

# MediLabSecure

## Regional Meeting

### & Technical Workshop in Public Health

Algeria  
Egypt  
Jordan  
Lebanon  
Libya  
Morocco  
Palestine  
Tunisia

# TUNIS

Institut Pasteur in Tunis

July 4-6<sup>th</sup>, 2017



[www.medilabsecure.com](http://www.medilabsecure.com)  
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This MediLabSecure event has been organised by



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## CONTEXT & PURPOSE

The MediLabSecure project, supported by the European Commission (DG-DEVCO), is a «one health» project aiming at establishing a framework of multisectoral collaboration in order to improve communicable diseases surveillance and biosafety, by building capacity among laboratories of the Mediterranean and Black Sea regions.

Since its beginning in 2014, the MediLabSecure multidisciplinary network of laboratories and public health institutions has been growing and many actions have already been implemented to strengthen awareness, risk assessment, monitoring and control of emerging vector-borne viruses with a «one health» vision.

We convene today for the second regional Meeting and technical workshop in public health of the MediLabSecure project. Eight countries of the MediLabSecure network are represented at this meeting: Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine and our host, Tunisia.

In line to the proposals raised by the network laboratories' and public health institutions' representatives during the MediLabSecure project mid-term meeting held in Paris in December 2015, Rift Valley fever virus (RVFV) has been identified as a major health concern for Northern Africa and Middle Eastern countries. To respond to this need, this «one health» meeting has been designed to address clinical, entomological, epidemiological, diagnostic as well as human and animal health aspects of RVFV.

This regional meeting will also be an opportunity to discuss current and common public health issues. For example, two update sessions, one about Middle-East Respiratory Syndrome coronavirus and one about vector control have also been scheduled.

A panel of international specialists and representatives of international organizations and research institutes, has been invited to share the latest breakthroughs on RVFV infections and their related epidemiological and diagnostic aspects. Transversal sessions and group activities on topics such as a novel vector identification tool and laboratory biorisk management have been organised.

To make the most out of this gathering of the network representatives, the third MediLabSecure technical workshop in Public Health has been embedded into this regional meeting, and will focus on RVF risk assessment. A rapid risk assessment exercise on RVF will be carried out, with the help of facilitators from key international agencies and institutions, in a multisectoral manner with representatives of animal health, human health and public health institutions as well as medical entomologists. Therefore, this meeting, by encouraging information exchange, has the aim to foster cross-sectoral dialog focused on ensuring the sustainability of «one health» activities in the involved institutions.

Finally, parallel sessions within each speciality will allow for in-depth discussions among the participants and partners on technical subjects related to the project aims, tools and outcomes, and will contribute to the finetuning of the forthcoming actions.

This regional meeting will result in a broadened engagement and will strengthen and encourage collaborations within the MediLabSecure network and beyond.

# MEETING FOREWORD

*by Dr Kathleen VICTOIR  
Scientific Programs Coordinator  
Department of International Affairs  
Institut Pasteur, Paris, France*

Dear all,

First of all, a very warm welcome to this Second Regional Workshop of the MediLabSecure network!

In the spirit of the Network this meeting has been organised with a “One Health” approach with the objective to reinforce the multidisciplinary interactions in your different countries and in the overall region.

As we want MediLabSecure to be, as much as possible, an interactive network, the team wanted to address a topic which was pointed out as a concern by its participants during on-going discussions and previous meetings.

Consequently, you will discover that the main topic for the coming days is Rift Valley Fever, a regional emerging zoonosis, which could become particularly dynamic in your region as it is already in neighbouring countries. Indeed, this zoonotic disease, affecting animals and men and that can be transmitted by an insect vector, has a high multifactorial potential to further spread towards other regions.

Today, it is generally acknowledged that RVFV is enzootic throughout the African continent and Saudi Arabia.

It has been suggested that clinical patterns in humans, who can range from sub-clinical to more serious clinical manifestations, are possibly multifactorially influenced by e.g. co-infections, and changing environmental factors enabling infection. As such, to better control the transmission, systems linked with environmental data (e.g. rainfall), animal presence, competence of the present vector, seem to allow a highly focal definition of those areas at greatest risk from RVFV.

