

**MEMORANDUM OF UNDERSTANDING (MoU)
on scientific collaboration**

between

**Ecole Nationale Supérieure Vétérinaire d'Alger (ENSV),
Higher National Veterinary School of Algiers,
Rue Issad Abbas, Oued Smar - Algiers, ALGERIA**

represented by its Director Prof. Abdallah BOUYOUCEF

and

**the Friedrich-Loeffler-Institut ("FLI"),
Federal Research Institute for Animal Health,
Südufer 10, 17493 Greifswald-Insel Riems, Germany**

represented by its president Prof. Dr. Dr. h.c. Th. C. Mettenleiter

for its Institute of Bacterial Infections and Zoonoses (IBIZ),
Naumburger Str. 96 a, 07743 Jena, Germany

Preamble

The Higher National Veterinary School of Algiers (ENSV) is a public institution of higher education under the supervision of the Ministry of Higher Education and Scientific Research (MESRS). Created by Presidential Decree No. 65-69 of March 11, 1965 and founded in 1970, ENSV was promoted to the rank of a higher school in 2008 (Executive Decree No. 08-214 of July 14, 2008). ENSV trains veterinary doctors in a five-year course. The school also organizes post-graduation courses in veterinary medicine, leading to Master and PhD degrees in veterinary sciences. ENSV contributes to the development of research in the field of veterinary science and public health. There are three research laboratories: Animal Health and Production Laboratory (SPA), Food Hygiene Laboratory and Quality Assurance System (HASAQ) and Laboratory of Local Animal Resource Management (GRAL).

FLI houses among other things the Institute for Bacterial Infections and Zoonoses (IBIZ). It provides significant original research on the etiology of and on countermeasures against communicable bacterial diseases transmitted from animals to humans (and vice versa). Not only diseases of the classical farm animals are in the focus of interest but also diseases of companion animals, animals kept in zoos and wildlife. The results of the work are used to develop new and optimized diagnostic tools, vaccines and strategies to combat diseases caused by *Salmonella*, *Brucella*, *Campylobacter*, *Clostridium*, *Francisella*, *Bacillus*, *Burkholderia*, *Yersinia*, *Staphylococcus*, *Mycoplasma* sp. and pathogens of various other genera. Interdisciplinary cooperation of physicians, veterinarians and life scientists guarantees mission and patient orientated research and solutions.

Against this background ENSV and FLI conclude this agreement to support an intensive exchange of experience and flow of information between the two institutions. Thus, the agreement aims at making the best possible use of available research resources.

To this end, the partners agree on the following:

§ 1 Scope

The partners collaborate to support mutual exchange of experiences with regard to research on epidemiological surveillance and diagnosis of animal and zoonotic diseases. Specifically, the collaboration will center on the following topics:

- Epidemiology and diagnosis of zoonotic bacterial pathogens in Algeria;
- molecular characterization and genotyping of zoonotic bacterial pathogens isolated from Algeria using WGS;
- research on emerging of AMR in bacterial zoonotic agents.

The partners thereby strive for networked cooperations. They support each other, especially by maintaining contacts with scientific institutions and enterprises and by building networks.

The modus operandi is based on:

- cooperative development activities ;
- exchange of scientific materials and publications of common interest; and/or
- any other mutually agreed activity that would benefit both partners.

§ 2 Collaboration in research

- (1) The partners inform each other regularly about the Project. This does not apply, if such information conflicts with a confidentiality or non-disclosure agreement of any of the partners.
- (2) The partners strive for joint research projects and network building between their scientists. To support these goals, scientists of one partner shall have the opportunity to use the scientific infrastructure of the other partner within reasonable limits.

§ 3 Collaboration in diagnostics

The partners provide mutual support in animal disease diagnostics, particularly “emerging diseases”. This includes the exchange of “Standard operating procedures (SOP)”, reference materials and other data already known. For any such exchange it is mandatory to conclude a “material transfer agreement” (MTA).

