Israel  
Girraj Singh, India  
Andrew Sideman, USA  
Mohamed M. Sirdar, South Africa  
Mark Sprinkle, USA  
Drew Tenenholz, USA  
Jaime Torres, Venezuela  
Sok Touch, Cambodia  
Joseph Francis Wamala, Uganda  
Tom Yuill, USA



### **Sustaining Sponsor**

Metabiota develops systems to mitigate microbial threats. Metabiota is a for-profit company specializing in disease and pathogen detection, evaluation and response through the integration of field and lab research with health data analytics. Metabiota has a demonstrated track record in international collaboration, scientific and public health surveillance capacity-building, and research with high public health impact. Metabiota is focused on scientific leadership, community health development and education, and exploratory research. Metabiota maintains offices in San Francisco, CA, Washington, DC, and Guangzhou, China.

### **Contributors**

Austrian Airlines

City of Vienna

International Society for Infectious Diseases (ISID)

Vienna Convention Bureau

Vienna Hilton Am Stadtpark

**We thank the IMED Organizing Committee members' support to facilitate participation of select colleagues from low income countries in the meeting.**



### **Lunch and £10m Longitude Prize**

Sunday, November 6, 2016 ~ 13.15–14.15 ~ Klimt Ballroom 2&3/Upper Level

The Longitude Prize is the UK's biggest science prize. It's a 5-year global competition with a prize fund of £10m, and a 300 year legacy. Launched in 2014, it is focused on tackling the growing resistance to antibiotics, which is the topic selected through public vote. Currently, 205 teams from 37 countries are working on ideas to win the Prize, by developing a diagnostic test that can significantly reduce the inappropriate use of antibiotics. It needs to be transformative, affordable, accurate, easy to use in any health setting, and provide a result in 30 minutes. To find out more about the Prize, how you could take part, and about the support we offer, please join us at IMED 2016. Information: [www.longitudeprize.org](http://www.longitudeprize.org)



### **Participating Organizations**

Austrian Agency for Health and Food Safety (AGES)  
Austrian Federal Ministry of Health  
Austrian Society for Infectious Diseases and Tropical Medicine (ÖGIT)  
Austrian Society of Hygiene, Microbiology and Preventive Medicine (ÖGHMP)  
Austrian Society of Tropical Medicine, Parasitology and Migration Medicine (ÖGTPM)  
Centre of Public Health, Medical University of Vienna  
Chatham House, The Royal Institute of International Affairs  
Connecting Organizations for Regional Disease Surveillance (CORDS)  
EcoHealth Alliance  
European Centre for Disease Prevention and Control (ECDC)  
European Society of Clinical Microbiology and Infectious Diseases (ESCMID)  
European Society for Veterinary Virology (ESVV)  
EpiCore  
Food and Agriculture Organization of the United Nations (FAO)  
Fondation Mérieux  
The Institute of Global Health - Université de Genève  
The Longitude Prize  
Metabiota  
One Health Platform  
Skoll Global Threats Fund  
World Organization of Animal Health (OIE)  
World Veterinary Association  
University of Veterinary Medicine Vienna – (Vetmeduni Vienna)

### **Exhibitors**

Altona  
Euroimmun  
Fast Track  
Mitre  
International Society for Infectious Diseases (ISID)

**We invite you to visit the Exhibits in the Pre-Function Area on the Ground Level.**



### **Organizer & Conference Office**

International Society for Infectious Diseases  
9 Babcock Street, Unit 3, Brookline, MA 02446, USA  
phone: (617) 277-0551 • fax: (617) 278-9113  
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web: <http://www.isid.org> • <http://imed.isid.org>

### **Exhibition Office**

Media Plan  
Freyung 6  
1010 Vienna, Austria  
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Fax: (+43 1) 535 60 16  
Email: [mp@media.co.at](mailto:mp@media.co.at)



## GENERAL INFORMATION

International Meeting on Emerging Diseases and Surveillance 2016

### Opening Hours of the Registration and Information Desk

Friday, November 4, 2016	11:00 – 19:00hrs
Saturday, November 5, 2016	08:00 – 18:00hrs
Sunday, November 6, 2016	08:00 – 18:00hrs
Monday, November 7, 2016	08:00 – 12:00hrs

### Congress Venue

Hilton Vienna • Am Stadtpark • 1030 Vienna • Tel: +43 1 717 000 • <http://www.hilton.com>

**Registration Fees** • Participants: USD 575.00 • Students: USD 325.00

### Social Program

The Welcome Reception will be held on Friday, November 4 from 17:30 to 19:00hrs at the Hilton Hotel Vienna on the Gallery (Upper Level).

The Mayor's Reception will take place on Sunday, November 6 at 19:30hrs at the Vienna City Hall (entrance: Lichtenfelsgasse, 1010 Vienna). An invitation card is needed to gain access to this reception. The price is USD 15.00 per person. Onsite registration is subject to availability. For both functions business attire is appropriate.

**Badges** • Please wear your name badge at all times during the conference in order to gain access to the scientific program and all conference functions.

**Conference Mobile App** • The Conference Mobile App includes the program, floor plans, sponsors, evaluations and exhibition information. It can be downloaded from the web: <http://eventmobi.com/imed2016/>. Once downloaded from the web, the App will also work offline. In order to update the App with any program changes you will have to connect to the Internet. For easier access in the future make sure to simply add the bookmark to your phone's home screen.

**Internet Access** • The Hilton provides free internet access in the main hotel lobby. WiFi access in the sleeping rooms and conference area is available for a special conference fee if you present your IMED name badge. Tickets can be purchased from the reception desk on the ground level (EUR 10 for 24 hours).

### CME

The IMED 2016 is accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS), [www.uems.net](http://www.uems.net).

The IMED 2016 is designated for a maximum of, or up to 18 hours of European external CME credits. Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the European Union of Medical Specialists and the American Medical Association, physicians may convert EACCME credits to an equivalent number of AMA PRA Category 1 Credits™. Information on the process to convert EACCME credit to AMA credit can be found at [www.ama-assn.org/go/internationalcme](http://www.ama-assn.org/go/internationalcme).

Live educational activities, occurring outside of Canada, recognized by the UEMS-EACCME for ECMEC credits are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada.

### RACE (Veterinary CE)

The American Association of Veterinary State Boards RACE committee has reviewed and approved the program referenced above as meeting the Standards adopted by the AAVSB to offer a total of 21.00 CE Credits (21.00 max) being available to any one veterinarian. This approval is valid in jurisdictions which recognize AAVSB RACE; however, participants are responsible for ascertaining each board's CE requirements.

All CME forms can be accessed online: <https://isid.typeform.com/to/sA6nqE>, the Congress App and will be emailed to registered attendees at the end of the Conference. All sessions meeting CME criteria are designated .

### IMED on Social Media



Please tweet about IMED:  
[@ISID\\_meetings](https://twitter.com/ISID_meetings)  
using #IMED2016



Like our facebook page:  
<https://www.facebook.com/ISID.IMED>



### Poster Presentations

Poster presentations will be held on Saturday, November 5 and Sunday, November 6 from 11:45 to 13:15hrs. During this period all presenters must be available for discussion at their posters.

Set-up for Poster Presentations I:

Saturday, November 5 from 08:00 to 10:30hrs

Removal: Saturday, November 5 from 16:30 to 18:00hrs

Set-up for Poster Presentations II:

Sunday, November 6 from 08:00 to 10:30hrs

Removal: Sunday, November 6 from 16:30 to 18:00hrs

### Poster Areas (Upper Level)

#### Saturday, November 5, 2016 / Poster Presentations I

11:45–13:15

##### Room Bruckner/Mahler/Brahms / Upper Level:

Poster Number	Topic
19.001 – 19.058	Antimicrobial Resistance
19.059	Vectorborne Diseases
19.060 – 19.062	Bioterrorism and Biological Warfare
19.063 – 19.068	Climate Change and Ecological Factors in Disease Emergence
19.069 – 19.093	Diseases at the Interface of Humans, Wildlife and Other Animals
19.094 – 19.101	Diseases of Animals
19.102 – 19.105	Ethical Issues in Emerging Diseases and Disease Surveillance
19.106 – 19.119	Foodborne and Waterborne Diseases
19.120 – 19.157	Infections of Public Health Significance

##### Klimt Ballroom I / Upper Level:

Poster Number	Topic
19.158 – 19.203	Infections of Public Health Significance ( <i>continued</i> )
19.204 & 19.215	Outbreak Response and Control
19.205 – 19.214	Infections Related to Travel and Migration

#### Sunday, November 6, 2016 / Poster Presentations II

11:45–13:15

##### Room Bruckner/Mahler/Brahms / Upper Level:

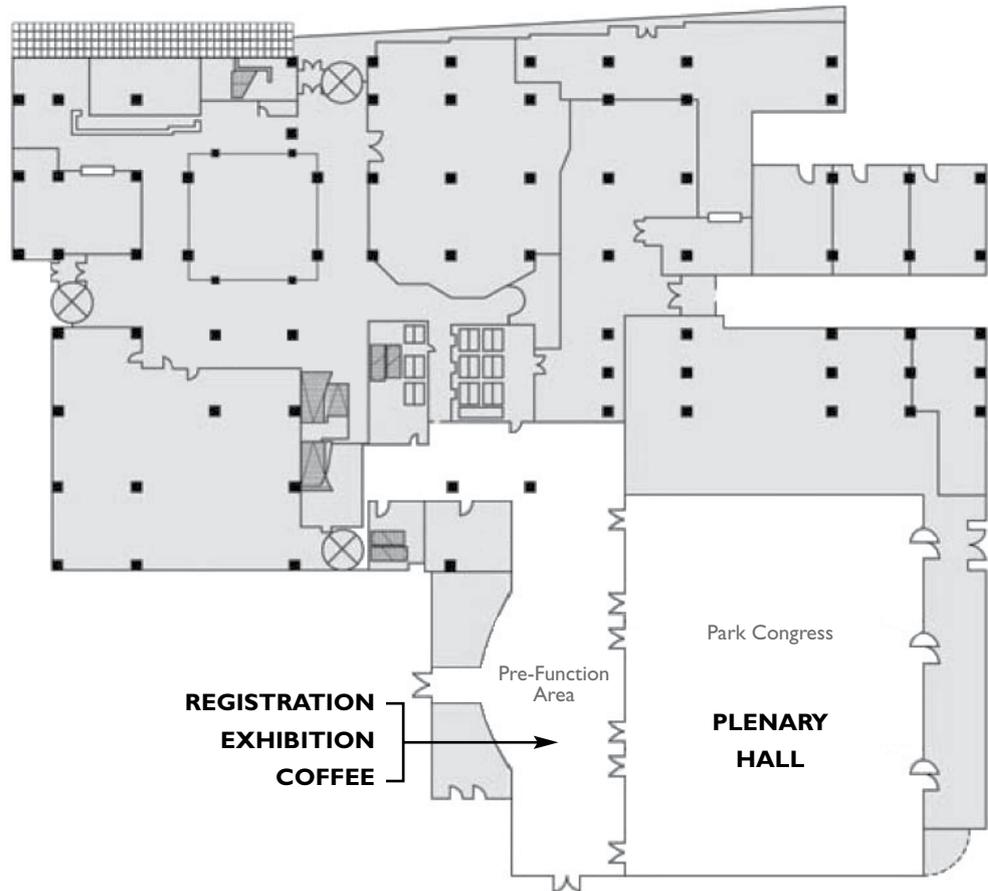
Poster Number	Topic
20.001	Outbreak Modeling
20.002 – 20.024	Influenza and Other Respiratory Infections
20.025 – 20.037	Innovations in Diagnostic Tests for Emerging Diseases
20.038 – 20.041	Innovations in Surveillance for Non-communicable Diseases
20.042 – 20.071	New Approaches to Outbreak Surveillance and Monitoring
20.072 – 20.074	New Pathogen Discovery
20.075 – 20.102	New, Emerging and Neglected Zoonotic Diseases
20.103 – 20.107	Outbreak Modeling
20.108 – 20.140	Outbreak Response and Control
20.141 – 20.151	Public Communication of Outbreaks and Emerging Diseases
20.152 – 20.155	Sociopolitical Factors in Disease Emergence
20.156 – 20.161	Vaccines and Emergence of Vaccine Preventable Diseases

##### Klimt Ballroom I / Upper Level:

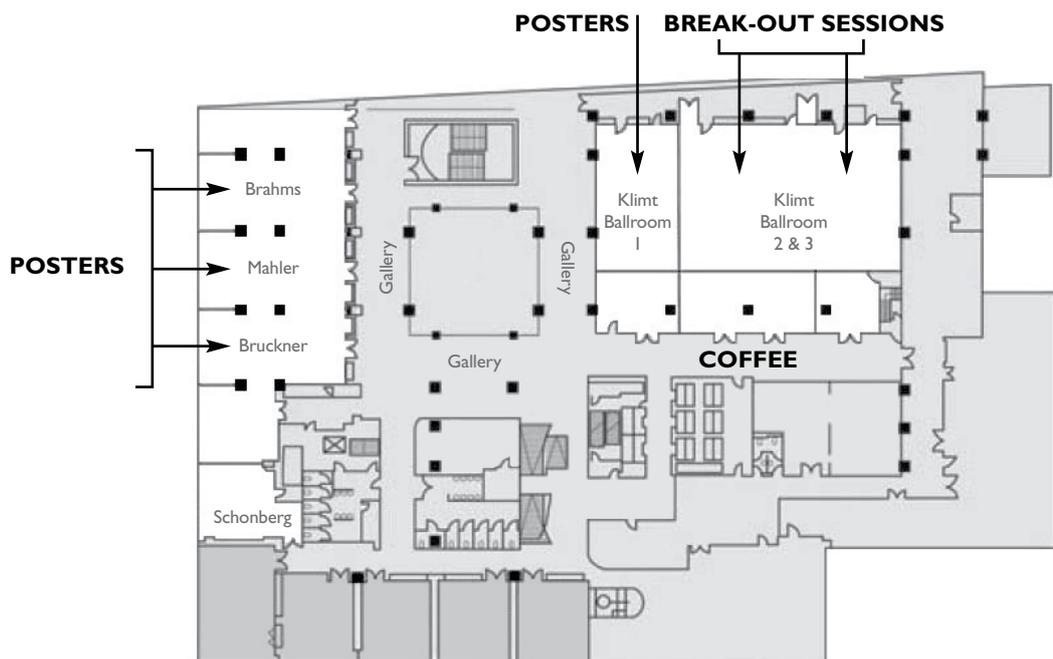
Poster Number	Topic
20.162 – 20.176	Vaccines and Emergence of Vaccine Preventable Diseases ( <i>continued</i> )
20.177 – 20.221	Vectorborne Diseases



## GROUND LEVEL



## FIRST LEVEL





# PROGRAM-AT-A-GLANCE

International Meeting on Emerging Diseases and Surveillance 2016

<b>Time</b>	<b>Friday, November 4, 2016</b>	<b>Room</b>
09:00–17:30	<b>Hackathon</b>	Klimt Ballroom 2&3/Upper Level
11:00–13:00	<b>Epicore Workshop</b>	Klimt Ballroom 1/Upper Level
11:00–19:00	Registration and Information Desk	Foyer/Park Congress/Ground Level
14:00–14:20	<b>Welcome &amp; Opening</b>	Park Congress/Ground Level
14:20–17:15	<b>Session 1: Plenary Session:</b> One World - One Health: Trans-Boundary Emerging Diseases in Humans, Animals and Wildlife	Park Congress/Ground Level
17:30–19:00	<b>Welcome:</b> Cocktail Reception	Gallery/Upper Level
<b>Time</b>	<b>Saturday, November 5, 2016</b>	<b>Room</b>
	2 Break-out Sessions:	
08:30–10:30	<b>Session 2:</b> Flaviviruses - An Expanding Global Threat	Park Congress/Ground Level
08:30–10:30	<b>Session 3: Oral Presentations:</b> What's New? Novel and Re-Emerging Pathogens & Hackathon Winning Ideas	Klimt Ballroom 2&3/Upper Level
10:30–11:00	Coffee Break	Ground Level <b>and</b> Upper Level
11:00–11:45	<b>Session 4: Plenary Lecture:</b> Epidemics Without Borders: From Challenges to Opportunities for Better Emergency Response	Park Congress/Ground Level
11:45–13:15	<b>Poster Presentations I</b> (Session 19)	Bruckner/Mahler/Brahms/Upper Level <b>and</b> Klimt Ballroom 1/Upper Level
14:30–16:00	2 Break-out Sessions:	
	<b>Session 5:</b> Tracking Emerging Diseases	Park Congress/Ground Level
	<b>Session 6:</b> The Farthest Reach: The Challenge of Nomadic and Remote Populations to Emergency Response	Klimt Ballroom 2&3/Upper Level
16:00–16:30	Coffee Break	Ground Level <b>and</b> Upper Level
16:30–18:00	2 Break-out Sessions:	
	<b>Session 7:</b> Pandemic Preparedness and What we Learned from Ebola	Park Congress/Ground Level
	<b>Session 8: Oral Presentations:</b> Zika & Other Vectorborne Diseases	Klimt Ballroom 2&3/Upper Level
<b>Time</b>	<b>Sunday, November 6, 2016</b>	<b>Room</b>
08:30–10:30	2 Break-out Sessions:	
	<b>Session 9:</b> A Refugee's Journey from Insecurity to Stability	Park Congress/Ground Level
	<b>Session 10: Oral Presentations:</b> One Health - Diseases Across Species Boundaries	Klimt Ballroom 2&3/Upper Level
10:30–11:00	Coffee Break	Ground Level <b>and</b> Upper Level
11:00–11:45	<b>Session 11: Plenary Lecture:</b> Trends in Antimicrobial Resistance in Europe	Park Congress/Ground Level
11:45–13:15	<b>Poster Presentations II</b> (Session 20)	Bruckner/Mahler/Brahms/Upper Level <b>and</b> Klimt Ballroom 1/Upper Level
13:15–14:15	<b>Info Session:</b> £10m Longitude Prize and Lunch	Klimt Ballroom 2&3/Upper Level
14:30–16:00	2 Break-out Sessions:	
	<b>Session 12:</b> Hot Topics in Emerging Infections	Park Congress/Ground Level
	<b>Session 13:</b> Data Sharing and Ethics of Big Data	Klimt Ballroom 2&3/Upper Level
16:00–16:30	Coffee Break	Ground Level <b>and</b> Upper Level
16:30–18:00	2 Break-out Sessions:	
	<b>Session 14:</b> Managing the Next Outbreak	Park Congress/Ground Level
	<b>Session 15: Oral Presentations:</b> Lessons from Ebola—Preparing for the Next Pandemic	Klimt Ballroom 2&3/Upper Level
19:30–21:00	Mayor's Cocktail Reception – <b>Doors open at 19:00</b>	City Hall
<b>Time</b>	<b>Monday, November 7, 2016</b>	<b>Room</b>
08:30–10:30	2 Break-out Sessions:	
	<b>Session 16:</b> Antimicrobial Resistance in the One Health Context	Park Congress/Ground Level
	<b>Session 17:</b> Oral Presentations: Innovative Approaches to Emerging Disease Surveillance	Klimt Ballroom 2&3/Upper Level
10:30–11:00	Coffee Break	Ground Level <b>and</b> Upper Level
11:00–11:45	<b>Session 18: Plenary Lecture:</b> The Global Virome Project	Park Congress/Ground Level



# ProMED mail

Program for Monitoring Emerging Diseases



## What is ProMED?

- A global expert network of infectious disease and public health specialists.
- The organization that first reported the outbreak of SARS in 2003 and another new coronavirus in 2012.
- A FREE emerging diseases alert system that reaches 65,000 subscribers in 190 countries worldwide in multiple languages.
- The world's first infectious disease social network, with its own website, Twitter feed, and Facebook pages.
- ALL OF THE ABOVE**

**For a FREE subscription to ProMED-mail email alerts, go to [www.promedmail.org](http://www.promedmail.org) and click on subscribe.**



Sponsored by the International Society for Infectious Diseases

# IMED 2016 Hackathon

NOVEMBER 3 - 5, 2016 - VIENNA, AUSTRIA

An event in conjunction with the International Meeting on Emerging Diseases and Surveillance - IMED 2016

Pandemics and emerging diseases cause catastrophic morbidity, mortality, and economic hardship. They can occur anywhere at any time. To accelerate the development of innovative approaches to detect, predict, and prevent the next outbreak, the Hackathon at IMED 2016 has brought together multidisciplinary teams to develop practice-oriented solutions at the intersections of climate change, migration, technology, medicine, social economy, and the public and private sectors.

Select projects will be presented at a special IMED session on November 5th. Look for a summary of all the developed projects in an upcoming edition of the International Journal of Infectious Diseases and follow their progress on our Facebook page. Thank you to all of the participants, sponsors, and organizers for a successful event!