A perfect MediLabSecure topic!

This meeting will also be an opportunity to address specific biosafety issues not only on RVF

but also on MERS-CoV also an important regional point of concern.

MERS-CoV is a zoonotic virus, where humans are infected through direct or indirect contact with infected dromedary camels. The route of transmission from animals to humans is not fully understood, but dromedary camels are a major reservoir host for MERS-CoV and an animal source of infection in humans. Due to cameltrade and human movement, the spread of MERS-CoV should be closely watched in the region.

As for RVFV, MERS-CoV needs to be handled in the laboratory according to specific biosafety guidelines in order to control the corresponding microbiological risk and avoid non intentional contamination.

We particularly appreciate the important input for this topic of the Institut Pasteur Tunisian team of Rym Ben Khalifa.

You will be guided through this 3-day meeting by a very dedicated and skilled team of MediLabSecure and external experts. We trust that under their impulse you will interact, exchange visions and work towards the “One Health” spirit we want to achieve during this project.

Special thanks go to our host, the Institut Pasteur in Tunis, and Ali Bouattours’ team who has helped us to organise this meeting in the most efficient way. It’s always a pleasure to work with you.

We are also grateful to the different speakers, who took the time to come and are willing to share their know-how with all of us.

Before-last I would like to thank especially Lobna Gaayeb and all MediLabSecure members who put their time and energy in the organisation of this very promising meeting.

And last, I would like to thank and welcome Sophie Calmettes in the MediLabSecure community, as this is her first meeting.

Have a wonderful time with many exchanges and interesting interactions,

In thoughts with you all,

**Kathleen Victoir**

# AGENDA

Tuesday 04/07

Day 1

1

Rift Valley fever  
Chaired by R. Bougedour & M. Bengoumi

2

Biorisk management  
Chaired by R. Ben Khalifa

08:30	REGISTRATION	
09:00	Foreword	<b>H. Louzir</b> (Institut Pasteur in Tunis)
09:10	MediLabSecure Project overview	<b>L. Gaayeb</b> (Institut Pasteur)
09:20	Session opening	<b>R. Bougedour</b> (OIE) & <b>M. Bengoumi</b> (FAO)
09:30	Molecular epidemiology of RVF in West Africa	<b>G. Fall</b> (Institut Pasteur of Dakar)
09:50	Experimental infection of pregnant sows with RVF virus	<b>A. Lubisi</b> (Onserstepoort Veterinary Institute)
10:20	Discussion	
10:30	COFFEE BREAK & EXPLORATION COUNTERS	
11:00	Identifying areas suitable for the occurrence of RVF in Tunisia	<b>S. Mejri</b> (Institut de la Recherche Vétérinaire de Tunisie)
11:15	RVF: An emerging viral vector-borne disease	<b>M. Diallo</b> (Institut Pasteur of Dakar)
11:45	Diagnostic approach to RVF: Lessons from the field	<b>F. Monaco</b> (Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise)
12:15	Discussion	
12:30	Concluding remarks	<b>R. Bougedour</b> (OIE) & <b>M. Bengoumi</b> (FAO)
12:45	LUNCH	
13:30	New coronaviruses : MERS-CoV and what's next ?	<b>JC. Manuguerra</b> (Institut Pasteur)
14:00	Introduction to session	<b>R. Ben Khalifa</b> (Institut Pasteur in Tunis)
14:05	Biorisk Management: generalities & terminology, with scenario on MERS-CoV & RVFV	
14:30	Biorisk Assessment Methodology: Application to MERS-CoV & RVFV	
15:30	Biorisk mitigation : application to MERS-CoV & RVFV	
	• Containment (with exercise)	
	• Shipping (with exercise)	
	• Good microbiological practices	
17:00	Biorisk performance, with scenario	
17:30	Exercise wrap-up	

