



The Egyptian Arab Republic
Ministry Of Agriculture and Land Reclamation

International Scientific Workshop

Wednesday 29th Jan., 2025

**Revolutionizing the use of synthetic
antibodies in theranosis :**
**A cutting-edge approach for One Health
perspectives.**

In the framework of

**Research Project Funded by National Strategy for Genetic
Engineering and Biotechnology
Phase iii: Applications & Products Development ASRT:
Tailoring Epitope Specific Molecularly Imprinted Polymers for
Brucella Theranosis "BruceMIPs"**



Venue:

**Main Hall of the Regional Center of Food and Feed (RCFF)
9, El Gamaa St. Near Giza Square**

Online registration:

https://docs.google.com/forms/d/e/1FAIpQLSdQEMz7Z6Z_zJndRwfYV5dj6FhZlwx0fxtc4FQU

[IpC_xqpVWA/viewform?usp=dialog](https://docs.google.com/forms/d/e/1FAIpQLSdQEMz7Z6Z_zJndRwfYV5dj6FhZlwx0fxtc4FQU)



I. Workshop topics:

- Boosting the crisis-solving potential of multi-sectorial agencies to confront major health threats and panic-provoking diseases through a joint-venture approach for the unification of state efforts and resources
- Upbringing of a new generation of young multidisciplinary scientists to tackle health problems from a one-health perspective through post-graduate programs
- Establishment of a core facility for computational design of new theragnostic molecularly architecture advanced materials using existing high-performance high performance/quantum computers (HPC/QC)
- Estimation of disease disability, morbidity, and mortality with assessment of environmental and socioeconomic impact as well as climate change effect
- Development of smart solutions for the diagnosis & prevention of contending zoonoses
- Development of semi-industrial prototypes for implantation of non-existing POC components (microfluidics, smart sensors, chips, ... etc.) using available large clean rooms

Project outcomes:

- Societal one-health surveillance of infectious health threats diseases (*Brucella* as a model)
- High-resolution genomic characterization of *Brucella* field isolates of animal & human origin for epidemiological tracing of infection.
- Fighting Antibiotic –Resistant Bacteria via strategies Orchestrated by state of the art Molecularly imprinted polymers.
- Development of biomimetic theragnostic materials for brucellosis
- Development of rapid direct multiplex POC platform for *Brucella* species biotyping to cope with the OIE, FAO & WHO emphasis on the necessity of early, rapid, and accurate identification of contending infectious diseases.
- Launching ARV New Production Unit for designing/ development of point of care devices based on Sensor 4.0 technology for early warning of infectious diseases of animal origin according to the law 22/ 2018

II. Workshop Organization Board

Name	Position	Affiliation	Country
Prof. Dr. Samah Eid	Workshop Chairman	Animal Health Research Institute Director	Egypt
Prof. Dr. Hossam Sayour	PI, Senior Bioanalytical Chemist & Chief of Scientific organization board	Molecular Biomimetics Research Group Leader, Animal Health Research Institute (AHRI), Agricultural Research Center (ARC), Giza	
Prof. Dr. Ahmed Rashad	Co-PI, Mechatronics and Robotics Expert & Scientific organization board	MEMS Lab, Head of mechatronics and Robotics Dept., Egypt-Japan University of Science & Technology (E-JUST), Borg Al-Arab Al-Gadida City, Alexandria	
Prof. Alaa El-Kholy	Co-PI Infectious Diseases- Development of Molecular Vaccine and Diagnostics & Scientific organization board	Veterinary Serum & Vaccine Research Institute (VSVRI), ARC, Cairo	
Prof. Dr. Waleed Shell	Senior QC/QA Microbiologist & Scientific organization board	Central Laboratory for Evaluation of Veterinary Biologics (CLEVB), ARC, Cairo	
Prof. Dr. Hazem Soliman	Brucella Serology Expert & Scientific organization board	OIE Reference Lab for Brucellosis, AHRI, ARC, Giza	
Prof. Dr. Hani Ragai	Professor/ Expert in ECE Engineering & Project consultant	Integrated Circuits Lab (ICL), Faculty of Engineering, Ain Shams University, Cairo	
Prof. Dr. Ian Nicholls	Molecular modelling & MIPs Expert & Project consultant	Faculty of Health & Life Science, Kalmar	Sweden
Prof. Dr. Peter Lieberzeit	MIPs & POCD Expert & Project consultant	Institute of Physical Chemistry, Viena University	Austria
Prof. Dr. Heinrich Neubauer	WOAH Reference Expert for Brucellosis (Certification) & Project consultant	Prof. and Director of Institute of Bacterial Infections and Zoonoses, Friedrich-Loeffler-Institut; Jena	Germany
Prof. Dr. Hosny El-Adawy	Certificación & Project coordinator	Friedrich-Loeffler-Institut (FLI), Jena	

III. Workshop Agenda:

Time	Achievement	Members
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09:00-10:00AM	<i>Registration</i>	Registration desk
10:00-11:00AM	<i>Opening Ceremony</i>	-The Minister of Agriculture and Land Reclamation -The Chairman of Agricultural Research Center -Director of Animal Health Research Institute Prof. Dr. Samah Eid
11:00-11:30AM	<i>Welcome remarks and project overview</i>	Prof. Dr. Hossam Sayour (PI)
11:30-11:45AM	WOAH representative <i>Head of WOAHA Ref. and NRL Laboratory for Brucellosis, Institute of Bacterial Infections and Zoonosis, FLI Jena, Germany</i>	<i>Dr. Falk Melzer</i>
11:45-12:00PM	<i>Break</i>	Main Hall lobby
12:00-12:30	<i>Using EPR spectroscopy for investigating the dynamics of membranes and human serum albumin in diseases</i>	Prof. Dr. Sameh Saad Ali Head of Tumor Biology Research Program
12:30-13:00PM	<i>Epidemiology and serological diagnosis of Brucellosis</i>	Prof. Dr. Hazem Soliman
13:00-13:30PM	<i>Molecular diagnosis of Brucellosis</i>	Prof. Waleed S. Shell
13:30-14:00PM	<i>Bioinformatics for epitope template selection</i>	Dr. Ashraf Hendam
14:00-14:30PM	<i>MIP nanobodies to detect biospecies</i>	Prof. Dr. Pete Lieberziet
14:30-15:30	<i>Break</i>	Main Hall lobby
15:30-16:00PM	<i>MicroFluidics: Design and fabrication for biomedical applications.</i>	Prof. Dr. Ahmed Rashad
16:00-16:30PM	<i>HPC and AI: Transforming Science and Engineering to New Paradigms and Horizons</i>	Prof. Dr. Ahmed Moussa
16:30-17:00PM	Nanostructuring of bio-based polymers – sustainability and improved sensitivities	Prof. Dr. Ian Nicholls
17:00- 17:30 PM	<i>Structural bioinformatics approach to fight against infectious diseases</i>	<i>Prof. Dr. Abdu El-Fikky</i>
17:30-18:30PM	<i>Panel discussion, recommendations and closure of the workshop</i>	<i>#All members#</i>

Project National Partners:



Participating institutions



Project International consultants:



Time Difference to major World Cities

Los Angeles	-10 hours
Mexico City	-8 hours
New York	-7 hours
São Paulo	-5 hours
London	-2 hours
Berlin, Frankfurt, Paris, Madrid, Rome	-1 hour
Mumbai	+3:30 hours
Hong Kong	+6 hours
Tokyo	+7 hours
Sydney	+9 hours