## EVENT ORGANIZERS & PARTNERS



U.S. Embassy Vienna



MEDICAL  
UNIVERSITY  
OF VIENNA



**VIENNA**  
CONVENTION BUREAU

[WWW.VIENNA.CONVENTION.AT](http://WWW.VIENNA.CONVENTION.AT)

ELSEVIER



**sektor**  
coworking spaces wien





### Welcome & Opening

**Room: Park Congress** **14:00–14:20**  
**Ground Level** **Friday, November 4, 2016**

Welcome by the International Society for Infectious Diseases (ISID)

**Jon Cohen**  
Brighton (United Kingdom)

Welcome to Vienna

**Norbert Nowotny**  
Vienna (Austria) & Dubai (United Arab Emirates)

Official Opening of the Conference

**Sabine Oberhauser**  
Minister of Health  
Vienna (Austria)

Welcome to IMED 2016

**Larry Madoff**  
Boston, MA (USA)



Session 01

CME

### Plenary Session

## One World - One Health: Trans-Boundary Emerging Diseases in Humans, Animals and Wildlife

**Co-Chairs:** Jon Cohen, United Kingdom  
Larry Madoff, USA

**Room: Park Congress** **14:20–17:15**  
**Ground Level** **Friday, November 4, 2016**

**01.001** AIDS, Avian flu, SARS, MERS, Ebola, Zika...  
what next?

**A. Osterhaus**  
Hanover (Germany)

**01.002** Evidence for a risk-based strategy to detect  
viral spillover and spread

**C. Kreuder Johnson**  
Davis, CA (USA)

**01.003** Satisficing control options for influenza

**G. M. Leung**  
Hong Kong (China)

**01.004** Zoonotic diseases at the human-domestic animal  
-wildlife interface in Southern and Eastern Africa

**R. R. Kazwala**  
Morogoro (Tanzania)

**01.005** Global early warning signs for health threats at  
the human animal ecosystem interface

**J. Pinto**  
Rome (Italy)

### Welcome Cocktail Reception

**Gallery** **17:30–19:00**  
**Upper Level** **Friday, November 4, 2016**



Session 02

**CME***Break-out Session***Flaviviruses - An Expanding Global Threat****Co-Chairs:** Oyewale Tomori, Nigeria  
Laura Kramer, USA**Room: Park Congress 08:30–10:30**  
**Ground Level Saturday, November 5, 2016****02.001** Teratogenic viral infections of the fetal central nervous system in animals: Timing and pathogen genetics are critical**N. J. MacLachlan**  
Davis, CA (USA)**02.002** Congenital Zika syndrome  
**V. Van der Linden**  
Recife (Brazil)**02.003** Mathematical models to elucidate the transmission dynamics and control of vector-borne disease**G. Chowell**  
Atlanta, GA (USA)**02.004** Flaviviruses—An expanding global threat  
**O. Tomori**  
Lagos (Nigeria)

Session 03

**CME***Break-out Session/Oral Presentations***What's New? Novel and Re-Emerging Pathogens & Hackathon Winning Ideas****Co-Chairs:** Tim Brewer, USA  
Antoine Flahault, Switzerland**Room: Klimt Ballroom 2&3 08:30–10:30**  
**Upper Level Saturday, November 5, 2016****03.001** Health hackathons**C. Lee**  
Cambridge, MA (USA)

Presentation of Hackathon winning ideas

**Oral Presentations:****03.002** Identifying the next Zika: An analysis of zoonotic potential in Flaviviridae**K. Olival**, K. Wiens, C. Rosenthal,  
A. Willoughby, C. Zambrana-Torrelío,  
N. Ross, P. Daszak  
New York, NY (USA)**03.003** Exploiting viral pseudotypes for emerging virus researchK. Grehan<sup>1</sup>, E. Bentley<sup>2</sup>, S. Mather<sup>1</sup>, R. Kinsley<sup>1</sup>,  
G. Carnell<sup>1</sup>, S. D. Scott<sup>1</sup>, **E. Wright**<sup>2</sup>,  
N. Temperton<sup>1</sup>  
<sup>1</sup>Chatham (United Kingdom),  
<sup>2</sup>London (United Kingdom)**03.004** Outbreak of *Candida auris* in a tertiary care hospital in Karachi, PakistanJ. Q. Farooqi<sup>1</sup>, **A. Soomro**<sup>1</sup>, S. Sajjad<sup>1</sup>, M. A. Baig<sup>2</sup>,  
K. Jabeen<sup>1</sup>, K. Etienne<sup>3</sup>, N. Nasir<sup>1</sup>, S. F. Mahmood<sup>1</sup>,  
A. Zafar<sup>1</sup>, R. J. Asghar<sup>2</sup>  
<sup>1</sup>Karachi (Pakistan), <sup>2</sup>Islamabad (Pakistan),  
<sup>3</sup>Atlanta, GA (USA)**03.005** Emergence of non-*Candida albicans* in ICU patients—A one year study of changing trends of candidemia in a tertiary care centre in North India**P. Sharma**, M. Sharma  
Noida (India)**03.006** Novel astrovirus and calicivirus identified in migratory birds in Brazil**W. M. Souza**<sup>1</sup>, M. F. Romeiro<sup>1</sup>, M. J. Fumagalli<sup>1</sup>,  
J. Araujo<sup>2</sup>, L. La Serra<sup>1</sup>, L. C. Vieira<sup>1</sup>, E. L. Durigon<sup>2</sup>,  
P. R. Murcia<sup>3</sup>, L. T. M. Figueiredo<sup>1</sup>  
<sup>1</sup>Ribeirão Preto (Brazil), <sup>2</sup>São Paulo (Brazil),  
<sup>3</sup>Glasgow (United Kingdom)**03.007** Crimean-Congo hemorrhagic fever, 2013 and 2014, Sudan**C. Kohl**<sup>1</sup>, M. Eldegail<sup>2</sup>, I. Mahmoud<sup>2</sup>, L. Schrick<sup>1</sup>,  
A. Radonic<sup>1</sup>, P. Emmerich<sup>3</sup>, T. Rieger<sup>3</sup>, S. Gunther<sup>3</sup>,  
A. Nitsche<sup>1</sup>, A. A. Osman<sup>2</sup>  
<sup>1</sup>Berlin (Germany), <sup>2</sup>Karthoum (Sudan),  
<sup>3</sup>Hamburg (Germany)**03.008** An epidemiological investigation of a multisource outbreak of Crimean-Congo hemorrhagic fever in Karachi, from January–15th September 2016**M. A. Syed**, H. Jhatyal  
Karachi (Pakistan)**Coffee Break****Ground Level 10:30–11:00**  
**& Upper Level Saturday, November 5, 2016**



Session 04



*Plenary Lecture*

**Plenary Session: Epidemics without Borders: From Challenges to Opportunities for Better Emergency Response**

*Chair:* Marc Mendelson, South Africa

**Room: Park Congress 11:00–11:45  
Ground Level Saturday, November 5, 2016**

**04.001** Epidemics without borders: From challenges to opportunities for better emergency response  
**M. Tatay**  
Geneva (Switzerland)

**Poster Presentations I** (Session 19)

**Saturday, November 5, 2016 11:45–13:15**

**Bruckner/Mahler/Brahms - Upper Level  
and Klimt Ballroom 1 - Upper Level**

Posters 19.001–19.215 (see pages 21–32)

Session 05



*Break-out Session*

**Tracking Emerging Diseases**

*Co-Chairs:* Paula Caceres, France  
Marjorie Pollack, USA

**Room: Park Congress 14:30–16:00  
Ground Level Saturday, November 5, 2016**

**05.001** Innovations in participatory disease surveillance  
**M. Smolinski**  
San Francisco, CA (USA)

**05.002** UpToDate: Using clinicians' searches to track outbreaks  
**A. Thorner**  
Waltham, MA (USA)

**05.003** Tracking activity to improve the sensitivity of the OIE's monitoring and early warning systems for human and animal diseases  
**P. Caceres**  
Paris (France)

Session 06



*Break-out Session*

**The Farthest Reach: The Challenge of Nomadic and Remote Populations to Emergency Response, Emerging Disease Surveillance, and Eradication**

*Co-Chairs:* Benson Estambale, Kenya  
Rana Hajjeh, Egypt

**Room: Klimt Ballroom 2&3 14:30–16:00  
Upper Level Saturday, November 5, 2016**

**06.001** The challenge of nomadic and remote populations to emergency response, emerging disease surveillance, and eradication  
**J. Montgomery**  
Atlanta, GA (USA)

**06.002** The impact of climate change and population mobility on neglected tropical disease elimination  
**J. J. Amon**  
New York, NY (USA)

**06.003** Interdisciplinary approaches to evaluate vaccination coverage among nomadic pastoralists in northeastern Kenya for polio eradication  
**V. Gammino**  
Atlanta, GA (USA)

**Coffee Break**

**Ground Level 16:00–16:30  
& Upper Level Saturday, November 5, 2016**

Session 07



*Break-out Session*

**Pandemic Preparedness and What we Learned from Ebola**

*Co-Chairs:* Daniel Lucey, USA  
Boubacar Maiga, Mali

**Room: Park Congress 16:30–18:00  
Ground Level Saturday, November 5, 2016**

**07.001** Vaccine trials during outbreaks: The Sierra Leone trial to introduce a vaccine against Ebola (STRIVE) experience  
**B. Mahon**  
Atlanta, GA (USA)



**07.002** The Ebola commissions and International Health Regulations

**D. Lucey**

Washington, DC (USA)

**07.003** Ebola survivors: Insights on complications of EBV disease

**M. Fallah**

Monrovia (Liberia)

Session 08

**CME**

*Break-out Session/Oral Presentations*

**Zika & Other Vectorborne Diseases**

**Co-Chairs:** Jonathan H. Epstein, USA  
Jaime Torres, Venezuela

**Room: Klimt Ballroom 2&3      16:30–18:00**  
**Upper Level      Saturday, November 5, 2016**

**08.001** Guillain-Barré syndrome during an outbreak of Zika virus in Bangladesh: A case-control study

**C. Geurts van Kessel**<sup>1</sup>, Z. Islam<sup>2</sup>, B. Jacobs<sup>1</sup>, S. Kanga<sup>1</sup>, C. Reusken<sup>1</sup>, R. Mogling<sup>1</sup>, B. Islam<sup>2</sup>, D. Mohammed<sup>2</sup>, M. Koopmans<sup>1</sup>, H. Endtz<sup>1</sup>

<sup>1</sup>Rotterdam (Netherlands), <sup>2</sup>Dhaka (Bangladesh)

**08.002** Infectome, disease and comorbidities of Zika infection

M. Moni<sup>1</sup>, **P. Lio**<sup>2</sup>

<sup>1</sup>Sydney (Australia),

<sup>2</sup>Cambridge (United Kingdom)

**08.003** Arbovirus epidemiology in pregnant women in Pernambuco State, Brazil

**M. Eder**<sup>1</sup>, L. C. Bezerra<sup>2</sup>, F. S. Outtes<sup>2</sup>,

G. S. Dimech<sup>2</sup>, R. A. Ximenes<sup>2</sup>, R. Dhaliya<sup>2</sup>,

D. M. Cordeiro<sup>2</sup>, E. T. Marques<sup>3</sup>, C. M. T. Martelli<sup>2</sup>

<sup>1</sup>London (United Kingdom), <sup>2</sup>Recife (Brazil),

<sup>3</sup>Pittsburgh, PA (USA)

**08.004** Evaluation of the Euroimmun Zika virus IgG and IgM ELISA kits

**L. Hueston**

Westmead, NSW (Australia)

**08.005** High levels of exposure of Zika and dengue infections detected using plaque reduction neutralization assay in Brazil

**C. M. T. Martelli**<sup>1</sup>, P. Castanha<sup>1</sup>, F. Cortes<sup>1</sup>, L. Rodrigues<sup>2</sup>, E. T. Marques<sup>3</sup>

<sup>1</sup>Recife (Brazil), <sup>2</sup>London (United Kingdom),

<sup>3</sup>Pittsburgh, PA (USA)

**08.006** Regional surveillance for arbovirus in Lazio Region, Italy during the ZIKV epidemic in Latin America

**F. Vairo**, S. Valle, A. Mammone, C. Castilletti, E. Nicastrì, V. Puro, M. Capobianchi, G. Ippolito,

P. Scognamiglio

Rome (Italy)

**08.007** Spatio-temporal evolution of resistance to deltamethrin and kdr mutations in *Aedes aegypti* populations in French Guiana: A worrying situation for vector control

A. Guidez, J. Restrepo-Zabaleta, L. Mathieu,

P. Gaborit, A. Sue-chee, L. Wang, R. Carinci,

R. Girod, **I. Dusfour**

Cayenne (France)

**08.008** Re-emergence of yellow fever in Ethiopia after 50 years—2013 epidemiological and entomological investigations

**A. L. Gebrewahid**

Addis Ababa (Ethiopia)

**08.009** Development of models for Zika virus infection in mice and Rhesus macaques using a contemporary virus strain

**D. Boltz**, P. Curry, R. Baker

Chicago, IL (USA)

**08.010** Development of a Zika vaccine using a novel MVA-VLP platform

**F. Guirakhoo**<sup>1</sup>, A. Domi<sup>2</sup>, N. McCurley<sup>2</sup>, H. Robinson<sup>2</sup>

<sup>1</sup>Melrose, MA (USA), <sup>2</sup>Atlanta, GA (USA)



Session 09

**CME***Break-out Session***A Refugee's Journey from Insecurity to Stability****Co-Chairs:** Giuseppe Cornaglia, Italy  
Vladimir Krcmery, Slovakia**Room: Park Congress 08:30–10:30**  
**Ground Level Sunday, November 6, 2016****09.001** Cross border infection surveillance in mobile European populations—GeoSentinel and more  
**P. Schlagenhauf**  
Zurich (Switzerland)**09.002** German experience with screening and healthcare in refugee and asylum seeker reception camps  
**W. Kern**  
Freiburg (Germany)**09.003** Tracing antibiotic resistance genes along the migration pathways  
**G. Cornaglia**  
Verona (Italy)**09.004** Managing health and infections in refugees: Turkey's experience  
**N. Tulek**  
Ankara (Turkey)

Session 10

**CME***Break-out Session/Oral Presentations***One Health - Diseases Across Species Boundaries****Co-Chairs:** Stuart Handysides, United Kingdom  
Cristina Ramirez-David, USA**Room: Klimt Ballroom 2&3 08:30–10:30**  
**Upper Level Sunday, November 6, 2016****10.001** Intense human-animal interaction and limited capacity for the surveillance of zoonoses as drivers for Hepatitis E virus infections among animals and humans in Lao PDR  
M. Pauly<sup>1</sup>, C. P. Muller<sup>1</sup>, A. P. Black<sup>2</sup>, **C. J. Snoeck**<sup>1</sup>  
<sup>1</sup>Esch-sur-Alzette (Luxembourg), <sup>2</sup>Vientiane (Lao)**10.002** The Vietnam Initiative on zoonotic infections (VIZIONs): An interim analysis of the epidemiology and aetiology of central nervous system infections  
**H. E. Brindle**<sup>1</sup>, M. Choisy<sup>2</sup>, M. P. Tran<sup>3</sup>, R. van Doorn<sup>2</sup>, B. Nadjm<sup>2</sup>, R. Christley<sup>1</sup>, M. Griffiths<sup>1</sup>, H. D. T. Nghia<sup>3</sup>, G. Thwaites<sup>3</sup>, S. Baker<sup>3</sup>  
<sup>1</sup>Liverpool (United Kingdom), <sup>2</sup>Hanoi (Viet Nam), <sup>3</sup>Ho Chi Minh City (Viet Nam)**10.003** Interspecies transmission of influenza A viruses at the human-swine interface, West Africa  
**O. A. Adeola**<sup>1</sup>, B. O. Olugasa<sup>2</sup>, B. O. Emikpe<sup>2</sup>  
<sup>1</sup>Jos (Nigeria), <sup>2</sup>Ibadan (Nigeria)**10.004** Resurgence of influenza-A(H1N1) 2009 in Pakistan, November 2015–April 2016  
**M. A. M. K. Khan**, J. ANsari, M. A. Ranjha, M. Salman, N. Hassan, U. Amir, S. Zaidi  
Islamabad, (Pakistan)**10.005** Differential effect of pandemic H1N1/2009 virus introduction in pigs in Europe compared to West and Central Africa  
**C. J. Snoeck**<sup>1</sup>, O. Abiola<sup>2</sup>, M. Okwen<sup>3</sup>, A. Olubayo<sup>2</sup>, A. Owoade<sup>2</sup>, F. Wildschutz<sup>4</sup>, C. P. Muller<sup>4</sup>, J. Huebschen<sup>1</sup>  
<sup>1</sup>Esch-sur-Alzette (Luxembourg), <sup>2</sup>Ibadan (Nigeria), <sup>3</sup>Bamenda (Cameroon), <sup>4</sup>Luxembourg (Luxembourg)**10.006** Monoclonal antibody-mediated clearance of rabies virus from the central nervous system: Implications for future approaches to rabies therapy  
**P. De Benedictis**<sup>1</sup>, A. Minola<sup>2</sup>, E. Rota Nodari<sup>1</sup>, R. Aiello<sup>1</sup>, A. Lanzavecchia<sup>2</sup>, H. Bourhy<sup>3</sup>, D. Corti<sup>2</sup>  
<sup>1</sup>Legnaro (PD) (Italy), <sup>2</sup>Bellinzona (Switzerland), <sup>3</sup>Paris (France)**10.007** Host-symbionts interactions between bats and coronaviruses  
**S. Leopardi**<sup>1</sup>, L. Tassoni<sup>1</sup>, P. Priori<sup>2</sup>, M. Gastaldelli<sup>1</sup>, D. Scaravelli<sup>2</sup>, P. De Benedictis<sup>1</sup>  
<sup>1</sup>Legnaro (Italy), <sup>2</sup>Forli (Italy)**10.008** Nipah virus ecology and infection dynamics in its bat reservoir, *Pteropus medius*, in Bangladesh  
**J. H. Epstein**<sup>1</sup>, S. J. Anthony<sup>1</sup>, A. Islam<sup>2</sup>, A. M. Kilpatrick<sup>3</sup>, S. Ali Khan<sup>4</sup>, N. Ross<sup>1</sup>, I. Smith<sup>5</sup>, J. Barr<sup>5</sup>, C. Zambrana-Torrel<sup>6</sup>, Y. Tao<sup>6</sup>, A. Islam<sup>2</sup>, P. L. Quan<sup>7</sup>, K. Olival<sup>1</sup>, E. Gurley<sup>2</sup>, M. J. Hossain<sup>2</sup>, H. E. Field<sup>8</sup>, M. Fielder<sup>9</sup>, T. Briesse<sup>1</sup>, M. Rahman<sup>2</sup>, G. Cramer<sup>5</sup>, L.-F. Wang<sup>10</sup>, S. Luby<sup>11</sup>, W. I. Lipkin<sup>1</sup>, P. Daszak<sup>1</sup>  
<sup>1</sup>New York, NY (USA), <sup>2</sup>Dhaka (Bangladesh), <sup>3</sup>Santa Cruz (USA), <sup>4</sup>Chittagong (Bangladesh), <sup>5</sup>Geelong (Australia), <sup>6</sup>State College, PA (USA), <sup>7</sup>Stony Brook, NY (USA), <sup>8</sup>Brisbane (Australia), <sup>9</sup>London (United Kingdom), <sup>10</sup>Singapore (Singapore), <sup>11</sup>Stanford, CA (USA)**10.009** Global correlates of emerging zoonoses: Anthropogenic, environmental, and biodiversity risk factors  
**T. Allen**<sup>1</sup>, K. Murray<sup>2</sup>, C. Zambrana-Torrel<sup>1</sup>, S. Morse<sup>1</sup>, C. Rondinini<sup>3</sup>, V. Di Marco Lo Presti<sup>4</sup>, K. Olival<sup>1</sup>, P. Daszak<sup>1</sup>  
<sup>1</sup>New York, NY (USA), <sup>2</sup>London (United Kingdom), <sup>3</sup>Rome (Italy), <sup>4</sup>Barcellona (Italy)



- 10.010** Prevalence and risk factors of seropositivity to *C.burnetii* infection in dairy farms and dairy farmers, Chiang-Mai, Thailand 2015  
**P. Doung-ngern**<sup>1</sup>, P. Padungtod<sup>1</sup>, M. Emch<sup>2</sup>, D. Weber<sup>2</sup>, G. Kersh<sup>3</sup>, G. Koch<sup>2</sup>, S. Meshnick<sup>2</sup>  
<sup>1</sup>Nonthaburi (Thailand), <sup>2</sup>Chapel Hill, NC (USA), <sup>3</sup>Atlanta, GA (USA)
- 10.011** Tuberculosis in captive elephants and mahouts: Implications to health policy  
**D. Abraham**<sup>1</sup>, K. Venugopal<sup>2</sup>, S. Cork<sup>3</sup>  
<sup>1</sup>Kozhikode (India), <sup>2</sup>Kottayam (India), <sup>3</sup>Calgary (Canada)
- 10.012** The first reported human Rift Valley Fever outbreak in Uganda, 2016  
**H. Kyobe Bosa**<sup>1</sup>, R. Majwala<sup>2</sup>, S. Kabwama Ndugwa<sup>2</sup>, R. G. Downing<sup>1</sup>, H. Kibuuka<sup>2</sup>, N. Kiwanuka<sup>2</sup>, J. J. Lutwama<sup>1</sup>  
<sup>1</sup>Entebbe (Uganda), <sup>2</sup>Kampala (Uganda)
- 10.013** Determining hotspots of human exposure to rodents, bats and monkeys in Bangladesh  
**I. S. Shanta**<sup>1</sup>, S. P. Luby<sup>2</sup>, K. Hossain<sup>1</sup>, S. S. U. Ahmed<sup>1</sup>, T. Rahman<sup>1</sup>, E. Kennedy<sup>3</sup>, M. A. Y. Sharker<sup>4</sup>, A. M. Kilpatrick<sup>5</sup>, J. R. C. Pulliam<sup>6</sup>, E. S. Gurley<sup>1</sup>  
<sup>1</sup>Dhaka (Bangladesh), <sup>2</sup>Stanford, CA (USA), <sup>3</sup>Atlanta, GA (USA), <sup>4</sup>Gainesville, FL (USA), <sup>5</sup>Santa Cruz, CA (USA), <sup>6</sup>Stellenbosch (South Africa)

**Coffee Break**

**Ground Level** **10:30–11:00**  
**& Upper Level** **Sunday, November 6, 2016**

Session 11

*Plenary Lecture***Trends in Antimicrobial Resistance in Europe****Chair:** Mike Catchpole, United Kingdom

**Room: Park Congress** **11:00–11:45**  
**Ground Level** **Sunday, November 6, 2016**

- 11.001** Trends in antimicrobial resistance in Europe  
**D. L. Monnet**  
Stockholm (Sweden)

**Poster Presentations II** (Session 20)

**Sunday, November 6, 2016** **11:45–13:15**

**Bruckner/Mahler/Brahms - Upper Level**  
and **Klimt Ballroom I - Upper Level**

Posters 20.001–20.215 (see pages 33–45)

*Info Session (description see page 4)***€10m Longitude Prize & Lunch**

**Room: Klimt Ballroom 2&3** **13:15–14:15**  
**Upper Level** **Sunday, November 6, 2016**

To find out more about this Prize, how you could take part, and about the support we offer, please join us.