- SESSION TRAINERS**  
(Institut Pasteur in Tunis)
- **A. Bali** (IFBA certified)
  - **H. Belli** (IFBA & ICIS certified)
  - **A. Bouattour** (facilitator)
  - **K. Trabelsi** (IFBA & ICIS certified)

## LOCATIONS

### INSTITUT PASTEUR IN TUNIS

- Amphitheatre
- Hall
- Meeting rooms

### RESTAURANT

- Foundouk El Attarine
- La Medina, Tunis

Wednesday 05/07

Day 2

3

Integrated Surveillance  
Chaired by S. Declich

4

Vector surveillance & control  
Chaired by V. Robert & M. Diallo

5

Entomology tools  
Chaired by V. Robert & M. Diallo

6

Rapid risk assessment  
Technical Workshop in Public Health

09:00	Integrated surveillance: Preliminary results from the MediLabSecure studies	<b>MG. Dente</b> (Istituto Superiore di Sanita)
09:20	Implementation of the West Nile integrated surveillance system in Tunisia	<b>S. Bougatef</b> (Observatoire National des Maladies Nouvelles et Emergentes)
09:35	Discussion	
09:45	Vector control: generalities	<b>V. Robert</b> (IRD)
10:00	Mosquito control updates	<b>F. Simard</b> (IRD)
10:25	Mosquito surveillance & control in Tunisia	<b>A. Bouattour</b> (Institut Pasteur in Tunis)
10:40	COFFEE BREAK & EXPLORATION COUNTERS	
11:10	The Asian Tiger Mosquitoes: First report from Jordan and the increased risk of arboviruses transmission and emergence	<b>M. Arbaji</b> (Ministry of Health, Jordan)
11:25	Vectors and vector-borne diseases in Lebanon : Assessment based on field data	<b>N. Haddad</b> (Lebanese University)
11:35	Discussion	
12:00	Live demonstration of mosquito traps	<b>A. Bouattour</b> (Institut Pasteur in Tunis)
12:10	Introduction to MosKeyTool: A computer-aided mosquito identification key	<b>F. Günay</b> (Hacettepe University)
12:25	Research resources for the insect vector community: InfraVec	<b>F. Simard</b> (IRD)
12:45	LUNCH	
13:45	Risk assessment exercise «pre-test»	
14:05	Risk assessment methodology	<b>P. Calistri</b> (FAO) & <b>B. Sudre</b> (ECDC)
14:45	Exercise presentation	<b>S. Declich</b> & <b>MG. Dente</b> (ISS)
15:15	GROUP PICTURE, COFFEE BREAK & EXPLORATION COUNTERS	
16:00	Parallel sessions: discussion within specialities' groups	
19:30	NETWORKING DINNER	

Thursday 06/07

Day 3

09:00	Group work: rapid risk assessment for RVF	
10:30	COFFEE BREAK	
11:00	Group work: rapid risk assessment for RVF	
12:00	Outcomes of the risk assessment working groups	<b>S. Declich</b> & <b>MG. Dente</b> (ISS)
12:15	Risk assessment exercise «post-test»	
12:30	Concluding remarks	<b>L. Gaayeb</b> (Institut Pasteur)

# SPEAKERS



## Majeda ARBAJI

*Medical Entomologist  
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Dr. Majeda Arbaji is a Medical Entomologist working in the Department of Zoonotic and Parasitic Diseases in the Ministry of Health, Jordan. Her work focuses on the identification of mosquitoes in Jordan.



## Mohammed BENGOUMI

*Animal Production and Health Officer  
Coordinator of the programme in support to Professional Organizations  
Focal point Emergency  
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[Mohammed.Bengoumi@fao.org](mailto:Mohammed.Bengoumi@fao.org)  
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After obtaining a veterinary Ph.D in 1986, Dr. Mohammed Bengoumi joined the Hassan II Agronomic and Veterinary Institute as a teacher-researcher. He continued his studies with a certificate of advanced studies in Biochemistry-Microbiology and a diploma in Animal Productions and Quality of the Products. During his research work, he collaborated with several institutes in France and the United States and obtained his Diplôme de Doctorat ès Sciences in 1992. He did several trainings in project management, moderation-facilitation, animal health, and he also did a Master in Management of Teaching and Research Institutions.