§ 4 Coordination

- (1) Prof. Dr. Heinrich Neubauer, Institute of Bacterial Infections and Zoonoses (email: heinrich.neubauer@fli.de; Tel.: +49 3641 804-2200; Fax: +49 3641 804-2228) will act as responsible scientist for FLI, and Dr. Nedjma Lounes, (email: n.lounes@ensv.dz; Tel.: +213 21 98 86 00; Fax: +213 21 98 86 03) as scientific contact person for ENSV.
- (2) The scientific contact persons shall meet at least once per year to define common goals; they can invite other scientists of their institutions to the meetings. Before such meetings the inviting partner shall provide a formal invitation letter, will help to handle the relevant entry procedures and arrange the food and lodging conditions for the visitors. Meetings might also be held via tele- or videoconference.

§ 5 Use of infrastructure and occupational safety

- (1) In principle, the partners grant mutual use of their infrastructure and work equipment within the scope of existing law, regulations and guidelines provided the performance of the institution’s own tasks and duties is not affected. To this end, the partner whose infrastructure and equipment are to be used, shall be given a list containing the description of the work to be conducted, the extent to which the resources are needed, including a funding proposal and a time schedule. If one partner considers it necessary, details of the intended use are to be specified in a separate agreement.
- (2) The employees of any partner (including involved students) who work in the other partner’s institution and/or use this institution’s infrastructure need to comply with the receiving institution’s internal directions and other applicable rules and regulations. Instructions given by the receiving partner must be obeyed.

§ 6 Funding of the cooperation

Subject to section 5 para. 1 each partner shall in principle bear the costs necessary to fulfill the measures stipulated in this collaboration agreement on its own. In any case, the partners seek to ensure a balance of benefits and contributions.

§ 7 Ownership of results/publications

- (1) Research results belong to the partner who generated them. Both partners own research results jointly if: (a) they have jointly generated them and (b) it is not possible to: (i) establish the respective contribution of each partner, or (ii) separate them for the purpose of applying for, obtaining or maintaining their protection.
- (2) The partners will grant mutual access to the results and information generated in the frame of joint projects for the duration and purposes of the project. Any publication of such results and information requires the prior written consent of both partners. The granting of any further rights of exploitation or use shall be negotiated between the partners on an individual basis.
- (3) In case of jointly generated results the partners will agree on a *modus operandi* for further exploitation or use of these results. If a further procedure is desired: The joint owners must agree (in writing) on the allocation and terms of exercise of their joint ownership ('joint ownership agreement'). Unless otherwise agreed in the joint ownership agreement, each partner may grant non-exclusive licences to third parties to exploit jointly-owned results (without any right to sub-license), if the other partner is given: (a) at least 45 days advance notice and (b) fair and reasonable compensation. Once the results have been generated, the partners may agree (in writing) to apply another regime than joint ownership (such as, for instance, transfer to a single owner with access rights for the others).
- (4) Publications regarding the collaboration including jointly generated work and research results shall be made only after prior coordination between the partners. In general, publications shall acknowledge the collaboration as well as the name and the specific contribution of the collaboration partner according to the rules of good scientific practice. The partners shall communicate within 4 weeks after transmission in writing of the text to be published, whether they accept the publication or - with regard to non-disclosure of information as to section 8 - if they want modifications. The partners shall not refuse proposed amendments inequitably. In order to protect intellectual property rights one partner may claim that the other partner defers the publication until he has presented an application for industrial property protection giving rise to a right of priority, but no longer than 4 months after receipt of the draft for the intended publication. If a partner does not give a written statement within 4 weeks following the transmission in writing of the text to be published or after expiry of the four months' term for the protection of intellectual property rights, the other partner may publish the text without any restriction. The partners agree, that each partner may publish general information on the collaboration, particularly information regarding the subject and the type of cooperation.