Session 12

*Break-out Session***Hot Topics in Emerging Infections**

**Co-Chairs:** Julio Pinto, Italy  
Natalia Pshenichnaya, Russian Federation

**Room: Park Congress** **14:30–16:00**  
**Ground Level** **Sunday, November 6, 2016**

- 12.001** MERS-CoV  
**Z. Memish**  
Riyadh (Saudi Arabia)
- 12.002** Transboundary animal diseases and social instability  
**L. Myers**  
Rome (Italy)
- 12.003** Crimean-Congo hemorrhagic fever  
**O. Ergonul**  
Istanbul (Turkey)
- 12.004** Avian influenza viruses at the animal human interface: Progress and challenges in under resourced countries  
**G. Cattoli**  
Vienna (Austria)
- 12.005** The sterile insect technique as a tool for control of insect vectors and vector-borne diseases  
**K. Bourtzis**  
Vienna (Austria)

Session 13

*Break-out Session/Discussion***Data Sharing and Ethics of Big Data****Chair:** Effy Vayena, Switzerland

**Room: Klimt Ballroom 2&3** **14:30–16:00**  
**Upper Level** **Sunday, November 6, 2016**

- Round Table Discussion:  
Data sharing and ethics of the big data
- 13.001 K. Littler**  
London (United Kingdom)
- 13.002 D. Harper**  
London (United Kingdom)
- 13.003 V. Moorthy**  
Geneva (Switzerland)

**Coffee Break****Ground Level** **16:00–16:30**  
**& Upper Level** **Sunday, November 6, 2016**

Session 14

**CME***Break-out Session***Managing the Next Outbreak****Co-Chairs:** Michelle Doll, USA  
Norbert Nowotny, Austria & UAE**Room: Park Congress** **16:30–18:00**  
**Ground Level** **Sunday, November 6, 2016****14.001** Metagenomics and molecular diagnostics for emerging infectious diseases**E. Rubin**

San Francisco, CA (USA)

**14.002** Therapeutic considerations for emerging viral infections**P. A. Tambyah**

Singapore (Singapore)

**14.003** Communicating during outbreaks: What works, what doesn't**H. Branswell**

Boston, MA (USA)

Session 15

**CME***Break-out Session/Oral Presentations***Lessons from Ebola—Preparing for the Next Pandemic****Co-Chairs:** Larry Lutwick, USA  
Alison Holmes, United Kingdom**Room: Klimt Ballroom 2&3** **16:30–18:00**  
**Upper Level** **Sunday, November 6, 2016****15.001** An economic model for introducing a quadrivalent conjugate meningococcal vaccine among adolescents in South Africa**S. G. P. Lengana**<sup>1</sup>, A. von Gottberg<sup>1</sup>, S. Meiring<sup>1</sup>, C. von Mollendorf<sup>1</sup>, J. Moyes<sup>2</sup>, C. Cohen<sup>1</sup><sup>1</sup>Johannesburg (South Africa),<sup>2</sup>Nelspruit (South Africa)**15.002** Point-of-care molecular diagnostics for epidemic-prone viruses**C. Escadafal**, A. Kwasiborski, L. Magro, B. Jacquelin, P. Garneret, F. Monti, P. Tabeling, P. Lafaye, J.-C. Manuguerra, J. Vanhomwegen  
Paris (France)**15.003** Effectiveness of masks and respirators against respiratory infections in healthcare workers: A systematic review and meta-analysis  
**V. Offeddu**, C.-F. Yung, M. S. F. Low, C. Tam  
Singapore (Singapore)**15.004** Utility, feasibility and acceptance of an online platform for tropical diseases contact tracing  
**P. E. Pantoja**, J. Gomez-Junyent, N. Serret, J. Muñoz-Gutierrez A. Vilella, A. Trilla  
Barcelona (Spain)**15.005** Building specimen referral networks to support outbreak response  
S. K. Lakiss<sup>1</sup>, J. Fischer<sup>2</sup>, C. Standley<sup>2</sup>, R. Muhayangabo<sup>1</sup>, **W. Heegaard**<sup>3</sup>  
<sup>1</sup>Conakry (Guinea), <sup>2</sup>Washington, DC (USA), <sup>3</sup>Los Angeles, CA (USA)**15.006** Establishing EVD testing at a mobile laboratory using GeneXpert technology in Liberia—Impact on surveillance system, outbreak detection and patient management  
**P. Raftery**<sup>1</sup>, C. Wasunna<sup>1</sup>, J. Kpaka<sup>1</sup>, R. Zwizwai<sup>2</sup>, O. Condell<sup>3</sup>, V. Katwerra<sup>1</sup>, P. Hardy<sup>1</sup>, P. Sahr<sup>1</sup>, A. Gasasira<sup>1</sup>, T. Nyenswah<sup>1</sup>  
<sup>1</sup>Monrovia (Liberia), <sup>2</sup>London (United Kingdom), <sup>3</sup>Dublin (Ireland)**15.007** Potential impact of sexual transmission on Ebola virus epidemiology: Sierra Leone as a case study  
J. Abbate<sup>1</sup>, C. L. Murall<sup>2</sup>, H. Richner<sup>3</sup>, **C. Althaus**<sup>3</sup>  
<sup>1</sup>Montpellier (France), <sup>2</sup>Gottingen (Germany), <sup>3</sup>Berne (Switzerland)**15.008** Promoting safe sex and condom use among Ebola virus disease (EVD) survivors to mitigate risk of sexual transmission through clinic-based education and semen testing in 3 districts in Sierra Leone  
J. Garland<sup>1</sup>, **A. Myers**<sup>2</sup>, A. Oxner<sup>2</sup>, E. Headrick<sup>3</sup>, K. Tekuyama<sup>4</sup>, J. Gottesfeld<sup>5</sup>, K. Dierberg<sup>5</sup>, M. Calderon<sup>5</sup>, K. O'Neil<sup>5</sup>, S. Bangura<sup>6</sup>  
<sup>1</sup>Los Angeles, CA (USA), <sup>2</sup>Tampa (USA), <sup>3</sup>Atlanta, GA (USA), <sup>4</sup>Kono (Sierra Leone), <sup>5</sup>Freetown (Sierra Leone), <sup>6</sup>Port Loko (Sierra Leone)**15.009** First data in African subjects for the monovalent Janssen Ebola Zaire heterologous prime-boost vaccines, combining Ad26.ZEBOV and MVA-BN-Filo  
**O. Anzala**<sup>1</sup>, G. Mutua<sup>1</sup>, B. Nyaoke<sup>1</sup>, C. Robinson<sup>2</sup>, K. Luhn<sup>2</sup>, B. Callendret<sup>2</sup>, R. Thiebaut<sup>3</sup>, M. Snape<sup>4</sup>, D. Watson-Jones<sup>5</sup>, M. Douoguih<sup>2</sup>  
<sup>1</sup>Nairobi (Kenya), <sup>2</sup>Pennsylvania (USA), <sup>3</sup>Bordeaux (France), <sup>4</sup>Oxford (United Kingdom), <sup>5</sup>London (United Kingdom)**Mayor's Cocktail Reception****Sunday, November 6, 2016** **19:30–22:30**  
**City Hall** Doors open at 19.00hrs



Session 16



*Break-out Session*

**Antimicrobial Resistance in the One Health Context**

**Co-Chairs:** Jacques Acar, France  
Damien Joly, Canada

**Room: Park Congress 08:30–10:30**  
**Ground Level Monday, November 7, 2016**

**16.001** Antimicrobial resistance in Lebanon from the food chain: A One Health perspective

**G. M. Matar**

Beirut (Lebanon)

**16.002** Colistin Resistance, MCRI

**S. Granier**

Maisons-Alfort (France)

**16.003** ResistanceOpen: A web application for global antibiotic resistance monitoring

**D. MacFadden**

Toronto (Canada)

**16.004** Ecology and environmental drivers of antimicrobial resistance

**U. Theuretzbacher**

Vienna (Austria)

Session 17



*Break-out Session/Oral Presentations*

**Innovative Approaches to Emerging Disease Surveillance**

**Co-Chairs:** Miguel O’Ryan, Chile  
Nico Preston, USA

**Room: Klimt Ballroom 2&3 08:30–10:30**  
**Upper Level Monday, November 7, 2016**

**17.001** Estimating FluNearYou correlation to CDC’s ILINet

**R. Arafat**, E. Bakota, E. Santos

Houston, TX (USA)

**17.002** The first phase of PREDICT: Surveillance for emerging infectious zoonotic diseases of wildlife origin (2009–2014)

**D. Joly**<sup>1</sup>, C. Kreuder Johnson<sup>2</sup>, T. Goldstein<sup>2</sup>, S. J. Anthony<sup>3</sup>, W. Karesh<sup>3</sup>, P. Daszak<sup>3</sup>, N. Wolfe<sup>4</sup>, S. Murray<sup>5</sup>, J. Mazet<sup>2</sup>

<sup>1</sup>Nanaimo (Canada), <sup>2</sup>Davis, CA (USA),

<sup>3</sup>New York, NY (USA), <sup>4</sup>San Francisco, CA (USA),

<sup>5</sup>Washington, DC (USA)

**17.003** Emerging and re-emerging infectious diseases in displaced populations 1998 to 2016: An analysis of ProMED-mail reports

**J. W. Ramatowski**<sup>1</sup>, L. Madoff<sup>1</sup>, B. Lassmann<sup>1</sup>, N. Marano<sup>2</sup>

<sup>1</sup>Brookline, MA (USA), <sup>2</sup>Atlanta, GA (USA)

**17.004** Digital functions in a participatory One Health surveillance initiative aiming for pandemic averting

**P. Susampao**<sup>1</sup>, K. Chanachai<sup>1</sup>, P. Petra<sup>1</sup>,

T. Yano<sup>2</sup>, S. Pattamakaew<sup>2</sup>, E. Laiya<sup>2</sup>, L. Srikitjakarn<sup>2</sup>,

A. Crawley<sup>3</sup>, J. Olsen<sup>3</sup>, M. Smolinski<sup>3</sup>

<sup>1</sup>Bangkok (Thailand), <sup>2</sup>Chiang Mai (Thailand),

<sup>3</sup>San Francisco, CA (USA)

**17.005** Economics of One Health: Evidence of substantial benefits of integrated West Nile virus surveillance

**G. Paternoster**<sup>1</sup>, S. Babo Martins<sup>2</sup>, A. Mattivi<sup>1</sup>,

R. Cagarelli<sup>1</sup>, P. Angelini<sup>1</sup>, R. Bellini<sup>3</sup>, M. Tamba<sup>1</sup>,

A. Santi<sup>1</sup>, J. Rushton<sup>2</sup>, K. Stärk<sup>2</sup>

<sup>1</sup>Bologna (Italy), <sup>2</sup>London (United Kingdom),

<sup>3</sup>Crevalcore (Italy)

**17.006** Developing a transdisciplinary database for operationalization of One Health surveillance for Japanese Encephalitis in India

E. T. Rogawski<sup>1</sup>, **P. Chatterjee**<sup>2</sup>, M. Kakkar<sup>3</sup>

<sup>1</sup>Charlottesville, VA (USA), <sup>2</sup>Gurgaon (India),

<sup>3</sup>New Delhi (India)

**17.007** Analyzing a hepatitis A outbreak by integrating space-time distances and network approach as evidences-based assessment of vaccination policy

**M.-H. Lin**, W.-C. chen, Y.-L. Liu, H.-W. Kuo,

J.-K. Wang, D.-P. Liu

Taipei (Taiwan, R.O.C.)

**17.008** Emergence and surveillance of hepatitis E in humans, EU/EEA, 2005–2015

**C. Adlhoch**<sup>1</sup>, E. Aspinall<sup>2</sup>, J. Takkinen<sup>1</sup>

<sup>1</sup>Stockholm (Sweden),

<sup>2</sup>Glasgow (United Kingdom)

**17.009** Validation of EGCRISC for HCV infection screening and risk assessment in the Egyptian population

E. M. El-Ghitany, A. Farghaly,

**E. Abd El-Wahab**, S. Farag

Alexandria (Egypt)

**17.010** The role of phylogenetic lineage in *Escherichia coli* O157:H7 risk: Location, location, location

**G. A. M. Tarr**<sup>1</sup>, S. Shringi<sup>2</sup>, J. Wakefield<sup>1</sup>,

A. I. Phipps<sup>1</sup>, T. E. Besser<sup>2</sup>, P. I. Tarr<sup>3</sup>, P. Rabinowitz<sup>1</sup>,

J. Mayer<sup>1</sup>

<sup>1</sup>Seattle, WA (USA), <sup>2</sup>Pullman, WA (USA),

<sup>3</sup>St. Louis, MO (USA)

**17.011** The efficacy of passive surveillance for HPAI H5N1 in Nigeria: Practices that affect early detection of disease outbreaks in poultry

**A. E. Ojimekwe**<sup>1</sup>, J. Rushton<sup>2</sup>

<sup>1</sup>Port Harcourt (Nigeria),

<sup>2</sup>London (United Kingdom)



**17.012** Comparing laboratory surveillance with the notifiable disease surveillance system in South Africa

**F. G. Benson**, L. Blumberg, L. Rispel  
Johannesburg (South Africa)

**17.013** Data sharing in public health emergencies

**D. Mitchen**  
Bethesda, MD (USA)

Session 18

**CME**

*Plenary Lecture*

**The Global Virome Project**

**Chair:** Britta Lassmann, USA

**Room: Park Congress** **11:00–11:45**  
**Ground Level** **Monday, November 7, 2016**

**Coffee Break**

**Ground Level** **10:30–11:00**  
**& Upper Level** **Monday, November 7, 2016**

**18.001** The global virome project

**P. Daszak**<sup>1</sup>, **D. Carroll**<sup>2</sup>

<sup>1</sup>New York, NY (USA), <sup>2</sup>Washington, DC (USA)





Session 19

## Poster Presentations I

Saturday, November 5, 2016 11:45–13:15

Bruckner/Mahler/Brahms • Upper Level

Posters 19.001–19.157

## Antimicrobial Resistance

- 19.001** Anti-tuberculosis evaluation, triterpenoidal and fatty acid constituents of *Ximenia Americana* (Olacaceae) stem bark methanol extract  
**O. E. Afieroho**<sup>1</sup>, N. Emenyonu<sup>2</sup>, L. Lawson<sup>2</sup>  
<sup>1</sup>Port Harcourt, Rivers (Nigeria), <sup>2</sup>Abuja (Nigeria)
- 19.002** Resistance of *Streptococcus pneumoniae* in Jordanian pediatric carriers, 2015–2016  
**A. Al-Lahham**, N. Khanfar  
Amman (Jordan)
- 19.003** Appraisal of antimicrobial medicinal plants with the potential of improving health condition in developing tropical countries  
E. Agwu<sup>1</sup>, **B. Alkali**<sup>2</sup>, V. Rao V<sup>3</sup>  
<sup>1</sup>Ishaka, Bushenyi (Uganda), <sup>2</sup>Kano (Nigeria), <sup>3</sup>Bushenyi (Uganda)
- 19.004** Plasmid-mediated colistin-resistance in *Escherichia coli* isolated from poultry and broiler meat in Austria in 2016  
**F. Allerberger**<sup>1</sup>, G. Weissensteiner<sup>1</sup>, B. Springer<sup>1</sup>, C. Schlagenhafen<sup>1</sup>, H. Lassnig<sup>1</sup>, W. Ruppitsch<sup>2</sup>, S. Jelovcan<sup>1</sup>  
<sup>1</sup>Graz (Austria), <sup>2</sup>Vienna (Austria)
- 19.005** Virulence factor profiles and genetic background of quinolone-resistant *Escherichia coli* isolated from hospital effluent  
**L. Anssour**, Y. Messai, R. Bakour  
Algiers (Algeria)
- 19.006** Extracellular biosynthesis of silver nanoparticles from *Bacillus brevis* (NCIM 2533) and their antibacterial activity against multi-drug resistance clinical isolates  
S. Muthupandian<sup>1</sup>, **S. K. Barik**<sup>2</sup>, R. S. Konthala<sup>3</sup>  
<sup>1</sup>Ethiopia (Ethiopia), <sup>2</sup>Aberdeen (United Kingdom), <sup>3</sup>Gujrat (India)
- 19.007** Antibiotic susceptibility and  $\beta$ -lactamase production of Gram-negative bacteria from swimming pools in Slovenia  
**B. Bedenic**<sup>1</sup>, M. Siroglavic<sup>1</sup>, N. Beader<sup>1</sup>, K. Godic-Torkar<sup>2</sup>, I. Marekovic<sup>1</sup>  
<sup>1</sup>Zagreb (Croatia), <sup>2</sup>Ljubljana (Slovenia)
- 19.008** What's happening in invasive pneumococcal resistance, a single center experience  
**H. Bilgin**, C. Mutlu, G. Altinkanat, V. Korten, L. Mülazimoğlu  
Istanbul (Turkey)
- 19.009** Genomic characterization of *Neisseria gonorrhoeae* isolates with reduced susceptibility to cephalosporins in Guangdong, China  
H. Zheng<sup>1</sup>, T. Luo<sup>2</sup>, X. Wu<sup>1</sup>, D. Liang<sup>2</sup>, X. Qin<sup>1</sup>, **D. P. Chan**<sup>2</sup>  
<sup>1</sup>Guangzhou (China), <sup>2</sup>Hong Kong (China)
- 19.010** Market and policy drivers of antibiotic use in smallholder periurban dairy farms: A scoping literature review  
**P. Chatterjee**<sup>1</sup>, M. Kakkar<sup>2</sup>  
<sup>1</sup>Gurgaon, Haryana (India), <sup>2</sup>New Delhi, Delhi (India)
- 19.011** Veterinary antibiotic use in smallholder periurban dairy farms of India: A qualitative study  
**A. S. Chauhan**, S. George, P. Chatterjee, M. Kakkar  
Gurgaon (India)
- 19.012** *Pseudomonas aeruginosa* profile of resistance to quinolones and carbapenem parallelly to usage of quinolones and carbapenem  
**J. E. Choucair**  
Beirut (Lebanon)
- 19.013** Risk factors for the acquisition of colistin and carbapenem-resistant *Klebsiella pneumoniae* in Medellín-Colombia, an endemic region for carbapenem resistance  
**A. V. Cienfuegos**, A. M. Ocampo, L. F. Higuaita, N. Jiménez  
Medellín (Colombia)
- 19.014** Antibiotic resistance in the Western Pacific Region: A systematic review  
**B. J. Cowling**, W. W. Lim, J. Y. T. Wong, V. J. Fang, P. Wu  
Hong Kong (China)
- 19.015** Survey on antimicrobial resistance of *Helicobacter pylori* to tetracycline and metronidazole by Etest and Real Time-PCR methods  
**K. Dadashzadeh**<sup>1</sup>, S. Behtasi<sup>2</sup>  
<sup>1</sup>Marand (Iran), <sup>2</sup>Tabriz (Iran)
- 19.016** Patient level risk factors for Carbapenem-Resistant *Enterobacteriaceae* at a low prevalence tertiary care center in the United States  
**M. Doll**, N. Masroor, Y. Major, C. Doern, M. Stevens, M. Flemming, K. Cooper, G. Bearman  
Richmond, VA (USA)
- 19.017** Persistence of bacteria in sanitized hands and prevalent antibiotic resistotypes  
**L. O. Egwari**, T. Ezenwammadu, T. Adegbayi, O. Ayepola, F. Babalola  
Ota (Nigeria)