After several consultations with international organizations, he joined the FAO in 2008 as Production and Health Officer at the FAO Regional Office for North Africa and the Middle East in Cairo. In 2010, with decentralization and with the aim of being closer to the field and contributing directly to development, he asked to join the FAO Sub-regional Office for North Africa.

His fields of expertise are very varied and concern: the development of livestock (production systems, management of animal genetic resources, feeding), animal health management (epidemiology, laboratory, eco-pathology, disease control strategies), education, research and development, project monitoring and evaluation, public-private partnership, scientific and technical publications (more than 90 scientific publications in indexed scientific journals and more than 170 papers in conferences). He is a member of scientific or drafting committees for several scientific journals.

He is also affiliated to several scientific organizations at the International Society for the Research and Development of Camelids (Founding Member), the International Society of Pathology Animal Clinic, the New York Academy of Sciences, the OIE Ad-hoc group on Camelids, the Union of Veterinarians in Maghreb.



## Ali BOUATTOUR

*Researcher and Head of Medical Entomology Laboratory  
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Laboratoire d'Epidémiologie et Microbiologie Vétérinaire  
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In addition to a Bachelor's degree in the Sciences, Dr. Ali Bouattour earned his Doctorate in Veterinary Medicine from the Veterinary School of Tunis (1981), M.S. in Ecology Parasitological, PhD in Vector Entomology from the Faculty of Sciences Tunis, and HDR in Vectors and Vector-Borne Diseases from Institut Pasteur.

His research interests include medical entomology, particularly mosquitoes, ticks and fleas and epidemiological studies of tick-borne diseases. He is involved in national research programs run at the Institut Pasteur in Tunis and international and regional consortia on ticks, mosquitoes and arboviruses.

His professional activities and services include coordination of training mission of IPT. He is also Senior Lecturer in Arthropod Vectors and Vector-Borne Diseases at the Faculty of Science, Tunis.

He is the author of more than 50 publications in peer-reviewed journals and he supervised more than 40 MSc and PhD students.

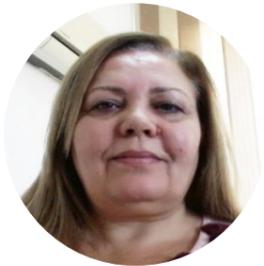


## Rym BEN KHALIFA

*Researcher in Neurobiology and Cellular Electrophysiology  
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After a doctoral thesis in Neurosciences at the Université d'Angers and a post-doctoral internship at the Département de Neurobiologie of the CNRS in Marseille, Dr. Rym Benkhalifa joined the Laboratory of Venom and Therapeutic Molecules at the Institut Pasteur in Tunis in 2000, as a researcher in neurobiology and cellular electrophysiology. Since 2016, she is head of the «Biological evaluation of molecules for therapeutic and biotechnological applications» team within the same laboratory. Her research interests include the involvement of ion channels in degenerative diseases, their interaction with natural peptides as therapeutic modulators. The work of her research group has been the subject of several international and national publications and communications. In 2007, Rym Benkhalifa obtained an international certification in Good Practice of Animal Experimentation. She joined the Biomedical Ethics Committee of the Institut Pasteur in Tunis in 2013. Since 2013, Rym Benkhalifa has also been in charge of institutional and international projects in Biosafety and Biological Risk Management. In this context, she has coordinated two international projects in Biosafety and Sanitary and Biological Risk Management, as a national focal point.