§ 8 Confidentiality

- (1) The partners and their employees shall treat all issues of the other partner confidential which are disclosed to them during the course of the collaboration and are marked as confidential. This obligation will remain in effect for five years following the disclosure of each confidential information.
- (2) The confidentiality obligations do not apply to (a) information known to the receiving partner prior to the disclosure of such information by the disclosing partner; (b) information received by the receiving partner without restriction on disclosure from a third party lawfully entitled to make such disclosure; or (c) information that is developed by any employee, student or contractor of the receiving partner without use or knowledge of the disclosing partner's confidential information.
- (3) In the event that one of the partners is required by law, regulation, rule, act or order of any governmental authority or agency to disclose information of the other partner, it shall be entitled to do so. This does especially apply to information which is required to be disclosed to protect consumer health or food and feed safety.

§ 9 Liability

- (1) To the extent permitted by law, each partner shall bear damages to its own equipment in connection with the fulfillment of this collaboration agreement, unless the damage is due to intent or gross negligence of an employee of the other partner.
- (2) Towards third parties, the partner who has caused the damage assumes sole liability. Insofar, the partners will exempt each other from any claim for compensation by third parties.
- (3) with regard to the transfer of materials, the partner acknowledge that the materials might be experimental in nature and shall be used with prudence and appropriate caution, since not all of their characteristics are known, they may have hazardous properties. The materials are provided without warranty of merchantability or fitness for a particular purpose or any other warranty, express or implied. The partners make no representation or warranty that the use of the materials will not infringe any patent or proprietary right.


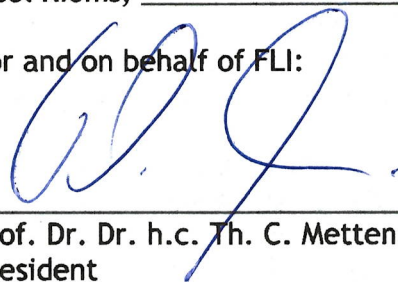
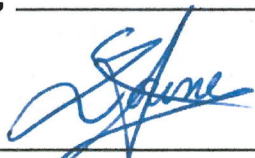
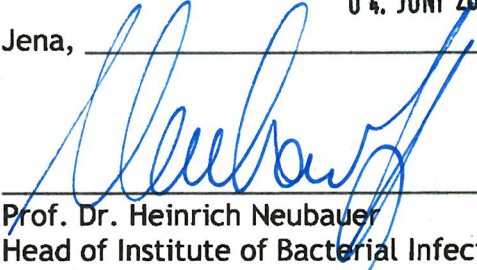
§ 10 Duration, Termination

This MOU shall be effective from the date of the last signature of the partners. The co-operation is intended to be of a long-term nature, but for a start limited in time for the duration of 5 years. It is renewable after 5 years, by mutual agreement between the partners. It will be automatically extended by periods of two years unless either partner informs the other partner in writing six months before expiry that it does not seek an extension. This does not affect the partners' right of extraordinary termination of the agreement for good cause.

§ 11 Miscellaneous

Modifications and amendments to this agreement shall only be made in writing.

Signed by the partners acting through their legal representatives:

<p>Algiers, <u>30 MAI 2019</u></p> <p>For and on behalf of ENSV: BOUYOUCEF Abdallah Directeur de l'École Nationale Supérieure Vétérinaire</p>  <p>Prof. Dr. A. Bouyoucef Director of ENSV</p>	<p>Insel Riems, <u>12.06.2019</u></p> <p>For and on behalf of FLI:</p>  <p>Prof. Dr. Dr. h.c. Th. C. Mettenleiter President</p>
<p>Read and acknowledged:</p> <p>Algiers, <u>30 MAI 2019</u></p>  <p>Dr. Nedjma Lounes Higher National Veterinary School of Algiers</p>	<p>Read and acknowledged:</p> <p>Jena, <u>04. JUNI 2019</u></p>  <p>Prof. Dr. Heinrich Neubauer Head of Institute of Bacterial Infections and Zoonoses</p>