- 19.018** Bloodstream infections and antibiotic susceptibility of anaerobes isolated from orthopedic patients  
**L. O. Egwari**<sup>1</sup>, O. Ayepola<sup>1</sup>, N. Nwokoye<sup>2</sup>, O. Olubi<sup>2</sup>, F. Faparusi<sup>1</sup>, F. Babalola<sup>1</sup>  
<sup>1</sup>Ota (Nigeria), <sup>2</sup>Lagos (Nigeria)
- 19.019** Detection of extended spectrum beta lactamase producing strains among clinical isolates of *Escherichia coli* and *Klebsiella pneumoniae* in Alexandria using Chrom-ID ESBL agar and molecular techniques  
**A. Elhefnawy**, S. Amer, N. Seeda, E. Elshehy  
Alexandria (Egypt)
- 19.020** Antibiotic susceptibility testing on bacterial isolates from wound infections  
**N. Ezenobi**  
Port Harcourt (Nigeria)
- 19.021** Trends in the minimum inhibitory concentrations of antibiotics for treatment of pertussis in strains of *Bordetella pertussis* isolated in the Czech Republic  
**K. Fabianova**, V. Jakubů, J. Zavadilova, P. Urbaskova  
Prague (Czech Republic)
- 19.022** How does India compare to Europe in terms of systemic antibiotic use: Evidence from pharmaceutical sales data (2008–2012)  
**H. H. Farooqui**<sup>1</sup>, A. Mehta<sup>2</sup>, S. Selvaraj<sup>2</sup>, D. Heymann<sup>3</sup>  
<sup>1</sup>Gurgaon (India), <sup>2</sup>New Delhi (India), <sup>3</sup>London (United Kingdom)
- 19.023** Advancement of Dairying in Austria (ADDA): Mastitis in dairy cows – milk sample testing, antibiotic use and antimicrobial resistance  
**C. L. Firth**, A. Schabauer, A. Käsbohrer, C. M. Gruber, L. Rabensteiner, M. Wagner, K. Rychli, W. Obritzhauser  
Vienna (Austria)
- 19.024** Pathogens causing device-associated infections and Carbapenem resistance among gram-negative pathogens causing infections in ICU  
**M. A. Gad**, A. A. El-Kholly, M. G. Elanany, M. M. Sherif  
Cairo (Egypt)
- 19.025** Poblational and biochemical-structural analyses on CTX-M  $\beta$ -lactamases harboring the D240G mutation reveal that *E. coli* populations with decreased susceptibility to ceftazidime preexist under a multifactorial resistance profile  
B. Ghiglione<sup>1</sup>, M. M. Rodríguez<sup>1</sup>, F. Brunetti<sup>1</sup>, M. Dropa<sup>2</sup>, L. Curto<sup>1</sup>, P. Power<sup>1</sup>, **G. Gutkind**<sup>1</sup>  
<sup>1</sup>Buenos Aires (Argentina), <sup>2</sup>Sao Paulo (Brazil)
- 19.026** Antimicrobial resistance bacteria isolated from mastitic cows  
**W. Y. Ibrahim**  
Khartoum (Sudan)
- 19.027** Antibiotic resistance in *Enterobacter cloacae* with derepressed/partially derepressed/inducible AmpC and extended-spectrum beta-lactamase in Zenica-Doboj Canton, Bosnia and Herzegovina  
**A. Ibrahimagić**<sup>1</sup>, S. Uzunović<sup>1</sup>, B. Bedenić<sup>2</sup>  
<sup>1</sup>Zenica (Bosnia and Herzegovina), <sup>2</sup>Zagreb (Croatia)
- 19.028** High occurrence of multiple genes in ESBL-producing inpatient and outpatient isolates in Zenica-Doboj Canton, Bosnia and Herzegovina  
**A. Ibrahimagić**<sup>1</sup>, S. Uzunović<sup>1</sup>, B. Bedenić<sup>2</sup>  
<sup>1</sup>Zenica (Bosnia and Herzegovina), <sup>2</sup>Zagreb (Bosnia and Herzegovina)
- 19.029** Molecular epidemiology and antimicrobial susceptibility of AmpC- and/or extended-spectrum (ESBL)  $\beta$ -lactamase-producing *Proteus* spp. clinical isolates in Zenica-Doboj Canton, Bosnia and Herzegovina  
S. Uzunović<sup>1</sup>, **A. Ibrahimagić**<sup>1</sup>, B. Bedenić<sup>2</sup>  
<sup>1</sup>Zenica (Bosnia and Herzegovina), <sup>2</sup>Zagreb (Croatia)
- 19.030** Evaluation of tetracycline resistance genes during avian manure composting process  
F. Esperón<sup>1</sup>, M. M. Delgado<sup>2</sup>, **I. Iglesias**<sup>1</sup>, M. Carballo<sup>1</sup>, M. Ugarte-Ruiz<sup>2</sup>, M. Á. Moreno<sup>2</sup>, J. L. Tadeo<sup>2</sup>, A. Torre<sup>1</sup>  
<sup>1</sup>Valdeolmos (Spain), <sup>2</sup>Madrid (Spain)
- 19.031** Detection of plasmid-mediated colistin resistance (*mcr-1*) in *E. coli* isolated from pig caecum in Austria  
**S. Jelovcan**<sup>1</sup>, P. Leekitcharoenphon<sup>2</sup>, G. Weissensteiner<sup>1</sup>, R. S. Hendriksen<sup>2</sup>, H. Lassnig<sup>1</sup>, F. Allerberger<sup>3</sup>, B. Springer<sup>1</sup>  
<sup>1</sup>Graz (Austria), <sup>2</sup>Kgs. Lyngby (Denmark), <sup>3</sup>Vienna (Austria)
- 19.032** Antimicrobial resistance of *Pseudomonas aeruginosa* strains isolated from surgical wards  
S. L. Pandrea, **L. M. Junie**, L. S. Pepelea, M. I. Ciontea, L. Matros  
Cluj-Napoca (Romania)
- 19.033** Species of non-fermentative Gram-negative bacilli other than *Pseudomonas aeruginosa* isolated from surgical wards in Regional Institute of Gastroenterology and Hepatology Cluj Napoca, Romania  
S. L. Pandrea, **L. M. Junie**, L. S. Pepelea, M. I. Ciontea, L. Matros  
Cluj-Napoca (Romania)



- 19.034** *In Vitro* efficacy of essential oils alone and in combination with fluconazole against azole-resistant strains of *Cryptococcus neoformans*  
**M. S. A. Khan**<sup>1</sup>, I. Ahmad<sup>2</sup>  
<sup>1</sup>Dammam (Saudi Arabia), <sup>2</sup>Aligarh (India)
- 19.035** Quinolone resistance determinants of *Salmonella enteritidis* isolated from patients in Thailand  
F. Utrarachkij<sup>1</sup>, C. Nakajima<sup>2</sup>, R. Changkwanyeeun<sup>2</sup>, K. Siripanichgon<sup>1</sup>, **S. Kongsoi**<sup>3</sup>, S. Pornruangwong<sup>4</sup>, O. Suthienkul<sup>1</sup>, Y. Suzuki<sup>2</sup>  
<sup>1</sup>Bangkok (Thailand), <sup>2</sup>Sapporo (Japan), <sup>3</sup>Nakhon Pathom (Thailand), <sup>4</sup>Nonthaburi (Thailand)
- 19.036** Colistin only sensitive *Acinetobacter baumannii* infection involving prosthetic joints  
**A. Kukreja**, H. Sulaiman, N. Atiya  
Kuala Lumpur (Malaysia)
- 19.037** Bacteriophages against multidrug resistant bacterial infections  
**M. Kutateladze**, L. Leshkasheli, D. Bolkvadze, L. Askilashvili, N. Balarjishvili  
Tbilisi (Georgia)
- 19.038** Exotoxin-profiling and typing of clinical Panton-Valentine Leukocidin positive MSSA versus MRSA  
J. Kläger<sup>1</sup>, K. Krziwanek<sup>2</sup>, R. Gattringer<sup>2</sup>, W. Graninger<sup>1</sup>, **H. Lagler**<sup>1</sup>  
<sup>1</sup>Vienna (Austria), <sup>2</sup>Linz (Austria)
- 19.039** Prevalence and characterization of carbapenem-resistant gram-negative bacteria isolated from Tamil Nadu, India  
**P. Manohar**, N. Ramesh, K. Gothandam, T. Shanthini  
Vellore (India)
- 19.040** Prevalence and antimicrobial-resistance features of *Staphylococcus* spp. from pets.  
**M. L. Menandro**, D. Pasotto, G. Dotto, A. Mondin, M. Martini  
Legnaro, PD (Italy)
- 19.041** Fecal carriage of extended spectrum beta lactamase-producing *E. coli* and *K. pneumoniae* among street children in Mwanza, Tanzania  
**N. Moremi**<sup>1</sup>, H. Claus<sup>2</sup>, U. Vogel<sup>2</sup>, S. E. Mshana<sup>1</sup>  
<sup>1</sup>Mwanza (Tanzania), <sup>2</sup>Würzburg (Germany)
- 19.042** Antimicrobial resistant pattern of methicillin-resistant *Staphylococcus aureus* isolated from stray dogs' nasal swabs to fifteen antimicrobials in Myanmar  
**T. T. Myaing**<sup>1</sup>, K. K. Thaw<sup>2</sup>, L. L. Htun<sup>2</sup>, M. M. Mhon<sup>2</sup>, S. Bawm<sup>2</sup>, K. S. Linn<sup>2</sup>, S. S. Wai<sup>2</sup>  
<sup>1</sup>Yangon (Myanmar), <sup>2</sup>Nay Pyi Taw (Myanmar)
- 19.043** The antibiotic resistance pattern of water polluting cocci around the Danube river mouth  
M. Spinu, M. Niculae, G. F. Brudasca, C. D. Sandru,  
**E. Pall**  
Cluj (Romania)
- 19.044** Resistance of nosocomial pathogens in burns unit (Yaroslavl, Russia)  
**S. Palyutin**, I. Vedenin, V. Berezin, A. Shagarova, M. Ershova, E. Poletaeva, S. Angelova, G. Abrosimova  
Yaroslavl (Russian Federation)
- 19.045** Prevalence of ESBL-producing *Escherichia coli* from different canine populations in Italy  
**D. Pasotto**, M. L. Menandro, G. Dotto, F. R. Tonellato, A. Mondin, M. Martini  
Legnaro (Italy)
- 19.046** Prevalence and antimicrobial-resistance characterization of vancomycin resistant enterococci (VRE) strains in healthy household dogs in Italy  
**D. Pasotto**, G. Dotto, M. L. Menandro, A. Mondin, M. Martini  
Legnaro (Italy)
- 19.047** Antimicrobial activities of recombinant rabbit neutrophil peptides (NP-1) against two clinical strains of antibiotic-resistant bacteria  
**Y.-H. Peng**, X. Wang, Z.-M. Hu  
Beijing (China)
- 19.048** Detection of carbapenemase production by multidrug-resistant *acinetobacter baumannii* isolates from selected wards in Dr. George Mukhari Academic Hospital  
**D. T. Phofa**  
Pretoria (South Africa)
- 19.049** Antimicrobial resistance of opportunistic microflora in adults with acute infectious diarrhea and approaches to improve its susceptibility to basic antimicrobials  
**N. Pshenichnaya**<sup>1</sup>, A. Buslenko<sup>1</sup>, A. Aleshukina<sup>1</sup>, A. Usatkin<sup>1</sup>, O. Kostenko<sup>1</sup>, S. Khukazova<sup>1</sup>, A. Zhuravlev<sup>2</sup>  
<sup>1</sup>Rostov-on-Don (Russian Federation), <sup>2</sup>Moscow (Russian Federation)
- 19.050** Establishing phenotypic susceptibility testing of influenza virus to oseltamivir as a laboratory diagnostic method  
**K. Y. Puong**, K. P. Chan  
Singapore (Singapore)
- 19.051** Kinetics of *Candida tropicalis* with antifungal medicinal Plant with reference to synergism  
**F. Saeed**, S. G. Nadeem, S. Tabassum  
Karachi (Pakistan)



- 19.052** Monitoring of antibiotic therapy in Acute Respiratory Infections (ARIs) complicated with community-acquired pneumonia in children B. Turdalinaa, **A. Seidullayeva** Astana (Kazakhstan)
- 19.053** Bacterial load occurrence and antibiogram of salmonella species from cattle carcasses and the processing environment in Abuja Abattoirs, Nigeria  
**A. O. Shaibu**<sup>1</sup>, E. Okolocha<sup>1</sup>, B.-V. Maikai<sup>1</sup>, O. Olufemi<sup>2</sup>  
<sup>1</sup>Zaria, Kaduna (Nigeria), <sup>2</sup>Taraba (Nigeria)
- 19.054** Pefloxacin as a surrogate marker to determine susceptibility to quinolones drugs in *Salmonella enterica* Serovar Typhi: Structural and molecular analysis  
**P. Sharma**, M. Kumar, S. Dahiya, P. Kaur, S. Sood, B. K. Das, A. Kapil  
Delhi (India)
- 19.055** Effect of sub-lethal concentration of vancomycin on biofilm formation by *Staphylococcus* species  
**K. Shrestha**, B. Rijal, S. Mlshra  
Kathmandu (Nepal)
- 19.056** Risk assessment of the exposure of people to methicillin-resistant *Staphylococcus aureus* (MRSA) from dogs  
M. I. Neves, J. Pinto Ferreira, **K. Stärk**  
Liebefeld (Switzerland)
- 19.057** Population-based surveillance of antibiotic dispensing in Alberta, Canada  
**L. Svenson**, K. Simmonds  
Edmonton (Canada)
- 19.058** Uropathogens and antimicrobial susceptibility patterns in urinary tract infections diagnosed in the primary care setting in Singapore  
**M. X. Tan**, K. Mannath, L. P. Ng, P. L. Hu, K. S. P. Moey, K. T. Tan, Y. L. A. Koong, T. Y. Tan, C. S. Wong, N. C. Tan  
Singapore (Singapore)
- 19.061** Imported melioidosis cases increasing in Portugal  
**A. C. Pelerito**, R. Cordeiro, I. Lopes de Carvalho, J. Rodrigues, E. Ferreira, C. Silva, R. Romão, M. Caniça, M. S. Nuncio  
Lisbon (Portugal)
- 19.062** Improving biosecurity in Pakistan: Report from an IATA guidelines training for transportation of biological agents  
**H. Shafaq**, S. Qureshi, S. Shakoor  
Karachi (Pakistan)

**Climate Change and Ecological Factors in Disease Emergence**

- 19.063** An outbreak of scrub typhus in Nepal following the 2015 Gorkha earthquake  
**A. Bastola**, N. Pant  
Kathmandu (Nepal)
- 19.064** *Naegleria fowleri* an old organism become new emergence in Karachi, Pakistan  
**N. A. Irfan**, S. G. Nadeem, S. Javed, I. G. Baig  
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<sup>1</sup>Yerevan (Armenia), <sup>2</sup>New York, NY (USA)

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<sup>1</sup>Marseille (France), <sup>2</sup>Cayenne (France), <sup>3</sup>Toulon (France)
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<sup>1</sup>Vienna (Austria), <sup>2</sup>Heredia (Costa Rica)
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**A. Khalil**, N. Gulati, B. Joseph, M. Maruf  
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- 19.084** Studying the role of diallyl sulfide in ameliorating ethanol induced adipose tissue injury  
**P. P. M. Mandal**  
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<sup>1</sup>Legnaro (Italy), <sup>2</sup>Este (PD) (Italy)
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<sup>1</sup>Nanaimo (Canada), <sup>2</sup>Vientiane (Lao), <sup>3</sup>Davis, CA (USA), <sup>4</sup>New York, NY (USA), <sup>5</sup>San Francisco (USA)
- 19.088** Japanese encephalitis outbreak among children in Mayurbhanj, Odisha-India, 2015  
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<sup>1</sup>New Delhi (India), <sup>2</sup>Bhubaneswar (India)
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<sup>1</sup>Rostov-on-Don (Russian Federation), <sup>2</sup>Cherkessk (Russian Federation)



- 19.090** Eco-epidemiological analysis of rickettsia infection in rural areas from Colombia: A multilevel approach  
**J. C. Quintero Vélez**, L. Osorio, A. Uribe, C. Muskus, C. Rojas  
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- 19.091** A study of bacterial contamination in feces of macaques in Lopburi Province, Thailand  
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<sup>1</sup>Bangkok (Thailand), <sup>2</sup>Lopburi (Thailand)
- 19.092** Leptospirosis in the Caribbean: A One Health approach  
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<sup>1</sup>Port of Spain (Trinidad and Tobago), <sup>2</sup>Roseau (Dominica), <sup>3</sup>Paramaribo (Suriname), <sup>4</sup>Kingston (Jamaica), <sup>5</sup>St. Georges (Grenada), <sup>6</sup>Georgetown (Guyana), <sup>7</sup>Grand Cayman (United Kingdom), <sup>8</sup>Domaine Duclos (Guadeloupe)
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<sup>1</sup>La Laguna (Spain), <sup>2</sup>Santa Cruz de Tenerife (Spain)
- 19.099** Overwintering of epizootic hemorrhagic disease virus in white-tailed deer in Florida, USA: Unanticipated seroconversion and the case for alternative vectors  
**K. Saylor**<sup>1</sup>, E. Blosser<sup>2</sup>, B. McGregor<sup>2</sup>, N. Burkett-Cadena<sup>2</sup>, S. M. S. W. Wisely<sup>2</sup>  
<sup>1</sup>Gainesville, FL (USA), <sup>2</sup>Vero Beach, FL (USA)
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**K. Schulman**, T. Lyytikäinen  
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**L. A. McCorry**, A. O'Grady  
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- 19.104** Evaluation of measles surveillance system in Katsina State, Northwestern Nigeria, 2009–2012  
**U. L. Shehu**<sup>1</sup>, A. Hamza<sup>2</sup>  
<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Katsina (Nigeria)
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- 19.107** An outbreak of gastroenteritis due to contaminated water supply in Kotha Kalan, Rawalpindi, November, 2015.  
**F. Bashir**, Z. Hussain, M. A. Baig, R. J. Asghar  
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- 19.094** Molecular screening for *Coxiella burnetii* in seropositive ruminant herds in Portugal  
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<sup>1</sup>Coimbra (Portugal), <sup>2</sup>Sophia Antipolis (France)
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<sup>1</sup>Astana (Kazakhstan), <sup>2</sup>Amsterdam (Netherlands)
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<sup>1</sup>Bambey (Senegal), <sup>2</sup>Pretoria (South Africa), <sup>3</sup>Maisons-Alfort (France), <sup>4</sup>Amsterdam (Netherlands), <sup>5</sup>Dakar (Senegal)
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**D. Jabeen**, S. G. Nadeem  
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**M. Hamid**, M. Munir, S. G. Nadeem  
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<sup>1</sup>Graz (Austria), <sup>2</sup>Vienna (Austria), <sup>3</sup>Innsbruck (Austria)
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**E. Nsoesie**<sup>1</sup>, J. Hawkins<sup>2</sup>, G. Tuli<sup>2</sup>, S. Kluberg<sup>2</sup>, J. Brownstein<sup>2</sup>  
<sup>1</sup>Seattle, WA (USA), <sup>2</sup>Boston, MA (USA)
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**A. Shafiq**, S. Javed, A. Fatima  
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**A. Smith**<sup>1</sup>, P. Naicker<sup>2</sup>, C. Bamford<sup>2</sup>, L. Shuping<sup>1</sup>, K. McCarthy<sup>1</sup>, A. Sooka<sup>1</sup>, S. Smouse<sup>1</sup>, N. Tau<sup>1</sup>, K. Keddy<sup>1</sup>  
<sup>1</sup>Johannesburg (South Africa), <sup>2</sup>Cape Town (South Africa)

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<sup>1</sup>Ishaka (Uganda), <sup>2</sup>Kano (Niger), <sup>3</sup>Kampala (Nigeria)
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<sup>1</sup>Abakaliki, Ebonyi (Nigeria), <sup>2</sup>Owerri (Nigeria)
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- 19.128** Preparing for Zika virus in Houston, Texas: A comprehensive, city-wide approach  
**R. Arifat**, R. Arnold, D. Persse  
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**N. E. Arenas**<sup>1</sup>, D. Abril<sup>1</sup>, P. Valencia<sup>1</sup>, S. Khandige<sup>2</sup>, C. Y. Soto<sup>3</sup>, V. Moreno<sup>1</sup>  
<sup>1</sup>Fusagasuga (Colombia), <sup>2</sup>Odense (Denmark), <sup>3</sup>Bogota (Colombia)
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**S. Aryal**, S. P. Lekhak, P. Parajuli  
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<sup>1</sup>Karaganda (Kazakhstan), <sup>2</sup>Cardiff (United Kingdom)
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- 19.135** Patient sharing and the interplay between acute and long-term care *C. difficile* incidence in the United States veterans health administration: A retrospective cohort study of 169 facilities  
**K. A. Brown**<sup>1</sup>, M. Samore<sup>2</sup>  
<sup>1</sup>Toronto (Canada), <sup>2</sup>Salt Lake City, UT (USA)
- 19.136** Seroprevalence of *Toxoplasma gondii* among childbearing women in Western Romania  
**I. D. Capraru**, V. Dumitrascu, T. R. Olariu  
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**J. E. Choucair**  
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**M. Davidyants**, H. Apresyan, L. Atoyan, V. Asoyan, A. Mkrtchyan, A. Hovhannisyanyan  
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<sup>1</sup>Zaria, Kaduna (Nigeria), <sup>2</sup>Wukari (Nigeria)
- 19.140** Whole transcriptome analysis to elucidate the role of *M. tuberculosis* curli pili (MTP) on host gene regulation in a pulmonary epithelial cell model  
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<sup>1</sup>Durban (South Africa), <sup>2</sup>Cape Town (South Africa)
- 19.141** Evaluation of pet animals involved in assisted interventions (AAI) as potential carriers of bacteria resistant to antimicrobials: Preliminary data  
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- 19.142** Seropositivity of delta hepatitis in patients with positive hepatitis B surface antigen, between 2011 and 2016  
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- 19.145** *Mtb* Acetyltransferase reduces the oxidative stress response and increases intracellular persistence via peroxisomal biogenesis  
**G. Ganguli**, A. Sonawane  
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**H. H. G. Gautam**<sup>1</sup>, U. B. Singh<sup>1</sup>, R. Lodha<sup>2</sup>, S. Kabra<sup>2</sup>, R. Prakash<sup>1</sup>, R. Jain<sup>2</sup>  
<sup>1</sup>Ansari Nagar (India), <sup>2</sup>New Delhi (India)