## Souha BOUGATEF

*Sub Director of Epidemiological Surveillance at the National Observatory of  
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Dr. Souha Bougatef is a Public Health Doctor. She has been the Sub Director of Epidemiological Surveillance at the National Observatory of New and Emerging Diseases (ONMNE) since 2010. She has been responsible for the West Nile human surveillance system in Tunisia since 2011. She has also been responsible for the implementation of the event-based surveillance system, the partnership project funded by the German Federal Office of Foreign Affairs, jointly managed by the German International Cooperation (the Deutsche Gesellschaft für Internationale Zusammenarbeit «GIZ») and the Robert Koch Institute (RKI), since 2015. She has participated in several research projects: Studies on the epidemiological surveillance of non-communicable diseases; coordination of the national survey on the use of care and the prevalence of risk factors for cardiovascular disease in Tunisia (2005); study on emerging and re-emerging diseases for strengthening health monitoring system (financed by the BAD 2011-2015). She was also the co-coordinator of the Tunisian-Italian border project «Establishment of a platform and a Tunisian-Italian network for the surveillance of emerging diseases transmitted by ticks and Culicidae» (2013-2016).



## Rachid BOUGUEDOUR

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Dr. Rachid Bouguedour holds a diploma from the École Nationale Supérieure Vétérinaire d'Alger (ENV), where he has assumed various responsibilities. He has been working for the OIE (the World Organisation for Animal Health) since 1993, starting with a position as OIE Representative for Algeria. In 2012, he was appointed OIE Representative for North Africa.



## Paolo CALISTRI

*Head of Veterinary Epidemiology and Information Systems Unit  
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National Reference Center for Veterinary Epidemiology  
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Dr. Paolo Calistri is working since 1995 at the Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (IZSAM), Italy and he is currently the Head of Veterinary Epidemiology and Information Systems Unit of the National Reference Centre for Veterinary Epidemiology. He is involved in several international activities as risk analysis expert and he supports the activities of the FAO Reference center for Veterinary Epidemiology and the OIE Collaborating Centre for Veterinary Training, Epidemiology, Food Safety and Animal Welfare, located at the IZSAM, with special reference to the planning of surveillance activities, development of information systems, including GIS applications and performing risk assessment studies. Paolo Calistri has been involved in several international projects and initiatives focused on the prevention and control of animal health diseases in the Mediterranean and North Africa regions, with particular reference to emerging vector-borne diseases. From 16 January 2006 to 15 January 2007, he was Seconded national expert, working as Scientific Officer at the Unit of Biological Hazards, European Food Safety Authority. (EFSA). Since March 2011 he is member of the Editorial Advisory Board of Preventive Veterinary Medicine Journal. Since July 2015 he is member of the Animal Health and Animal Welfare (AHAW) Panel of the European Food Safety Authority (EFSA). He has published around 80 papers in international scientific journals.



## Silvia DECLICH

*Senior researcher  
Key expert, Public Health Working Group (WP5)  
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Dr. Silvia Declich, Master of Science in Epidemiology and Specialization in Nutritional Sciences, is a senior researcher at the Italian Institute of Health (Istituto Superiore di Sanità-ISS). She has been the scientific director of several research projects on various areas related to communicable diseases, including related to migrants' health. She has extensive experience in the leadership and management of national and international consortia, and a long-standing working experience with the European Commission (in particular with DG SANCO and DG DEVCO) as well as with academic and research institutions in Europe and in European Neighbourhood Countries. Additionally, Dr Declich is member of the ECDC Advisory Forum and with a long-standing history of technical and institutional working collaborations with the ECDC. She is co-leading the Public Health working group of the MediLabSecure project at the ISS.



## Maria Grazia DENTE

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Specialist in Nutritional Science with a Master in Public Health management, Dr. Maria Grazia Dente is a public health expert and experienced project manager with 30 years experience. Since last 10 years she is working on surveillance and preparedness to health threats with large scientific networks, including the multi-institutions and multi-financed project EpiSouth and EpiSouth Plus (27 EU and non-EU country partners) for which she has been the coordinator since its institution in 2006. In addition, Dr Dente has specific technical knowledge on migrant health in EU and Mediterranean countries developed during participation and coordination of several projects in this field and specific know-how on the health policy implications of research outputs. She is co-leading the Public Health working group of the MediLabSecure project at the ISS.