- 19.147** Cross-sectional study on echinococcosis in Aragacotn region of Armenia, 2014  
**K. Gevorgyan**, L. Paronyan, A. Vanyan, A. Keshishyan  
Yerevan (Armenia)
- 19.148** Comparative seropositivity against leptospirosis between rice cultivators and non-rice cultivators  
**A. Gohar**  
Lahore (Pakistan)
- 19.149** Seroprevalence of *Toxoplasma gondii* and hepatitis b virus infection among pregnant women attending antenatal clinic in selected health institutes of Jigjiga east Ethiopia  
**A. N. Gudeta**  
Jigjiga (Ethiopia)
- 19.150** Do coinfection patients with HIV/HCV respond differently to new hepatitis C treatments than HCV monoinfected patients? Data from HAVACS and the Atlanta Veterans Affairs Medical Center  
**J. Guest**, R. Rai, E. Cartwright  
Atlanta, GA (USA)
- 19.151** Clinical, laboratory and imaging characteristics in patients with Neurological deficits in Tuberculous meningitis and its effect on patient outcome  
**R. Gupta**, M. Chaturvedi, S. Kushwaha, N. Jalan, P. Rawat, R. Thakur  
Delhi (India)
- 19.152** Risk of West Nile virus among horses in Qatar: A preliminary study  
**M. Haroun**<sup>1</sup>, A. Siddig<sup>1</sup>, E. Farag<sup>1</sup>, H. Mohammed<sup>2</sup>, A. Alhussein<sup>3</sup>  
<sup>1</sup>Doha (Qatar), <sup>2</sup>Ithica, NY (USA), <sup>3</sup>Khartoum (Sudan)
- 19.153** Structural-Functional polymorphism of HBX, a potential oncogene of HBV  
**N. A. Hussain**  
Karachi (Pakistan)
- 19.154** Pneumococcal meningitis: Clinical aspects, bacterial profile and clinical course  
E. S. Maryem, **D. Ibrahim**, C. Abdelfetah, S. Mustapha, M. Latifa, M. E. F. Kamal  
Casablanca (Morocco)
- 19.155** Federal state level management of an imported Lassa fever case to North Rhine-Westphalia, Germany, March 2016  
A. Maisa, S. Thole, I. Daniels-Haardt, **A. Jurke**  
Münster (Germany)
- 19.156** Survey on the impact of the Ebola outbreak in West Africa on public health in North Rhine-Westphalia, Germany  
A. Maisa, I. Daniels-Haardt, **A. Jurke**  
Münster (Germany)
- 19.157** Evaluation of acute flaccid paralysis (AFP) surveillance system in Balochistan  
**A. H. Kakar**, A. Saeed  
Quetta (Pakistan)

Session 19

**Poster Presentations I****Saturday, November 5, 2016****11:45–13:15****Klimt Ballroom I • Upper Level**

Posters 19.158–19.215

**Infections of Public Health Significance (continued)**

- 19.158** Effect of parasite diversity on the levels and quality of antibody responses to *Plasmodium falciparum* in an area of seasonal malaria transmission  
**E. Kyei-Baafour**, B. Torniyigah, L. Bimi, E. Dickson, B. Gyan, A. Kusi  
Accra (Ghana)
- 19.159** Detection of viral RNA in tissues following plasma clearance from an Ebola virus infected patient  
M. Biava<sup>1</sup>, C. Caglioti<sup>1</sup>, L. Bordi<sup>1</sup>, C. Castilletti<sup>1</sup>, F. Colavita<sup>1</sup>, S. Quartu<sup>1</sup>, E. Nicastrì<sup>1</sup>, F. N. Iauria<sup>1</sup>, N. Petrosillo<sup>1</sup>, S. Lanini<sup>1</sup>, T. Hoenen<sup>2</sup>, G. Kobinger<sup>3</sup>, A. Zumla<sup>4</sup>, A. Di Caro<sup>1</sup>, G. Ippolito<sup>1</sup>, M. R. Capobianchi<sup>1</sup>, **E. Lalle**<sup>1</sup>  
<sup>1</sup>Rome (Italy), <sup>2</sup>Greifswald (Germany), <sup>3</sup>Winnipeg (Canada), <sup>4</sup>London (United Kingdom)
- 19.160** Burden of Chagas disease related cardiomyopathy in Guyana  
D. Isaac<sup>1</sup>, W. Warnica<sup>1</sup>, C. Spence<sup>1</sup>, **A. R. Lehndorff**<sup>1</sup>, K. Assen<sup>1</sup>, J. Cole<sup>2</sup>, S. Persaud<sup>2</sup>, F. Moses<sup>2</sup>, J. Alexandre<sup>2</sup>, M. Carpen<sup>2</sup>  
<sup>1</sup>Calgary (Canada), <sup>2</sup>Georgetown (Guyana)
- 19.161** Surveillance of Zika virus infection: The experience of an adult tertiary care hospital in Singapore  
W. M. Kyaw, H. Y. Loke, A. Chow, M. Chan, **Y. S. Leo**  
Singapore (Singapore)
- 19.162** Antiherpetic activity of two fullerene derivatives in vitro and in vivo  
**I. Lialina**<sup>1</sup>, N. N. Nosik<sup>2</sup>, N. G. Kondrashina<sup>2</sup>  
<sup>1</sup>Nizni Novgorod (Russian Federation), <sup>2</sup>Moscow (Russian Federation)
- 19.163** Prevalence, risk factors and spatial distribution of *Ascaris lumbricoides* infection in Swaziland  
**V. Lokotfwako**  
Mbabane (Swaziland)
- 19.164** Exploring epidemics: A Smithsonian museum endeavor for the public  
**D. Lucey**, S. Sholts, K. Blond, R. Costello, S. Murray  
Washington, DC (USA)



- 19.165** Trichinellosis in western Romania a 4 year retrospective study  
**M. A. Lupu**, E.V. Lazureanu, T. R. Olariu Timisoara (Romania)
- 19.166** Association of Human Leukocyte Antigen alleles and Cytomegalovirus disease after Kidney Transplantation  
**S. Luscalov**, L. I. Loga, D. A. Luscalov, C. G. Dragomir Loga, M. Junie, M. Lucan, L. Dican Cluj Napoca (Romania)
- 19.167** Visceral leishmaniasis in Tavush Marz, Armenia, 2001–2016  
**G. Martirosyan**, A. Nazinyan Ijevan (Armenia)
- 19.168** Accidental sexual HIV exposure: Experience of an infectious diseases unit in Casablanca  
**E. S. Maryem**, D. Ibrahim, C. Abdelfetah, S. Mustapha, M. Latifa, M. E. F. Kamal Casablanca (Morocco)
- 19.169** Spotty fever tick: About 259 cases  
**E. S. Maryem**, D. Ibrahim, S. Mustapha, M. Latifa, C. Abdelfetah, M. E. F. Kamal Casablanca (Morocco)
- 19.170** Sero-prevalence of *Toxoplasma gondii* antibodies in slaughterhouse workers in Khartoum state, Sudan  
**M. Y. I. Medani**, H. Mohamed, A. Majid, H. Mohamed, Y. Hamattalla Khartoum (Sudan)
- 19.171** Outbreak Investigation of “Brain Eating Amoeba” (Primary Amoebic Meningoencephalitis) caused by *Naegleria fowleri*—Karachi, Pakistan, 2012–2014 (with 2015 updated)  
**S. Memon**, F. N. Khan, M. A. Baig, R. J. Asghar Islamabad (Pakistan)
- 19.172** The results of epizootiological monitoring of the natural foci for leptospirosis in Armenia  
**L. Mkrtchyan**, H. Hakobyan Yerevan (Armenia)
- 19.173** Meningococcal meningitis: 71 cases  
**E. F. Mouna**, M. Sodqi, S. Jebbar, I. Dollo, L. Marih, A. Chakib, K. Marhoum Elfilali Casablanca (Morocco)
- 19.174** Human rabies in Morocco  
**E. F. Mouna**, M. Sodqi, H. Badi, I. Dollo, K. Marhoum Elfilali Casablanca (Morocco)
- 19.175** Tetanus in adults: Overview  
**E. F. Mouna**, S. Jebbar, M. Sodqi, L. Marih, A. Chakib, K. Marhoum Elfilali Casablanca (Morocco)
- 19.176** Syphilis among HIV-infected patients: 135 cases  
**E. F. Mouna**, I. Dollo, M. Sodqi, A. Chakib, K. Marhoum Elfilali Casablanca (Morocco)
- 19.177** Aspects of HIV-epidemic in the Muslim Republic of the North-Caucasian Region  
**M. Nosik**<sup>1</sup>, R. Tlenkopachev<sup>2</sup>, K. Ryzhov<sup>1</sup>, S. Kuzin<sup>1</sup>  
<sup>1</sup>Moscow (Russian Federation),  
<sup>2</sup>Nalchik (Russian Federation)
- 19.178** Immune responses induced in individuals with dual infection Tuberculosis (TB) and HIV during antiretroviral and TB therapy  
**M. Nosik**, I. Rymanova, O. Lobach, S. Sevostyanihin, I. Kiseleva, N. Adamovich, A. Sobkin Moscow (Russian Federation)
- 19.179** Socio-demographic and clinical profile of TB/HIV-co-infected patients  
I. Rymanova, **M. Nosik**, S. Sevostyanihin, A. Sobkin Moscow (Russian Federation)
- 19.180** Novel method of virus inactivation in plasma with millisecond technology  
**N. N. Nosik**, D. Dolgopov, N. G. Kondrashina Moscow (Russian Federation)
- 19.181** The risk of sustained sexual transmission of Zika virus infection in England, United Kingdom  
**C. O'Connor**, M. Pereboom, A. Walsh, H. Mohammed, J. Dunning London (United Kingdom)
- 19.182** Group a Streptococcus pharyngitis and pharyngeal carriage a systematic review  
**J. Oliver**<sup>1</sup>, E. Malliya Wadu<sup>1</sup>, N. Pierce<sup>1</sup>, N. Moreland<sup>2</sup>, D. Williamson<sup>3</sup>, M. Baker<sup>1</sup>  
<sup>1</sup>Wellington (New Zealand), <sup>2</sup>Auckland (New Zealand), <sup>3</sup>Melbourne (Australia)
- 19.183** Factors affecting infant feeding decisions and practices among hiv positive women attending Nasara clinic, Abuth 2016  
**A. A. Olorukooba**<sup>1</sup>, S. S. Yahaya<sup>2</sup>, A. Lawal<sup>1</sup>, H. Abdurrahman<sup>1</sup>, A. Bayero<sup>3</sup>, M. J. Ibrahim<sup>1</sup>, B. Z. Popoola<sup>1</sup>  
<sup>1</sup>Zaria (Nigeria), <sup>2</sup>Kastina (Nigeria),  
<sup>3</sup>Kano (Nigeria)
- 19.184** Seroepidemiological study to assess visceral leishmaniasis in Armenia, 2015  
**L. Paronyan**, H. Apresyan, G. Avetisyan, K. Gevorgyan, L. Babayan, A. Vanyan Yerevan (Armenia)



- 19.185** First report of G12P[8] group A rotavirus introduction in northern Italy, 2016  
**L. Pellegrinelli**<sup>1</sup>, G. Ianiro<sup>2</sup>, L. Bubba<sup>1</sup>, M. Monini<sup>2</sup>, V. Primache<sup>1</sup>, E. Pariani<sup>1</sup>, F. M. Ruggeri<sup>2</sup>, S. Binda<sup>1</sup>  
<sup>1</sup>Milan (Italy), <sup>2</sup>Rome (Italy)
- 19.186** Prevalence and risk factors of HIV Infection among prisoners in Punjab, Pakistan 2013  
**A. Pervaiz**  
Islamabad (Pakistan)
- 19.187** Horizon scanning through media mining to identify medical products of human prigin-associated infectious risks: A pilot NOTIFY Project study  
**E. Petrisli**<sup>1</sup>, L. Noel<sup>2</sup>, J. Schnitzler<sup>3</sup>, J. R. Nunez<sup>3</sup>, D. Fehily<sup>4</sup>, M. Kuehnert<sup>5</sup>, D. Domanovic<sup>6</sup>, D. M. Strong<sup>7</sup>, I. Ushiro-Lumb<sup>8</sup>, A. Nanni Costa<sup>1</sup>  
<sup>1</sup>Rome (Italy), <sup>2</sup>Annecy (France), <sup>3</sup>Geneva (Switzerland), <sup>4</sup>Brussels (Belgium), <sup>5</sup>Atlanta, GA (USA), <sup>6</sup>Solna (Sweden), <sup>7</sup>Edmonds, WA (USA), <sup>8</sup>London (United Kingdom)
- 19.188** Infections and antimicrobial use in Hungarian long-term care facilities in 2015: A questionnaire-based survey to evaluate initiatives and future developments  
R. Szabó, **I. Prantner**, A. Kurcz  
Budapest (Hungary)
- 19.189** Procedure categories under surgical site infection surveillance, Hungary, 2011–2015  
**I. Prantner**, A. Szönyi, A. Kurcz  
Budapest (Hungary)
- 19.190** Risk factors and prevalence, hepatitis B virus and hepatitis C virus among prison inmates, Chennai, India, 2015  
**M. Ramamoorthy**, A. Venketeswaran, P. Seenivasan, M. Revathy, M. Manimaran, S. Chitra, M. Malarvizhi, T. Fredrick  
Chennai (India)
- 19.191** *Chlamydia trachomatis* prevalence and serovar distribution in patients with urogenital infections  
**J. Rawre**, B. Dhawan, R. Chaudhry, N. Khanna, V. Sreenivas  
New Delhi (India)
- 19.192** Characteristics of tuberculosis (TB) and human immunodeficiency virus (HIV) coinfection and adverse effect of treatment in a cohort of hospitalized patients in Medellín, Colombia  
**L. Ruiz**, M. A. Maya, Z. V. Rueda, L. López, L. A. Vélez  
Medellín (Colombia)
- 19.193** Parasitic infections among school children in Corum, Turkey  
A. Taylan Ozkan<sup>1</sup>, **N. Sakru**<sup>2</sup>, M. Emek<sup>3</sup>, M. Mungan<sup>4</sup>, M. Ertek<sup>4</sup>  
<sup>1</sup>Corum (Turkey), <sup>2</sup>Edirne (Turkey), Antalya (Turkey), <sup>4</sup>Ankara (Turkey)
- 19.194** Evaluation of cystic echinococcosis suspected cases in Edirne Turkey between 2006 and 2015  
**N. Sakru**, G. Kuyucuklu, C. Eryıldız  
Edirne (Turkey)
- 19.195** Incidence of meningococcal disease in children in Astana city  
**A. Seidullayeva**<sup>1</sup>, G. Zhaxylykova<sup>1</sup>, D. Bayesheva<sup>1</sup>, B. Turdalina<sup>1</sup>, M. Balgayeva<sup>1</sup>, A. Kushugulova<sup>1</sup>, D. Greenberg<sup>2</sup>, G. Volkova<sup>1</sup>  
<sup>1</sup>Astana (Kazakhstan), <sup>2</sup>Beer-Sheva (Israel)
- 19.196** Epidemiological pattern of measles infection among children under five years in Katsina State, Northern Nigeria, 2009–2012  
**U. L. Shehu**<sup>1</sup>, A. Hamza<sup>2</sup>, H. Idris<sup>2</sup>  
<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Katsina (Nigeria)
- 19.197** Association of genetic polymorphism of the DNA base excision repair gene (*APE-1 Asp1148 Glu*) and HPV type (16/18) with the risk of cervix cancer in north Indian population  
**M. Shekari**  
Bandar Abbas (Iran)
- 19.198** Microhematospermia in acute Zika virus infection  
N. Martinez, Z. Moro, **J. Torres**  
Caracas (Venezuela)
- 19.199** Preparedness and response during Mass gatherings: The ongoing experience of the Regional Plan for surveillance and response to infectious diseases emergencies during the extraordinary Jubilee 2015–2016  
**F. Vairo**, M. Sane Schepisi, F. Perrelli, V. Di Bari, R. Pisapia, E. Nicastrì, F. N. Iauria, G. Ippolito, P. Scognamiglio, V. Puro  
Rome (Italy)
- 19.200** The prevalence of Hepatitis E Virus in HIV-infected patients in China  
**L. wang**, H. Zeng, P. Liu  
Beijing (China)
- 19.201** Anti-Zika virus IgA as putative indicator of acute infection in anti-Zika virus IgM-negative patients  
K. Steinhagen<sup>1</sup>, J. Schmidt-Chanasit<sup>2</sup>, P. Emmerich<sup>2</sup>, E. Lattwein<sup>1</sup>, J. Fraune<sup>1</sup>, W. Schlumberger<sup>1</sup>, **J. M. Warnecke**<sup>1</sup>  
<sup>1</sup>Lübeck (Germany), <sup>2</sup>Hamburg (Germany)



**19.202** Accessibility and utilization of tuberculosis dots services among patients attending primary health care facilities in Katsina State

**S. S. Yahaya**<sup>1</sup>, A. A. Olorukooba<sup>2</sup>, A. Lawal<sup>2</sup>, H. Abdurrahman<sup>2</sup>  
<sup>1</sup>Kastina (Nigeria), <sup>2</sup>Zaria (Nigeria)

**19.203** Epidemiological Features of legionellosis in a Province of South Korea, 2011–2016

**S. Yi**, H. Lee  
Gyeonggi (Korea)

### **Outbreak Response and Control**

**19.204** A systematic review of healthcare associated outbreaks in Singapore post SARS: 2003–2016

**Y. Goh**, H. Badaruddin, C. Senthamarai, P. M. Rajan, P. A. Tambyah  
Singapore (Singapore)

### **Infections Related to Travel and Migration**

**19.205** Dengue virus nonstructural protein 1 induces platelet activation and promotes platelet aggregation

**C.-H. Chao**  
Tainan (Taiwan, R.O.C.)

**19.206** Dengue transmission through human movement in regular and seasonal patterns on Koh Chang island in Thailand

**C. Y. Hou**<sup>1</sup>, P. Kittayapong<sup>2</sup>, J. Mumford<sup>1</sup>, L. R. Carrasco<sup>3</sup>  
<sup>1</sup>London (United Kingdom), <sup>2</sup>Bangkok (Thailand), <sup>3</sup>Singapore (Singapore)

**19.207** Refugee health and the risk of cutaneous Leishmaniasis in Europe

**A. Khamesipour**<sup>1</sup>, B. Rath<sup>2</sup>  
<sup>1</sup>Tehran (Iran), <sup>2</sup>Berlin (Germany)

**19.208** Three patients from Suriname with possibly Zika virus associated Guillain-Barré syndrome

**T. Langerak**<sup>1</sup>, H. Yang<sup>2</sup>, J. Codrington<sup>2</sup>, H. Alberga<sup>2</sup>, B. Jacobs<sup>1</sup>, C. Geurts van Kessel<sup>1</sup>, C. Reusken<sup>1</sup>, M. Koopmans<sup>1</sup>, E. van Gorp<sup>1</sup>, S. Vreden<sup>2</sup>  
<sup>1</sup>Rotterdam (Netherlands), <sup>2</sup>Paramaribo (Suriname)

**19.209** Analysis of dengue imported cases in South Korea, 2001–2015

**S. Park** D. Lee  
Chungbuk (Korea)

**19.210** Newly introduced RRTTR (Reach-Recruit/Refer-Test-Treat-Retain-Resilience) strategy to increase early TB case detection and effective treatment among migrants: Thailand's first ever experiences

**N. W. Phyo**  
Bangkok (Thailand)

**19.211** Malaria—a new re-merging disease in Albania  
P. Piperi, N. Como, A. Harxhi, E. Meta, A. Ndreu, T. Kalo, **S. Bino**, M. Kokici, T. Myrseli, D. Kraja  
Tirana (Albania)

**19.212** Ebola viral disease screening at Birmingham (United Kingdom) airport—Successes and challenges

**B. Sibal**, J. C. Moll  
Birmingham (United Kingdom)

**19.213** Zika virus infection in Czech travellers

**M. Trojanek**<sup>1</sup>, H. Rohacova<sup>1</sup>, H. Zelena<sup>2</sup>, N. Sojkova<sup>1</sup>, Z. Karimova<sup>1</sup>, T. Rudova<sup>1</sup>, F. Stejskal<sup>1</sup>  
<sup>1</sup>Prague (Czech Republic), <sup>2</sup>Ostrava (Czech Republic)

**19.214** FLIRT, a web application to predict the movement of infected travelers validated against the current Zika virus epidemic

A. Huff<sup>1</sup>, T. Allen<sup>1</sup>, **K. A. Whiting**<sup>1</sup>, B. Arnold<sup>2</sup>, N. Breit<sup>3</sup>, A. Miessler<sup>4</sup>  
<sup>1</sup>New York, NY (USA), <sup>2</sup>Malone, NY (USA), <sup>3</sup>Taipei (Taiwan, R.O.C.), <sup>4</sup>Grass Valley, CA (USA)