## Mawlouth DIALLO

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Dr Mawlouth Diallo is a vector biologist (PhD – HDR) with 23 years of experience studying mosquito vectors of arboviruses and malaria in Africa at Institut Pasteur de Dakar (IPD). His leadership has contributed to the implementation at IPD of a new brand Medical Entomology Unit with facilities for classical and molecular entomology including a BSL-3 insectary. At the head of this Unit, he has developed basic research on vector bio-ecology, population genetics and virus-vector-vertebrate interactions. His research integrates also the impact of climate and environmental change on the vectors dynamic and a modelling approach to analyse data gathered over years to predict risks of vector pressure. The last ten year, he has collaborated in several projects funded by the NIH, EU-H2020/FP7, ANR, PMI/USAID, UNDP/World Bank/WHO, PTR, ACIP etc). He is the author of 98 publications in peer-reviewed international journals. He has also supervised 5 PhD, 6 Masters and 3 Postdocs. As a WHO expert, he was deployed in more than 17 African countries for outbreaks investigation or risk assessment.



## Gamou FALL

Virologist, Research Assistant  
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Dr. Gamou Fall (Ph.D), is a Virologist and Research Assistant at the Arbovirus and Hemorrhagic Fever viruses Unit, at the Institut Pasteur de Dakar, Senegal. Her research activities focus on virus-vector interactions, mechanisms involved in arbovirus transmission and emergence, viral pathogenesis, and molecular evolution of viruses.



## Lobna GAAYEB

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Dr. Lobna Gaayeb is a veterinarian with a PhD in clinical research and public health, specialized in infectious diseases. She was trained in parasitic infections such as schistosomiasis and malaria. Currently based at the department of international affairs of Institut Pasteur, she has experience in international programs coordination. She co-leads the MediLabSecure project coordination and communication working group.



## Filiz GÜNAY

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Dr. Filiz Günay (Ph.D) is a Research Assistant at Hacettepe University in Ankara, Turkey, where she received a B.S. degree in Biology and an M.S. degree in Ecology. Her PhD thesis was on the mosquito fauna of Turkey with morphological identification techniques and DNA barcoding, in association with Natural History Museum in London and Smithsonian Museum in Washington DC. She worked in IRD Montpellier, France, for 6 months as a Post-Doc Researcher to prepare a computer-aided identification key for mosquitoes in Europe, North Africa and Middle East, named MosKeyTool. Her research interests are vector ecology, population genetics, and morphological-molecular taxonomy of mosquito species. She is the author of over 19 scientific papers and has made 7 oral presentations in international conferences. A member of Society for Vector Ecology, she is currently involved in 1 national and 4 international projects.



## Nabil HADDAD

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Dr. Nabil Haddad is an Associate Professor at the Faculty of Public Health of the Lebanese University near Beirut. He has a PhD in Parasitology and a postgraduate diplomas in Epidemiology from Bordeaux II University, and in Medical Entomology from Pasteur Institute-Paris. Besides teaching, Dr. Haddad is a researcher at the Laboratory of Immunology and Vector Borne Diseases at the Lebanese University. His research is focused on the study of insect vectors and the epidemiology of vector-borne diseases in Lebanon and Syria. His investigations covers mainly Leishmaniasis, Sand fly fever and mosquito-borne arboviral diseases.

Dr. Haddad is a medical entomology expert for the WHO-EMRO region. He is a focal point for the "Global Outbreak Alert and Response Network" of the WHO. He is also a member of Euro-Mediterranean Networks MediLabSecure and VectorNet.



## Hechmi LOUZIR

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After his medical studies in Tunisia (1986) and a postdoctoral research at the Pasteur Institute in Paris (1986-1988), Pr. Hechmi Louzir joined the laboratory of immunology at the Pasteur Institute in Tunis in late 1988 as Assistant Professor. He developed many research programs on the host pathogen interaction during leishmaniasis. He is author or coauthor of more than seventy original publications and several patents. He has worked in more than 40 research projects funded by international agencies and directed the research of more than 40 students. Hechmi Louzir is an elected member of the executive board of the International Network of Institut Pasteur and member of the Assembly of the Pasteur Institute in Paris. He served, as member of the scientific council of the French Institute of Research for development (IRD, Institut de Recherche pour le Développement) between 2011 and 2012. He is actually member of the Scientific and Technical Advisory Committee of the African Network for Diagnostic and Drug Innovation (ANDI) and served as member of the Scientific Council of the «Agence Universitaire de la Francophonie, AUF». Hechmi Louzir is member of the Editorial Board of PLoS Neglected Tropical Diseases (PLoS NTDs) and serves as reviewer for several scientific journals and, as expert, in international research organizations.