### **Outbreak Response and Control**

**19.215** Tools and methods employed by community health centers in the prevention and control of Zika virus infections in Bahia, Brazil

**F. E. Tesha**  
Durham, NC (USA)



Session 20

**Poster Presentations II****Sunday, November 6, 2016****11:45–13:15****Bruckner/Mahler/Brahms • Upper Level**

Posters 20.001–20.161

**Outbreak Modeling**

- 20.001** Nowcasting incidence of emergent zika virus infection and its outbreaks using Google Trends data: Examples from Brazil and Colombia  
D. C. Fortescue-Webb, **B. D. Dimitrov**  
Southampton (United Kingdom)

**Influenza and Other Respiratory Infections**

- 20.002** Secondary data analysis of national influenza reference laboratory, Abuja, Nigeria, May, 2015  
**A. A. Ahmad**  
Abuja (Nigeria)
- 20.003** Screening of respiratory virus PCR panel in adults with CNS infection  
**S. J. Ahn**, J.-S. Sunwoo, H. S. Lee, J.-A. Lim, J. Moon, S.-T. Lee, K.-H. Jung, S. K. Lee, K. Chu  
Seoul (Korea)
- 20.004** Detection of rhinovirus-associated asthma exacerbations using reverse transcriptase-polymerase chain reaction in Egyptian children  
M. El-Seify<sup>1</sup>, **M. M. A. M. Al-Fahham**<sup>2</sup>, N. Salah El-Deen<sup>1</sup>, S. El-Nashar<sup>1</sup>  
<sup>1</sup>Cairo (Egypt), <sup>2</sup>Kuwait (Kuwait)
- 20.005** A cross-sectional serosurvey of influenza A and B virus-specific IgG antibodies in Emirati children  
**A. Alsuwaidi**<sup>1</sup>, L. Al-Mekaini<sup>1</sup>, S. Kamal<sup>2</sup>, H. Narchi<sup>1</sup>, A.-K. Souid<sup>2</sup>  
<sup>1</sup>Al Ain (United Arab Emirates), <sup>2</sup>Abu Dhabi (United Arab Emirates)
- 20.006** Genetic characterization of isolated Influenza C viruses in the Philippines, 2006–2012  
**V. L. F. ARGUELLES**  
Muntinlupa (Philippines)
- 20.007** High-throughput bead based suspension array for the detection of acute respiratory viral pathogens among children aged <5 years in Pakistan  
**F. Aziz**<sup>1</sup>, J. Samad<sup>1</sup>, I. Rizvi<sup>1</sup>, A. Sami<sup>1</sup>, S. Qureshi<sup>1</sup>, I. Nisar<sup>1</sup>, N. Brown<sup>2</sup>, F. Jehan<sup>1</sup>  
<sup>1</sup>Karachi (Pakistan), <sup>2</sup>Salisbury (United Kingdom)
- 20.008** Influenza vaccine un-neutralized viruses associated with a specific seasonality pattern in Uganda: The HA/ HAI approach  
**T. Byaruhanga**, J. T. Kayiwa, B. Namagambo, J. Namulondo, N. Owor, B. Bakamuntumaho, I. Nabukenya, J. J. Lutwama  
Entebbe (Uganda)
- 20.009** Short period incidence study of severe acute respiratory infection (SPRINT-SARI) initial data from a global observational study to better describe SARI epidemiology in critically ill patients  
**G. L. Carson**<sup>1</sup>, L. Castle<sup>1</sup>, M. George<sup>2</sup>, P. Horby<sup>1</sup>, K.-S. Longuere<sup>1</sup>, L. Merson<sup>1</sup>, S. Murthy<sup>3</sup>, G. O'Neill<sup>2</sup>, R. Pardinaz-Solis<sup>1</sup>, S. Webb<sup>2</sup>  
<sup>1</sup>Oxford (United Kingdom), <sup>2</sup>Melbourne (Australia), <sup>3</sup>Vancouver (Canada)
- 20.010** Cyclical patterns of flu incidence dynamics and their associations with variations in the diseases of the circulatory system in USA for the years 1993–2007  
**B. D. Dimitrov**  
Southampton (United Kingdom)
- 20.011** Cross sectional survey of live bird markets, migratory and wild birds for low and highly pathogenic circulating influenza subtypes in Pakistan  
**Z. Fatima**<sup>1</sup>, A. Ullah<sup>1</sup>, A. W. Yunus<sup>1</sup>, A. Khan<sup>2</sup>, M. Luqman<sup>2</sup>  
<sup>1</sup>Islamabad (Pakistan), <sup>2</sup>Lahore (Pakistan)
- 20.012** About the predictive positive value of the clinical diagnosis in the seasonal flu epidemic from Bucharest, Romania 2016  
**N. Ion Nedelcu**, P. I. Calistru  
Bucharest (Romania)
- 20.013** Prevalence of influenza A viruses in livestock and free-living waterfowl in Uganda  
**H. Kirunda**  
Tororo (Uganda)
- 20.014** Clinical features and risk factors predicting severe influenza: The experience of an adult tertiary care hospital in Singapore  
W. M. Kyaw A. Chow, H. J. A. Ho, A. A. Hein, J. Loh, A. Tan, **Y. S. Leo**  
Singapore (Singapore)
- 20.015** Detection of respiratory viruses by multiplex RT-PCR with a GeXP analyzer  
**X. D. Lu**<sup>1</sup>, Q. Wang<sup>2</sup>, Y. H. Zhang<sup>2</sup>  
<sup>1</sup>Shen Zhen, Guang Dong (China), <sup>2</sup>Shenzhen (China)
- 20.016** Human rhinovirus viremia in patients hospitalized with community-acquired pneumonia  
**X. Lu**<sup>1</sup>, S. Jain<sup>1</sup>, A. Bramley<sup>1</sup>, E. Schneider<sup>1</sup>, K. Ampofo<sup>2</sup>, W. Self<sup>3</sup>, J. Chappell<sup>3</sup>, E. Anderson<sup>3</sup>, K. M. Edwards<sup>3</sup>, D. Erdman<sup>1</sup>  
<sup>1</sup>Atlanta, GA (USA), <sup>2</sup>Salt Lake City, UT (USA), <sup>3</sup>Nashville, TN (USA)



- 20.017** Co-circulation of multiple reassortant influenza viruses in a swine farm  
A. Fusaro<sup>1</sup>, L. Tassoni<sup>1</sup>, **A. Milani**<sup>1</sup>, A. Salviato<sup>1</sup>, G. Di Martino<sup>1</sup>, M. Mion<sup>1</sup>, L. Bonfanti<sup>1</sup>, S. Watson<sup>2</sup>, I. Monne<sup>1</sup>, M. S. Beato<sup>1</sup>  
<sup>1</sup>Legnaro (Italy), <sup>2</sup>Hinxton (United Kingdom)
- 20.018** Impact of host immunity in the mammalian adaptation of an H3N6 avian influenza virus  
A. Fusaro<sup>1</sup>, G. Zamperin<sup>1</sup>, **A. Milani**<sup>1</sup>, A. Salviato<sup>1</sup>, A. Romero<sup>1</sup>, G. Cattoli<sup>2</sup>, I. Monne<sup>1</sup>, F. Bonfante<sup>1</sup>  
<sup>1</sup>Legnaro (Italy), <sup>2</sup>Seibersdorf (Austria)
- 20.019** Viral population diversity in vaccinated poultry host infected with H5N1 highly pathogenic avian influenza virus  
**A. Milani**<sup>1</sup>, A. Fusaro<sup>1</sup>, G. Zamperin<sup>1</sup>, F. Bonfante<sup>1</sup>, M. Mancin<sup>2</sup>, E. Mastroianni<sup>2</sup>, H. Ali Hussein<sup>3</sup>, M. Hassan<sup>4</sup>, G. Cattoli<sup>2</sup>, I. Monne<sup>1</sup>  
<sup>1</sup>Legnaro (Italy), <sup>2</sup>Padua (Italy), <sup>3</sup>Giza (Egypt), <sup>4</sup>Cairo (Egypt)
- 20.020** Swine influenza A serology: ELISA versus HI test  
**F. Rizzo**, C. Lovecchio, F. Ingravalle, L. Ceccarelli, B. Sona, M. L. Mandola  
Turin (Italy)
- 20.021** Prevalence of respiratory virus infections using multiplex real-time PCR in Korean nationwide reference laboratory (2015 annual report)  
**K. Roh**, H. Park, H. Shim  
Seoul (Korea)
- 20.022** Knowledge, attitudes and practices of parents towards childhood influenza vaccination in Singapore  
M. Low, H. Y. Tan, M. Hartman, **C. Tam**  
Singapore (Singapore)
- 20.023** Vaccine efficacy of seasonal influenza vaccine programme among Singapore military personnel in 2012–2015  
**X. Zhao**, A. Cook, J. V. Pang  
Singapore (Singapore)
- 20.024** Molecular characterization of H6 subtype influenza viruses in southern China from 2009 to 2011  
**S. M. ZOU**  
Beijing (China)
- Innovations in Diagnostic Tests for Emerging Diseases**
- 20.025** Comparative evaluation of ante-mortem tuberculosis diagnostics in Asian elephants (*Elephas maximus*)  
**S. Devarajan**<sup>1</sup>, D. Abraham<sup>2</sup>  
<sup>1</sup>Thiruvananthapuram, Kerala (India), <sup>2</sup>Kozhikode, Kerala (India)
- 20.026** Viral load and oxidative stress in Egyptian chronic hepatitis C patients  
**B. A. M. El Awady**, B. Hussein, E. El-Seidi, Y. Abou-Hamed  
Cairo (Egypt)
- 20.027** Point of care of testing in molecular diagnostics: Evaluation of GeneXpert HCV RNA for diagnosing and monitoring of HCV infection  
**E. Gupta**, P. Ranjan, G. Kumar  
Delhi (India)
- 20.028** A Diagnostic and Epidemiologic Investigation of Acute Febrile Illness (AFI) in Kilombero, Tanzania  
**C. A. Hercik**<sup>1</sup>, L. Cosmas<sup>2</sup>, O. Mogeni<sup>2</sup>, N. Wamola<sup>2</sup>, W. Kohi<sup>3</sup>, C. Ochieng<sup>2</sup>, C. Onyango<sup>2</sup>, B. Fields<sup>2</sup>, S. Mfinanga<sup>3</sup>, J. Montgomery<sup>2</sup>  
<sup>1</sup>Washington, DC (USA), <sup>2</sup>Nairobi (Kenya), <sup>3</sup>Dar es Salaam (Tanzania)
- 20.029** Comparative meningitis diagnostic performance of a resource limited laboratory and a WHO accredited reference laboratory during a major outbreak of meningitis in Brong Ahafo, Ghana  
**G. K. Kuma**<sup>1</sup>, J. A. Opintan<sup>2</sup>, D. Opare<sup>2</sup>, D. Odai<sup>1</sup>, D. Ameme<sup>2</sup>, K. Brenda<sup>3</sup>, R. Bannerman<sup>1</sup>, O.-K. Afreh<sup>1</sup>, E. Foster-Nyarko<sup>3</sup>, M. Antonio<sup>3</sup>  
<sup>1</sup>Sunyani (Ghana), <sup>2</sup>Accra (Ghana), <sup>3</sup>Banjul (Gambia)
- 20.030** Deployment of rapid and portable diagnostic test for field surveillance of Ebola virus disease in Guinea  
**Y. Kurosaki**<sup>1</sup>, N. Magassouba<sup>2</sup>, O. Oloniniji<sup>1</sup>, J. Yasuda<sup>1</sup>  
<sup>1</sup>Nagasaki (Japan), <sup>2</sup>Conakry (Guinea)
- 20.031** Prevalence of *Actinotignum schaalii* in patients with urinary tract infections combined with leukocyturia and inconclusive bacteriological results  
T. Hammer, W. Graninger, **H. Lagler**  
Vienna (Austria)
- 20.032** A Luminex-based multiplex assay for the simultaneous detection of glycoprotein specific antibodies to ebolaviruses, marburgviruses, and henipaviruses  
**E. Laing**, L. Yan, S. Sterling, C. Broder  
Bethesda/MD (USA)
- 20.033** Fast track diagnostics Zika virus kit—A real-time PCR based diagnostics assay  
**P. Leidinger-Kaufmann**, M. Steimer, W. Carman  
Esch-sur-Alzette (Luxembourg)
- 20.034** Early identification and antimicrobial susceptibility testing from positive blood culture bottles using MALDI-TOF MS  
M. G. Elanany, **R. Mostafa**, T. Mansoor, H. Maher  
Cairo (Egypt)



- 20.035** Fast-track Diagnostics Enteric fever assay: From pre-enrichment to multiplex real-time PCR  
**E. Nicolas**<sup>1</sup>, S. Pouzol<sup>2</sup>, L. Fabre<sup>3</sup>, F.-X. Weill<sup>3</sup>, H. Endtz<sup>4</sup>, B. Carman<sup>5</sup>  
<sup>1</sup>Esch-sur-Alzette (Luxembourg), <sup>2</sup>Lyon (France), <sup>3</sup>Paris (France), <sup>4</sup>Dhaka (Bangladesh), <sup>5</sup>Luxembourg (Luxembourg)
- 20.036** Comparative efficacy of diagnostic test methods for *Plasmodium* species  
**G. I. Olasehinde**<sup>1</sup>, U. Oyeka<sup>2</sup>, O. Ayepola<sup>2</sup>, A. Ajayi<sup>2</sup>  
<sup>1</sup>Ota, Kwara (Nigeria), <sup>2</sup>Ota (Nigeria)
- 20.037** Effectiveness of measuring blood antibody titer and biofilm-forming ability in *Staphylococcus aureus* bacteremia  
**M. Yamashita**  
Himeji (Japan)
- Innovations in Surveillance for Non-communicable Diseases**
- 20.038** A cross sectional survey on gastrointestinal parasites in backyard poultry in Pakistan “Highly affordable model survey”  
**A. Khan**<sup>1</sup>, M. Hassan Mushtaq<sup>1</sup>, G. Nawaz<sup>1</sup>, M. Nawaz Malik<sup>1</sup>, Z. Fatima<sup>2</sup>  
<sup>1</sup>Lahore (Pakistan), <sup>2</sup>Islamabad (Pakistan)
- 20.039** Contribution of grain amaranth and traditional healthcare systems in intervening jointly against infectious and non-communicable diseases to control HIV  
**L. K. Ndonga**  
Nairobi (Kenya)
- 20.040** Risk Factors for non-communicable diseases (NCDs) among prison population in Punjab, Pakistan, 2012  
**A. Pervaiz**  
Islamabad (Pakistan)
- 20.041** Interactive Identification Key for Female Mosquitoes (Diptera: Culicidae) of Euro-Mediterranean and Black Sea Regions  
F. Gunay<sup>1</sup>, **M. Picard**<sup>2</sup>, V. Robert<sup>2</sup>  
<sup>1</sup>Ankara (Turkey), <sup>2</sup>Montpellier (France)
- New Approaches to Outbreak Surveillance and Monitoring**
- 20.042** Novel rapid approach for molecular diagnosis of multidrug-resistant tuberculosis using real time PCR assay combined with high-resolution melt curve analysis  
**U. Anukool**<sup>1</sup>, C. S. Tharinjaroen<sup>1</sup>, P. Phunpae<sup>1</sup>, S. Saikaew<sup>1</sup>, K. Tragoolpua<sup>1</sup>, B. Butr-Indr<sup>1</sup>, S. Intorasoot<sup>1</sup>, V. Sutachai<sup>1</sup>, A. Chaiprasert<sup>2</sup>  
<sup>1</sup>Chiang Mai (Thailand), <sup>2</sup>Bangkok (Thailand)
- 20.043** Implementation of GastroBusters in Toronto: Canada’s first online reporting system for food-borne illness  
**A. A. A. Arthur**, S. Ota, E. Gournis  
Toronto (Canada)
- 20.044** Harvesting real time and historical disease outbreak data from the ProMED-Mail database: Pitfalls and proposed solutions  
**C. E. B. Carslake**  
Bristol (United Kingdom)
- 20.045** Pandemic propagation—Psychosocial behavior analysis with media analytics  
**W. L. Chadsey**<sup>1</sup>, T. Stephens<sup>2</sup>, J. Walsh<sup>3</sup>  
<sup>1</sup>Reston, Virginia (USA), <sup>2</sup>Arlington, Virginia (USA), <sup>3</sup>Nashville, Tennessee (USA)
- 20.046** Application of geospatial data to guide source detection following foodborne outbreaks in Singapore  
**J. Chua**, M. Chen  
Singapore (Singapore)
- 20.047** Global monitoring of drivers of animal disease outbreaks to inform local risks of disease introduction  
**D. Cole**, S. Wainwright  
Fort Collins, CO (USA)
- 20.048** A multisectoral approach to identify innovative solutions to strengthen capacity building for pandemic risk management  
**J. Duggan**, C. Hayes, M. Jilani, J. Wurmel, M. Connolly  
Galway (Ireland)
- 20.049** Employing survivors of Ebola virus disease (EVD) as a novel system to support community-based surveillance in an Ebola hotspot within Sierra Leone  
**J. Garland**<sup>1</sup>, G. Warren<sup>2</sup>, M. Drasher<sup>3</sup>, K. Dierberg<sup>2</sup>, J. Gottesfeld<sup>2</sup>, K. Hann<sup>2</sup>, A. Stewart<sup>4</sup>, A. Kanu<sup>3</sup>, J. Bangura<sup>3</sup>, S. Bangura<sup>3</sup>  
<sup>1</sup>Los Angeles (USA), <sup>2</sup>Freetown (Sierra Leone), <sup>3</sup>Port Loko (Sierra Leone), <sup>4</sup>Kono (Sierra Leone)
- 20.050** Using social media for better guesstimation of size of a chikungunya outbreak: A mixed methods study  
M. Grover; **N. Bhatnagar**  
New Delhi (India)
- 20.051** Theoretical practical and ethical implications of future-based approaches to post-disaster disease  
**C. C. Hammer**  
Tübingen (Germany)



- 20.052** Evaluating performance of natural language processing for detection of symptoms presence and duration within primary care setting in Singapore  
**A. Hardjojo**, A. Gunachandran, L. Pang, M. R. B. Abdullah, W. Wah, S. H. Teo, M. Chen, F. P. G. Wong, J. S. K. Phang  
Singapore (Singapore)
- 20.053** Community event-based surveillance (CEBS) for Ebola virus disease (EVD) in Sierra Leone: Alert demographics by sex and age, February 2015–June 2016  
**E. M. Higgins**, E. Polich, M. Sahu, S. Mearns  
Freetown (Sierra Leone)
- 20.054** The zoonoses data collection in Italy: An expert system for data quality management and improvement  
**S. Iannetti**, D. Cioci, P. Colangeli, M. G. Falcone  
Teramo (Italy)
- 20.055** Validation of event mobile application (EMA) for animal disease surveillance and monitoring in Uganda. milestones and challenges  
**N. G. Kiggundu**  
Kampala (Uganda)
- 20.056** Effectiveness of mobile phone short message service (SMS) as a post-training approach in Uganda  
**R. N. Kikonyogo**, L. Namara, J. W. Arinaitwe  
Kampala (Uganda)
- 20.057** Community-based cholera surveillance by volunteers with mobile phones: A case study from Western Area, Haiti  
**A. Kongelf**, T. Tingberg<sup>1</sup>, A. L. McClelland<sup>2</sup>, M. C. Jean<sup>3</sup>, B. D. Dalziel<sup>4</sup>  
<sup>1</sup>Oslo (Norway), <sup>2</sup>Geneva (Switzerland), <sup>3</sup>Port-au-Prince (Haiti), <sup>4</sup>Oregon (USA)
- 20.058** A qualitative study of volunteer experiences with a mobile community event-based surveillance (CEBS) system in Sierra Leone  
T. M. Larsen<sup>1</sup>, C. Brux Mburu<sup>1</sup>, A. L. McClelland<sup>2</sup>, T. Tingberg<sup>1</sup>, **A. Kongelf**<sup>1</sup>, F. Sannoh<sup>3</sup>, A. Ali Madar<sup>1</sup>  
<sup>1</sup>Oslo (Norway), <sup>2</sup>Geneva (Switzerland), <sup>3</sup>Freetown (Sierra Leone)
- 20.059** Missed opportunities for Yellow Fever surveillance in Uganda, July 2015–May 2016  
**H. Kyobe Bosa**<sup>1</sup>, R. Majwala<sup>2</sup>, L. Nakiire<sup>2</sup>, A. R. Ario<sup>2</sup>, N. Kiwanuka<sup>2</sup>, H. Kibuuka<sup>2</sup>, R. G. Downing<sup>1</sup>, J. J. Lutwama<sup>1</sup>  
<sup>1</sup>Entebbe (Uganda), <sup>2</sup>Kampala (Uganda)
- 20.060** A real-time surveillance dashboard for monitoring viral phenotype from sequence  
**E. J. Ma**, J. Runstadler  
Cambridge (USA)
- 20.061** A surveillance system of diseases of small companion animals in the Veneto Region (Italy)  
**M. Martini**<sup>1</sup>, R. Busetto<sup>1</sup>, R. Cassini<sup>1</sup>, M. Drigo<sup>1</sup>, C. Guglielmini<sup>1</sup>, I. Masiero<sup>2</sup>, M. L. Menandro<sup>1</sup>, D. Pasotto<sup>1</sup>, M. Fenati<sup>1</sup>  
<sup>1</sup>Legnaro (Italy), <sup>2</sup>Padua (Italy)
- 20.062** Comparative Evaluation of data collection tools of District Health Information System 2 and District vaccine Data Management tools, Enugu State, Nigeria 2015  
**R. N. Nnaji**<sup>1</sup>, J. Adegoke<sup>1</sup>, A. Anagor<sup>2</sup>, P. Ossai<sup>2</sup>, O. Ajumobi<sup>1</sup>, P. Nguku<sup>1</sup>  
<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Enugu (Nigeria)
- 20.063** TanRabad: Software suite for dengue epidemic surveillance and control  
**N. Sahavechaphan**<sup>1</sup>, M. Rattananen<sup>1</sup>, P. Panichphol<sup>1</sup>, W. Wongwilai<sup>1</sup>, S. Iamsiri<sup>2</sup>, P. Sadakorn<sup>3</sup>  
<sup>1</sup>Pathumthani (Thailand), <sup>2</sup>Bangkok (Thailand), <sup>3</sup>Nonthaburi (Thailand)
- 20.064** Sensitivity of the Ovl6 serology in the elimination of onchocerciasis; a preliminary report of 10 years of treatment with ivermectin in Ogun State, Nigeria  
O. Surakat, F. Ajayi, **S. O. H. Sam-Wobo**  
Abeokuta (Nigeria)
- 20.065** Use of genome wide gene-by-gene comparison for *Salmonella enterica* outbreak investigation in Austria  
**S. Schill**<sup>1</sup>, S. Lepuschitz<sup>1</sup>, M. Blaschitz<sup>1</sup>, S. Maritschnik<sup>1</sup>, D. Schmid<sup>1</sup>, F. Allerberger<sup>1</sup>, C. Kornschober<sup>2</sup>, W. Ruppitsch<sup>1</sup>  
<sup>1</sup>Vienna (Austria), <sup>2</sup>Graz (Austria)
- 20.066** Canadian strategies for systematically assessing risks posed by emerging infectious diseases  
**M. E. St-Laurent**, G. Thomas-Reilly, A. Demarsh, S. Gadiant  
Ottawa (Canada)
- 20.067** Infectious disease surveillance in the US Department of Defense European Region  
**J. A. Steele**, K. Allen  
Stuttgart (Germany)
- 20.068** Google dengue trends: An indicator of epidemic behavior: The Venezuelan case  
**R. Strauss**<sup>1</sup>, J. S. Castro<sup>2</sup>, R. Reintjes<sup>1</sup>, J. Torres<sup>2</sup>, J. M. Olivares<sup>2</sup>, M. Herrera<sup>2</sup>, G. Provenza<sup>2</sup>  
<sup>1</sup>Hamburg (Germany), <sup>2</sup>Caracas (Venezuela)
- 20.069** Knowledge and practices regarding rabies in urban and rural communities in Thailand and Cambodia  
**S. Thongyuan**, T. Pinyopummintr, P. Sithisarn, C. Sinthusing, K. Phetudomsinsuk, A. Sangmalee, M. Sukmak, W. Phimraphai, A. Suprasert  
Bangkok (Thailand)