## Jean-Claude MANUGUERRA

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Jean-Claude Manuguerra (Ph.D) was originally qualified as a veterinarian and was trained in virology at Institut Pasteur in order to get his PhD. He spent two years as a post doctoral fellow at the National Institute for Medical Research (London, United Kingdom). He was then co-director of the National Influenza Centre for Northern France and of the WHO Collaborative Centre for Research and Reference on Influenza Viruses and Other Respiratory Viruses, one of the 13 laboratories included in the WHO Collaborative Multi-Centre Laboratory Network on SARS (1994-2003). He belongs to the French team sent to Hanoi for the control of the SARS outbreak at the Hanoi French Hospital in March 2003. Since then, he participated to a number of missions during outbreaks. Recently, in 2014 and 2015, he went to the Ebola diagnostic laboratory in Donka Hospital in Conakry and in the Ebola Treatment Center in Macenta in Guinea respectively. From 2000 to present, Jean-Claude Manuguerra has been a member of the steering committee of the Global Alert and Response Network coordinated by the WHO and chaired it from 2011 to 2013. Jean-Claude Manuguerra was Secretary General of the French Society for Microbiology from 1998 to 2001. Since December 2005, he has been corresponding member of the French Academy of Veterinary Medicine. Jean-Claude Manuguerra heads the Environment and Infectious Risks expertise and research Unit (ERI) which harbours the Laboratory for Emergency Response to Biological Threats, which was created in 2002. Dr. Manuguerra is leading the human virology working group of the MediLabSecure project at the Institut Pasteur.



## Alison LUBISI

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Federica has been involved as principal investigator and coordinator of several national and international projects funded by the European Union (EU) and by the Italian Ministry of Health. She authored over 70 papers published in peer reviewed scientific journals with Impact Factor and her research activity are mainly focused on emerging and exotic viral diseases of veterinary interests like African Horse Sickness, Lumpy Skin Disease, Peste des Petit Ruminants as well as zoonotic viruses which impact on public health like West Nile, Usutu and Rift Valley Fever.

Since 2012, Federica is responsible, within IZSAM, for biosafety and biosecurity procedures of highly contagious virus that require BL3/BL4 facilities to be manipulated.

In 2013 became the head of the Italian Reference Laboratory for African Horse Sickness.

In the same year, she was also appointed as the expert for the West Nile Fever laboratory by the World Organization of Animal Health (OIE).



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He has more than 30 years of experience in medical entomology in tropical area (Africa and Madagascar) and in Euro-Mediterranean area. He conducted many researches on malaria and arbovirus transmission by mosquitoes. He belonged to the team that first discovered the huge impact of insecticide impregnated bednet in reducing malaria transmission and malaria deaths. He also has a large experience in teaching (Institut Pasteur) and publishing articles and books.

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From August 2014 until the end of 2015 she was the co-coordinator of the Institut Pasteur International "Ebola Taskforce" together with Prof. F. Rey.

She was also responsible for the training and logistics of the IP ebola detection laboratory in Macenta, Guinea during the most recent ebola outbreak in West Africa.

Since 3 years, Kathleen heads the operational project platform at the Department of International Affairs at the Institut Pasteur. Prior joining the Institut Pasteur International Network she worked as a consultant for MSF, a European Network in the field of - omics and technology transfer and the French Agency for Research.

Kathleen has a scientific background with a PhD in molecular genetics and has an educational degree.

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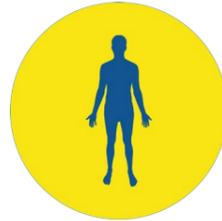
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**NOTES**

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# NOTES



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