- 20.070** ICARES: Two years experience with a promising early warning tool for infectious disease clusters  
G. Groeneveld<sup>1</sup>, A. Dalhuijsen<sup>1</sup>, C. Kara-Zaitri<sup>2</sup>, B. Hamilton<sup>3</sup>, M.W. de Waal<sup>1</sup>, S. Marbus<sup>4</sup>, J.T. van Dissel<sup>1</sup>, **J. E. van Steenbergen**<sup>1</sup>  
<sup>1</sup>Leiden (Netherlands), <sup>2</sup>Bradford (United Kingdom), <sup>3</sup>Shipleigh (United Kingdom), <sup>4</sup>Bilthoven (Netherlands)
- 20.071** Performance of community volunteers in human and animal diseases surveillance by using mobile application  
**T. Yano**, P. Trakarnsirinon, B. Kaewpinta, W. Chaisowwong, S. Pattamakaew, L. Srikitjakarn  
Chiang Mai (Thailand)
- New Pathogen Discovery**
- 20.072** Characterization of a *Culex theileri* flavivirus variant in field-collected mosquitoes from Turkey  
K. Ergunay<sup>1</sup>, N. Litzba<sup>2</sup>, **A. Brinkmann**<sup>2</sup>, F. Gunay<sup>1</sup>, S. Kar<sup>3</sup>, K. Oter<sup>4</sup>, S. Orsten<sup>1</sup>, B. Alten<sup>1</sup>, A. Nitsche<sup>2</sup>, Y.-M. Linton<sup>5</sup>  
<sup>1</sup>Ankara (Turkey), <sup>2</sup>Berlin (Germany), <sup>3</sup>Tekirdağ (Turkey), <sup>4</sup>Istanbul (Turkey), <sup>5</sup>Washington, DC (USA)
- 20.073** A metagenomic survey reveals rhabdo and negevirus sequences in mosquito pools from Turkey  
K. Ergunay<sup>1</sup>, A. Brinkmann<sup>2</sup>, **F. Gunay**<sup>1</sup>, S. Kar<sup>3</sup>, K. Oter<sup>4</sup>, S. Orsten<sup>1</sup>, Y. Sankaya<sup>1</sup>, B. Alten<sup>1</sup>, A. Nitsche<sup>2</sup>, Y.-M. Linton<sup>5</sup>  
<sup>1</sup>Ankara (Turkey), <sup>2</sup>Berlin (Germany), <sup>3</sup>Tekirdağ (Turkey), <sup>4</sup>Istanbul (Turkey), <sup>5</sup>Washington, DC (USA)
- 20.074** High diversity of replication-associated protein encoding circular viruses in guano samples of European bats  
**G. Kemenesi**<sup>1</sup>, B. Zana<sup>1</sup>, K. Kurucz<sup>1</sup>, A. Vlaschenko<sup>2</sup>, K. Kravchenko<sup>2</sup>, I. Budinski<sup>3</sup>, F. Szodoray<sup>4</sup>, T. Görföl<sup>5</sup>, K. Bányai<sup>5</sup>, F. Jakab<sup>1</sup>  
<sup>1</sup>Pécs (Hungary), <sup>2</sup>Lenoye (Ukraine), <sup>3</sup>Belgrade (Serbia), <sup>4</sup>Satu Mare (Romania), <sup>5</sup>Budapest (Hungary)
- New, Emerging and Neglected Zoonotic Diseases**
- 20.075** Assessing risk of transmission of dengue and yellow fever viruses in major Kenyan cities by estimation of *Stegomyia* Indices  
**S. B. Agha**<sup>1</sup>, D. Tchouassi<sup>1</sup>, J. Lutomiah<sup>2</sup>, R. Sang<sup>2</sup>  
<sup>1</sup>Nairobi (Kenya), <sup>2</sup>Nairobi (Kenya)
- 20.076** Zika virus: Improve diagnostic strategies  
**A. Akaddar**  
Strasbourg (France)
- 20.077** The Zika outbreak: An overview of suspected Zika cases presenting at a tertiary hospital in Singapore  
Y.A. Hou, R. Sridhar, H. C. Chan, L. Chiu, C. K. Lee, P.A. Tambyah, D.A. Fisher, **N. Bagdasarian**  
Singapore (Singapore)
- 20.078** Ebolavirus pseudotypes as antigen surrogates for serological studies  
**E. Bentley**<sup>1</sup>, G. Mattiuzzo<sup>2</sup>, R. Wash<sup>3</sup>, S. Binter<sup>3</sup>, M. Friedrich<sup>3</sup>, D. Goulding<sup>3</sup>, P. Kellam<sup>3</sup>, M. Page<sup>2</sup>, E. Wright<sup>1</sup>  
<sup>1</sup>London (United Kingdom), <sup>2</sup>Potters Bar (United Kingdom), <sup>3</sup>Cambridge (United Kingdom)
- 20.079** Septic arthritis caused by *Streptococcus suis*—A case report  
**F. F. C. Ceia**, A. Couto, M. J. Ferreira Pinto, P. Palma, M. Seara, P. Andrade, A. Sarmento  
Porto (Portugal)
- 20.080** A fatal malaria caused by *Plasmodium knowlesi* infection in a healthy man, Betong, Yala, Thailand April, 2016  
**J. Chantaramongkol**<sup>1</sup>, R. Buathong<sup>2</sup>  
<sup>1</sup>Yala (Thailand), <sup>2</sup>Nonthaburi (Thailand)
- 20.081** Prevalence of *Bartonella henselae* infection and its diagnosis in diverse clinical conditions in a tertiary care hospital in North India  
**R. Chaudhry**<sup>1</sup>, P. Kokkayil<sup>2</sup>, A. Gosh<sup>1</sup>, T. Bahadur<sup>1</sup>, K. Kant<sup>1</sup>, T. Sagar<sup>1</sup>, S. Kabra<sup>1</sup>, R. Lodha<sup>1</sup>, A. Dey<sup>1</sup>, V. Menon<sup>1</sup>  
<sup>1</sup>Delhi (India), <sup>2</sup>Kerala (India)
- 20.082** Breaking the Ebola virus disease chain of transmission; the role of Montserrado County sectorial surveillance system Liberia  
**C. C. Dan-Nwafor**<sup>1</sup>, P. Nguku<sup>1</sup>, B. Adebobola<sup>1</sup>, S. Duwor<sup>2</sup>  
<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Monrovia (Liberia)
- 20.083** Middle East Respiratory Syndrome Coronavirus (MERS-CoV): A systematic literature review  
**P. Dawson**, S. Morse  
New York, NY (USA)
- 20.084** Mammalian haploid genetic screen to identify host factors essential for Rift Valley fever virus  
**S. Devignot**<sup>1</sup>, A. Leibbrandt<sup>2</sup>, T. Burkhard<sup>2</sup>, U. Elling<sup>2</sup>, J. Penninger<sup>2</sup>, F. Weber<sup>1</sup>  
<sup>1</sup>Giessen (Germany), <sup>2</sup>Vienna (Austria)



- 20.085** Sero-prevalence of Crimean Congo Haemorrhagic fever (CCHF) in small ruminants of Pakistan  
**U. Farooq**<sup>1</sup>, H. Irshad<sup>1</sup>, K. Naeem<sup>1</sup>, M. Jahangir<sup>1</sup>, B. Afrough<sup>2</sup>, R. Hewson<sup>2</sup>, S. Morikawa<sup>3</sup>, E. Neumann<sup>4</sup>  
<sup>1</sup>Islamabad, ICT (Pakistan), <sup>2</sup>Salisbury (United Kingdom), <sup>3</sup>Tokyo (Japan), <sup>4</sup>Palmerston North (New Zealand)
- 20.086** Using the incidence decay and exponential adjustment (IDEA) model to understand transmission dynamics of MERS-CoV in a camel herd  
**E. G. Gardner**<sup>1</sup>, M. Ali<sup>2</sup>, G. Kayali<sup>3</sup>, D. Kelton<sup>1</sup>, A. Greer<sup>1</sup>  
<sup>1</sup>Guelph (Canada), <sup>2</sup>Giza (Egypt), <sup>3</sup>Baabda (Lebanon)
- 20.087** Setting research priorities to control zoonoses in smallholder dairy farms of periurban India  
**M. Kakkar**<sup>1</sup>, P. Chatterjee<sup>2</sup>  
<sup>1</sup>New Delhi (India), <sup>2</sup>Gurgaon (India)
- 20.088** Evidence of interspecies transmission of rotavirus G4P[6] strain in Manado, Indonesia  
**A. F. C. Kalesaran**<sup>1</sup>, A. Thongprachum<sup>2</sup>, D. H. C. Pangemanan<sup>1</sup>, S. Takanashi<sup>2</sup>, S. Okitsu<sup>2</sup>, J. Tuda<sup>1</sup>, M. Mizuguchi<sup>2</sup>, S. M. Warouw<sup>1</sup>, H. Ushijima<sup>2</sup>  
<sup>1</sup>Manado (Indonesia), <sup>2</sup>Tokyo (Japan)
- 20.089** Absence of MERS-CoV in domestic camels, Republic of Korea, 2015  
**H.-J. Kim**, J.-S. Choi, H.-M. Nam, H.-E. Kang Kimcheon (Korea)
- 20.090** Ocular manifestation of Mediterranean spotted fever in Bulgaria  
**R. Komitova**, M. Atanasova, I. Baltadjiev, N. Tzenova  
 Plovdiv (Bulgaria)
- 20.091** IL-28B polymorphisms differently influence IFN system induction, antiviral activity and inflammatory response by african and asian ZIKV strains  
 L. Bordi, **E. Lalle**, F. Colavita, C. Caglioti, S. Quartu, M. Biava, C. Agrati, M. R. Capobianchi, G. Ippolito, C. Castilletti  
 Rome (Italy)
- 20.092** Serological survey of hantavirus infection among rodents in Hungary  
**M. Madai**<sup>1</sup>, V. Németh<sup>1</sup>, M. Oldal<sup>1</sup>, G. Horváth<sup>1</sup>, R. Herczeg<sup>1</sup>, R. Pintér<sup>1</sup>, A. Kutas<sup>1</sup>, B. Dallos<sup>1</sup>, K. Bányai<sup>2</sup>, F. Jakab<sup>1</sup>  
<sup>1</sup>Pécs (Hungary), <sup>2</sup>Budapest (Hungary)
- 20.093** Serological survey of leptospirosis in equids, dogs, and domestic ruminants from Senegal  
 C. Roqueplo<sup>1</sup>, J.-P. Demoncheaux<sup>2</sup>, O. Mediannikov<sup>3</sup>, M. Diarra<sup>2</sup>, R. Tine<sup>2</sup>, C. Pasqualini<sup>2</sup>, **J.-L. Marié**<sup>1</sup>, B. Davoust<sup>3</sup>, A. Kodjo<sup>4</sup>  
<sup>1</sup>Toulon (France), <sup>2</sup>Dakar (Senegal), <sup>3</sup>Marseille (France), <sup>4</sup>Marcy l'Etoile (France)
- 20.094** Vaccinia virus in feces of wild rodents from São Paulo State, Brazil  
**J. Megid**<sup>1</sup>, M. G. Peres<sup>2</sup>, T. Bachiega<sup>2</sup>, C. M. Appolinario<sup>2</sup>, A. F. Vicente<sup>2</sup>, B. L. D. Ribeiro<sup>2</sup>, C. R. S. Fonseca<sup>2</sup>, J. S. Abrahão<sup>3</sup>, F. Ferreira<sup>4</sup>  
<sup>1</sup>Botucatu (Brazil), <sup>2</sup>Botucatu (Brazil), <sup>3</sup>Belo Horizonte (Brazil), <sup>4</sup>São Paulo (Brazil)
- 20.095** Investigation and response to Rift Valley Fever and Yellow Fever outbreaks in humans in Uganda, 2016  
**I. Nabukenya**, S. Ssendagire, B. Lubwama, M. D. Aliddeki, S. Kyazze, I. Makumbi, O. Namusisi  
 Kampala (Uganda)
- 20.096** Characterisation of the increasing numbers of autochthonous hepatitis E infections in England and Wales 2010–2015  
**C. C. Oeser**, D. Morgan, S. Ijaz, B. Said  
 London (United Kingdom)
- 20.097** Congenital Zika Syndrome: Establishing obstetric and paediatric surveillance in the UK and ROI  
**C. C. Oeser**<sup>1</sup>, P. Heath<sup>1</sup>, K. Johnson<sup>2</sup>, A. Khalil<sup>1</sup>, R. Lynn<sup>1</sup>, M. Knight<sup>3</sup>, S. Ladhani<sup>1</sup>, D. Morgan<sup>1</sup>, P. O'Brien<sup>1</sup>, R. Pebody<sup>1</sup>  
<sup>1</sup>London (United Kingdom), <sup>2</sup>Leeds (United Kingdom), <sup>3</sup>Oxford (United Kingdom)
- 20.098** Screening for viral proteins of some emerging viruses in African straw-coloured fruit bats (*Eidolon helvum*) captured in Zaria, Nigeria  
**O. T. Olufemi**<sup>1</sup>, J. Umoh<sup>2</sup>, A. A. Dzikwi<sup>2</sup>, G. S. Kia<sup>2</sup>, Y. O. Olufemi<sup>3</sup>, T. M. Hamisu<sup>4</sup>, T. A. Delia<sup>2</sup>, A. O. Shaibu<sup>2</sup>  
<sup>1</sup>Wukari (Nigeria), <sup>2</sup>Zaria (Nigeria), <sup>3</sup>Nottingham (United Kingdom), <sup>4</sup>Maiduguri, Borno (Nigeria)
- 20.099** Targeting Ebola virus disease glycoprotein processing via phenyl-sulphonyl-derived host furin inhibitors  
**O. I. Omotuyi**<sup>1</sup>, N. Oyekanmi<sup>2</sup>  
<sup>1</sup>Akungba-Akoko, (Nigeria), <sup>2</sup>Abuja (Nigeria)



**20.100** A lost world disease: Copra itch outbreak caused by *Tyrophagus longior* mite in a family at Southern Province of Thailand, June–July 2016

**P. Sarathep**<sup>1</sup>, W. Phonkaew<sup>1</sup>, S. Towkaew<sup>1</sup>, S. Srisupan<sup>1</sup>, B. Ekthummasathain<sup>1</sup>, P. Raksachon<sup>1</sup>, R. Buathong<sup>2</sup>

<sup>1</sup>Phang Nga (Thailand), <sup>2</sup>Nonthaburi (Thailand)

**20.101** Using a One Health approach to understand risk for trichinellosis among northern Thai ethnic minorities

C. Kallayanamitra<sup>1</sup>, P. Saenna<sup>2</sup>, **J. A. Steele**<sup>3</sup>, C. Richter<sup>4</sup>, B. A. Wilcox<sup>5</sup>, M. Potapohn<sup>1</sup>

<sup>1</sup>Chiang Mai (Thailand), <sup>2</sup>Khon Kaen (Thailand),

<sup>3</sup>Stuttgart (Germany), <sup>4</sup>Kunming (China),

<sup>5</sup>Bangkok (Thailand)

**20.102** Epidemiological and clinical characteristics of hantavirus infections detected in three geographically close natural foci during the 2014 Croatian outbreak

**T. Vilibic-Cavlek**<sup>1</sup>, V. Stevanovic<sup>1</sup>, A. Furic<sup>2</sup>, I. Tabain<sup>1</sup>, L. Barbic<sup>1</sup>

<sup>1</sup>Zagreb (Croatia), <sup>2</sup>Ogulin (Croatia)

### **Outbreak Modeling**

**20.103** Identification of spatiotemporal patterns of African swine fever behavior in wild boar in the European Union

**I. Iglesias Martin**, A. Pickford, F. Montes, C. Jurado, M. J. Muñoz, J. M. Sanchez-Vizcaino, A. de la Torre

Madrid (Spain)

**20.104** Effectiveness of alternative control measures for foot-and-mouth disease in swine farms in the USA estimated using simulation modeling

**I. Iglesias Martin**, K. VanderWaal, F. Sampedro, A. Kinsley, T. J. Goldsmith, A. Perez St. Paul, MN (USA)

**20.105** Development and parameterisation of a between-flock model to assess the utility of a risk-based surveillance scenario for the early detection of low pathogenic avian influenza

**T. Saratoon**, O. Tearne, M. Arnold  
London (United Kingdom)

**20.106** Google trend tool as a predictor of Chikungunya and Zika epidemic in an environment with little epidemiological data, a Venezuelan case

J. S. Castro<sup>1</sup>, J. Torres<sup>1</sup>, J. Oletta<sup>1</sup>, **R. Strauss**<sup>2</sup>

<sup>1</sup>Caracas (Venezuela), <sup>2</sup>Hamburg (Germany)

**20.107** Empirical estimation of the incubation period for hand-foot-and-mouth disease from school outbreaks

**Z. Yang**, Q. Zhang, W. Chiu, B. J. Cowling, E. H. Lau

Hong Kong (China)

### **Outbreak Response and Control**

**20.108** Outbreak of suspected pertussis in Kaltungo, Gombe State, Northern Nigeria, 2015: The role of sub-optimum routine immunization coverage

**A. T. Abubakar**<sup>1</sup>, A. Mohammed<sup>1</sup>, M. Dalhat<sup>2</sup>, A. Oladimeji<sup>1</sup>, P. Nguku<sup>1</sup>, P. Nsubuga<sup>1</sup>

<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Kano (Nigeria)

**20.109** Evaluation of the performance of randomly amplified polymorphic DNA (RAPD) method for microbiological typing in an invasive *Serratia marcescens* NICU outbreak

**R. M. Alyazidi**<sup>1</sup>, R. Hickman<sup>2</sup>, L. M. Li<sup>2</sup>, J. Osowicki<sup>2</sup>, D. Goldfarb<sup>2</sup>, P. Tilley<sup>2</sup>, D. P. Speert<sup>2</sup>, J. E. A. Zlosnik<sup>2</sup>

<sup>1</sup>Vancouver/Jeddah-Saudi Arabia (Canada),

<sup>2</sup>Vancouver (Canada)

**20.110** Quantifying the risk of nosocomial infection within Ebola holding units: A retrospective cohort study of negative patients discharged from five Ebola holding units in Western Area, Sierra Leone

**P. Arkell**<sup>1</sup>, D. Youkee<sup>2</sup>, C. Brown<sup>3</sup>, T. B. Kamara<sup>3</sup>, O. Johnson<sup>3</sup>, M. Lado<sup>3</sup>, V. George<sup>3</sup>, F. Koroma<sup>3</sup>,

B. E. Parker<sup>3</sup>, P. Baker<sup>2</sup>

<sup>1</sup>Bishops Stortford (United Kingdom), <sup>2</sup>London

(United Kingdom), <sup>3</sup>Freetown (Sierra Leone)

**20.111** Outbreak of measles in children of a remote district of Afar region, Eastern Ethiopia

**M. M. Ayele**, A. Addiese, H. Taame  
Addis Ababa (Ethiopia)

**20.112** Measles outbreak investigation in Darolabu district of Oromia region from Ethiopia 2014

**G. G. Bulcha**, A. Belachew, G. Bifa  
Addis Ababa (Ethiopia)

**20.113** A large combined Norovirus GI.1 and GII.17 gastroenteritis outbreak in a college—Jinan City, China, June 2015

**L. L. Cui**, X. Geng, J. Zhou, C. Wang, J. Zhang  
Jinan (China)

**20.114** Factors associated with acquisition of glycopeptide-resistant enterococci during a single-strain outbreak

**S. Deboscker**<sup>1</sup>, P. Schneider<sup>1</sup>, F. Severac<sup>1</sup>, J. Gaudart<sup>2</sup>, T. Lavigne<sup>1</sup>, N. Meyer<sup>1</sup>

<sup>1</sup>Strasbourg (France), <sup>2</sup>Marseilles (France)

**20.115** Outbreak Investigation of measles in Swati Mohalla Landhi, April 2015

**S. Fareeha**, M. A. Baig, R. J. Asghar  
Islamabad (Pakistan)

**20.116** Ciguatera outbreaks in Germany caused by imported tropical fish

**M. Friedemann**  
Berlin (Germany)



- 20.117** Fourth dengue fever outbreak in Ethiopia, July 2015: Investigation of risk factors  
**D. S. Gemechu**, A. Bekele, A. Alemu, D. Belay, D.Y.Worku  
Addis Ababa (Ethiopia)
- 20.118** The challenges of mounting a successful response to a Lassa Fever outbreak in a post-EVD resource limited setting, Liberia 2016  
**E. L. Hamblion**<sup>1</sup>, P. Raftery<sup>1</sup>, G. S. Williams<sup>1</sup>, E. Dweh<sup>2</sup>, A. Nyan<sup>1</sup>, L. Soro<sup>1</sup>, A. Gasasira<sup>1</sup>, E. Musa<sup>1</sup>, T. Nyenswah<sup>1</sup>, T. Nagbe<sup>1</sup>  
<sup>1</sup>Monrovia (Liberia), <sup>2</sup>Gbanga (Liberia)
- 20.119** Personal protective equipment for infectious diseases preparedness: A human factors analysis  
T. Herlihey, S. Gelmi, C. Flewwelling, T. Hall, C. Banez, P. Morita, P. Beverley, J. Cafazzo, **S. Hota**  
Toronto (Canada)
- 20.120** Outbreak investigation of Dengue fever in cases reporting to a tertiary care hospital in District Rawalpindi, Pakistan-September 2015  
**N. Javed**, Z. Hussain, M. A. Baig, R. J. Asghar  
Islamabad (Pakistan)
- 20.121** Differential serological and molecular arbovirus testing of Yellow Fever suspected blood specimens in Uganda 2016  
**J. T. Kayiwa**  
Entebbe (Uganda)
- 20.122** Ongoing vaccine-derived poliovirus type 1 (cVDPV1) outbreak, Lao PDR 2015  
**B. Khamphongphane**<sup>1</sup>, M. Phengxay<sup>1</sup>, B. Sengkeopraseduth, A. Khamsing, S. Houadthongkham, C. Soulaphy, B. Phommasak, D. Luo, P. Vongphrachanh  
Vientiane (Lao)
- 20.123** Outbreak of Crimean Congo Hemorrhagic Fever in a butcher family at Havaillian Abbottabad Pakistan, September 2014  
**M. A. Khan**  
Islamabad (Pakistan)
- 20.124** Preparedness and Response in Compliance with International Health Regulation (2005) Requirements in Sudan 2015, Following the Ebola Epidemic 2014  
**H. S. E. Khogali**<sup>1</sup>, D. Ghorashi<sup>2</sup>, D. Abdelgadir<sup>2</sup>  
<sup>1</sup>Doha (Qatar), <sup>2</sup>Khartoum (Sudan)
- 20.125** Assessment of core activities and supportive functions for the diseases surveillance system in Katsina State, Nigeria, 2009–2013  
**A. Lawal**<sup>1</sup>, M. B. Sufiyan<sup>1</sup>, A. Abubakar<sup>2</sup>, A. A. Oorukooba<sup>1</sup>, S. S. Yahaya<sup>3</sup>, A. Musa<sup>1</sup>, K. Sabitu<sup>1</sup>  
<sup>1</sup>Zaria (Nigeria), <sup>2</sup>Kaduna (Nigeria), <sup>3</sup>Katsina (Nigeria)
- 20.126** Assessment of preparedness towards Ebola Virus Diseases: Hospitals in Addis Ababa, Ethiopia January, 2015  
**W. A. Lemma**, G. Baharu, A. Adissie, A. Bekele, T. Bogale, Z. Haylemariam  
Addis Ababa (Ethiopia)
- 20.127** Factors associated with cerebrospinal meningitis outbreak in Kebbi State, Nigeria, February 2015  
**I. G. Leo-Nnadi**<sup>1</sup>, C. Ega<sup>1</sup>, S. Gidado<sup>1</sup>, E. Waziri<sup>1</sup>, S. Y. Badung<sup>1</sup>, P. Nguku<sup>1</sup>  
<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Birnin Kebbi (Nigeria)
- 20.128** Cholera outbreak in Gajala community, Birnin Kudu, Jigawa state, Nigeria September 2015  
**R. N. nnaji**<sup>1</sup>, B. Useni<sup>2</sup>, R. Usman<sup>1</sup>, U. Osigwe<sup>3</sup>, M. Buba<sup>1</sup>, M. Sarki<sup>1</sup>, F. Saleh<sup>1</sup>, O. Ajumobi<sup>1</sup>, P. Nguku<sup>1</sup>, A. Oladimeji<sup>1</sup>  
<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Jigawa (Nigeria), <sup>3</sup>Lagos (Nigeria)
- 20.129** The cost of responding to a waterborne cholera outbreak in a village in Uganda compared to a simple hypothetical intervention  
**E. A. Okullo**<sup>1</sup>, B.-P. Zhu<sup>2</sup>  
Kampala (Uganda)
- 20.130** ISARIC—enhancing the clinical research response to epidemics  
R. Pardinaz-Solis, K.-S. Longuere, S. Moore, C. McMullen, **G. Carson**, P. Horby  
Oxford (United Kingdom)
- 20.131** Investigation of a typhoid fever outbreak, City of Johannesburg, South Africa, January–February 2016  
**N. H. Peni**<sup>1</sup>, C. Reddy<sup>2</sup>, M. Kerrigan<sup>2</sup>, A. Smith<sup>2</sup>, K. Keddy<sup>2</sup>  
<sup>1</sup>Pretoria (South Africa), <sup>2</sup>Johannesburg (South Africa)
- 20.132** Investigation of a suspected typhoid fever outbreak, City of Johannesburg, South Africa, January–February 2016  
**N. H. Peni**<sup>1</sup>, C. Reddy<sup>2</sup>, K. McCathy<sup>2</sup>, K. Karen<sup>2</sup>, A. Smith<sup>2</sup>  
<sup>1</sup>Pretoria (South Africa), <sup>2</sup>Johannesburg (South Africa),
- 20.133** Twenty years surveillance of the re-emerging Mediterranean spotted fever in Bulgaria  
**N. Popivanova**, I. G. Baltadzhiev  
Plovdiv (Bulgaria)
- 20.134** CCHF Outbreak Investigation Baluchistan 2015  
**A. Saeed**  
Quetta (Pakistan)
- 20.135** Outbreak investigation of cutaneous Leishmaniasis in district Nowshera Pakistan from January to April 2014  
**M. Saleem**  
Peshawar (Pakistan)



- 20.136** Pertussis outbreak—Saravane, Lao PDR  
February 2013,  
**B. Sengkeopraseuth**  
Vientiane (Lao)
- 20.137** Measles outbreak—Northern of Lao PDR  
January 2013  
**B. Sengkeopraseuth**  
Vientiane (Lao)
- 20.138** Use of the Information System SMS Alert for the management of risk communication in animal epidemic emergencies -African Swine Fever (A.S.F.)  
**F. Sgarangella**, D. Marongiu, S. Masala, V. Floris, G. Bitti, P. Desini  
Sassari (Italy)
- 20.139** Mixed species legionellosis outbreak linked to industrial cooling towers contaminated with multiple *Legionella* species, New Zealand, August–November 2015  
**C. Thornley**<sup>1</sup>, D. Harte<sup>2</sup>, R. Weir<sup>3</sup>, L. Allen<sup>3</sup>, P. Wood<sup>3</sup>  
<sup>1</sup>Lower Hutt (New Zealand), <sup>2</sup>Porirua (New Zealand), <sup>3</sup>Palmerston North (New Zealand)
- 20.140** Laboratory response to Middle East Respiratory Syndrome outbreak in Korea, 2015  
**J.-S. Yang**, H.-D. Jung, S. Park, J.-G. Nam, S. S. Kim  
Cheongju (Korea)
- Public Communication of Outbreaks and Emerging Diseases**
- 20.141** ‘Why didn’t you see it coming?’: Surveillance by and in the media—journalistic research on outbreak detection taking the example of Ebola Virus Disease in Uganda and West Africa  
**F. Badenschier**  
Cologne (Germany)
- 20.142** Evaluation of ProMED-mail global surveillance capability  
**N. A. Breit**<sup>1</sup>, T. Allen<sup>2</sup>, B. Arnold<sup>3</sup>, A. Huff<sup>2</sup>, L. Madoff<sup>4</sup>, M. Pollack<sup>2</sup>  
<sup>1</sup>Kirkland, Washington (USA), <sup>2</sup>New York, NY (USA), <sup>3</sup>Malone, NY (USA), <sup>4</sup>Brookline, MA (USA)
- 20.143** Active syndromic surveillance program of arboviruses in Rio de Janeiro, Brazil  
**E. C. Mesquita**, J. Cerbino-Neto, G. Viana Ramos, M. Varela, V. Parreira, T. Souza, A. Vizzoni, P. Bozza, F. Bozza  
Rio de Janeiro (Brazil)
- 20.144** Lethality in newborn with microcephaly due to maternal Zika virus infection in Rio Grande do Norte State, Brazil: A cross sectional-study  
**N. M. N. Nogueira Mendes Neto**<sup>1</sup>, I. T. Queiroz<sup>2</sup>, J. T. da Silva Maia<sup>2</sup>, D. D. Rolim<sup>2</sup>  
<sup>1</sup>Natal, RN (Brazil), <sup>2</sup>Natal, RN (Brazil)
- 20.145** Authoritarian governance and the suppression of infectious disease reporting  
**B. Oppenheim**  
San Francisco, CA (USA)
- 20.146** The third *Clostridium difficile* NAP/BI/027 strain outbreak in Mexico  
**J. C. Rodriguez**, M. Martínez, G. Salazar, E. Rojano, G. Oseguera, R. Valdes, R. Figueroa, J. Ramírez, A. Rodríguez  
Mexico City (Mexico)
- 20.147** Simple online tools to visualize complex laboratory-derived surveillance outcomes—The HIV continuum experience  
**T. Sanchez**, P. S. Sullivan  
Atlanta, GA (USA)
- 20.148** The first case exploring the health management of dogs owned by a man suffering from Ebola (EVD) in Italy  
**F. Sgarangella**, A. Sussarellu, M. S. Zedda, F. Delogu, G. Bitti, S. Masala, D. Marongiu, R. Cocco, F. Dettori, P. Desini  
Sassari, (Italy)
- 20.149** AIDSVu.org: Communicating about the US HIV epidemic to diverse stakeholders  
**P. S. Sullivan**, T. Sanchez  
Atlanta, GA (USA)
- 20.150** Impact of a protracted Q fever outbreak in South West Germany 2016 on the supply of blood products  
**C. Wagner-Wiening**<sup>1</sup>, S. Körper<sup>2</sup>, A. Wiedenmann<sup>3</sup>, A. Corea<sup>3</sup>, S. Fischer<sup>1</sup>, C. Marquardt<sup>3</sup>, G. Pfaff<sup>1</sup>, W. Kontner<sup>3</sup>  
<sup>1</sup>Stuttgart (Germany), <sup>2</sup>Ulm (Germany), <sup>3</sup>Esslingen (Germany)
- 20.151** Epidemiology and etiology of suspected central nervous system infections in Singapore  
**S. K. S. Wong**, K. Tan, T. L. D. Soon, H. Shafi, M. Chan, S. T. Ooi, L. Wijaya  
Singapore (Singapore)
- Sociopolitical Factors in Disease Emergence**
- 20.152** Health beliefs and patient perspectives of febrile illness in Kilombero, Tanzania  
**C. A. Hercik**<sup>1</sup>, L. Cosmas<sup>2</sup>, O. Mogeni<sup>2</sup>, W. Kohi<sup>3</sup>, S. Mfinanga<sup>3</sup>, C. Loffredo<sup>1</sup>, J. Montgomery<sup>2</sup>  
<sup>1</sup>Washington, DC (USA), <sup>2</sup>Nairobi (Kenya), <sup>3</sup>Dar es Salaam (Tanzania)
- 20.153** Regional differences in healthcare utilization of patients with scrub typhus in South Korea, using national health insurance claim data  
**G. Park**, S. Yi, H. Lee  
Gyeonggi (Korea)



**20.154** The prevalence of typhoid fever from different regions of Karachi

**S. A. Qasmi**, S. Pirzada  
Karachi, Sindh (Pakistan)

**20.155** Motivational aspects are important in the improvement of biosecurity

**L. Sahlström**, J. Kyyrö, T. Lyytikäinen  
Helsinki (Finland)

### **Vaccines and Emergence of Vaccine Preventable Diseases**

**20.156** Detection of ambiguous vaccine-derived poliovirus type 2 in T'boli Sultan Kudarat, Philippines

**L. N. G. Apostol**<sup>1</sup>, A. I. Tandoc<sup>1</sup>, L. Reyes<sup>1</sup>, M. M. A. Jiao<sup>1</sup>, M. A.-L. Valencia<sup>1</sup>, K. A. Cruz<sup>1</sup>, R. Aquino<sup>1</sup>, V. Roque<sup>2</sup>, A. Salonga<sup>2</sup>, M. Castro<sup>2</sup>  
<sup>1</sup>Muntinlupa City (Philippines), <sup>2</sup>Manila (Philippines)

**20.157** Epidemiological surveillance of acute flaccid paralysis in the territory of the Republic of Armenia for 2003–2015

**A. Badalyan**, H. Hovhannisyann  
Yerevan, Yerevan (Armenia)

**20.158** The successful establishment of regular national vaccination conferences and a national vaccination steering committee in Germany

**C. Brenninkmeyer**<sup>1</sup>, M.-S. Ludwig<sup>1</sup>, S. Speiser<sup>1</sup>, U. Nennstiel-Ratzel<sup>2</sup>, G. Hölscher<sup>2</sup>, R. Fischer<sup>3</sup>, C. Klinc<sup>3</sup>, W. Hierl<sup>3</sup>, F. Feil<sup>4</sup>, B. Liebl<sup>2</sup>  
<sup>1</sup>Erlangen (Germany), <sup>2</sup>Oberschleißheim (Germany), <sup>3</sup>Munich (Germany), <sup>4</sup>Hanover (Germany)

**20.159** Two third of under five year measles cases were not vaccinated against measles, Iraq, 2013–2015

**A. Chitheer**<sup>1</sup>, Y. Yunis<sup>2</sup>, A. Nawar<sup>2</sup>, F. Lami<sup>2</sup>  
<sup>1</sup>Missan (Iraq), <sup>2</sup>Baghdad (Iraq))

**20.160** What do Lebanese women know about cervical cancer and human papillomavirus? A report on awareness levels in urban communities

**J. E. Choucair**  
Beirut (Lebanon)

**20.161** Private sector vaccine coverage estimates in India: Evidence from vaccine utilization data through innovative analytics

**H. H. Farooqui**<sup>1</sup>, S. Zodpey<sup>2</sup>  
<sup>1</sup>Gurgaon, Haryana (India), <sup>2</sup>New Delhi (India)

Session 20

### **Poster Presentations II**

**Sunday, November 6, 2016**

**11:45–13:15**

**Klimt Ballroom I • Upper Level**

Posters 20.162–20.220

### **Vaccines and Emergence of Vaccine Preventable Diseases (continued)**

**20.162** Elucidating structure-function polymorphism of p7 gene of hepatitis C Virus

**N. A. Hussain**  
Karachi (Pakistan)

**20.163** Predictors of recurrent fast breathing in children under five years of age in a low income community in southern Pakistan: A nested case control study

S. Kerai<sup>1</sup>, **F. Aziz**<sup>1</sup>, I. Nisar<sup>1</sup>, N. Brown<sup>2</sup>, F. Jehan<sup>1</sup>  
<sup>1</sup>Karachi (Pakistan), <sup>2</sup>Salisbury (United Kingdom)

**20.164** Virological evaluation and clinical impact of field vaccination against lumpy skin disease in cattle

**P.-D. Katsoulos**, C. I. Dovas, S. C. Chaintoutis, Z. Polizopoulou, O. Papadopoulos, H. Karatzias, C. Boscov  
Thessaloniki (Greece)

**20.165** Major mumps outbreak in the South Bohemian Region, a question for the buster vaccination

**K. Kotrbova**, J. Lunackova  
Ceske Budejovice (Czech Republic)

**20.166** Evaluation of an influenza vaccination campaign among pregnant women in two provinces in South Africa, 2015

**S. G. P. Lengana**<sup>1</sup>, M. McMorro<sup>2</sup>, A. Tshangela<sup>2</sup>, S. Meiring<sup>2</sup>, M. Nunes<sup>2</sup>, C. Cutland<sup>2</sup>, R. Itzikowitz<sup>3</sup>, W. Isaacs<sup>3</sup>, S. Madhi<sup>1</sup>, C. Cohen<sup>1</sup>  
<sup>1</sup>Johannesburg (South Africa), <sup>2</sup>Atlanta, GA (USA), <sup>3</sup>Cape Town (South Africa)

**20.167** The determinants of influenza vaccination effectiveness in adults aged 65 years and older: A systematic review

**W. W. Lim**, B. J. Cowling, M. C. W. Chan  
Hong Kong (China)

**20.168** Reporting patterns of adverse events following immunization in Albanian children during 2008–2015: A retrospective analysis of adverse events database

**I. Mehmeti**, S. Bino, E. Nelaj  
Tirana (Albania)



**20.169** High prevalence of serotype 3 in pneumococcal isolates causing complicated pneumonia and empyema in Portugal (2010–2015)  
C. Silva-Costa, S. Aguiar, M. Pinho, A. Friães, M. Ramirez, **J. Melo-Cristino**, the Portuguese Group for the Study of Streptococcal Infections, the Portuguese Study Group of Invasive Pneumococcal Disease of the Paediatric Infectious Disease Society  
Lisbon (Portugal)

**20.170** Coverage of poliomyelitis vaccination in Lagos Mainland Local Government Area Lagos State, Nigeria  
**F. F. Osundina**<sup>1</sup>, O. Ajumobi<sup>2</sup>, A. Oladimeji<sup>2</sup>, I. Abdus-Salam<sup>3</sup>, A. T. Olayinka<sup>4</sup>, P. Nguku<sup>2</sup>  
<sup>1</sup>Abuja (Nigeria), <sup>2</sup>Abuja (Nigeria), <sup>3</sup>Lagos (Nigeria), <sup>4</sup>Zaria (Nigeria)

**20.171** Adverse effects following immunization of pneumococcal vaccine in Nepal  
**B. P. Sapkota**<sup>1</sup>, K. B. GC<sup>2</sup>  
Kathmandu (Nepal)

**20.172** Clinical characterizations of children with bacterial meningitis (BM) in the Republic of Kazakhstan  
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<sup>1</sup>Astana (Kazakhstan), <sup>2</sup>Beer-Sheva (Israel)

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<sup>1</sup>Lima (Peru), <sup>2</sup>San Diego, CA (USA)

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<sup>1</sup>Colombo (Sri Lanka), <sup>2</sup>California (USA)

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<sup>1</sup>Port Harcourt (Nigeria), <sup>2</sup>Grahamstown (South Africa), <sup>3</sup>Grahamstown (South Africa)

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<sup>1</sup>Accra (Ghana), <sup>2</sup>Kisumu (Kenya), <sup>3</sup>Irvine, CA (USA)

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<sup>1</sup>Coimbra (Portugal), <sup>2</sup>Sophia Antipolis (France)

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<sup>1</sup>Sofia (Bulgaria), <sup>2</sup>Stara Zagora (Bulgaria)

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<sup>1</sup>Tirana (Albania), <sup>2</sup>Columbus, OH (USA), <sup>3</sup>Lyon (France)



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<sup>1</sup>Toulon (France), <sup>2</sup>Djibouti (Djibouti), <sup>3</sup>Marseilles (France), <sup>4</sup>Saint-Aignan (France),



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