



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE _4989_____

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di** __ Medicina Veterinaria__

Scientist- in - charge: __Prof. Maria Teresa Manfredi_____

Raúl Pérez Caballero

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Pérez Caballero
Name	Raúl
Date of birth	12, January, 1989

PRESENT OCCUPATION

Appointment	Structure
Postdoctoral Visiting Fellow	Laboratory of Malaria Immunology and Vaccinology (LMIV). National Institute of Allergy and Infectious Diseases (NIAID). National Institutes of Health (NIH). Bethesda, MD, USA.

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Veterinary Medicine	Veterinary Faculty, University of Córdoba	2012
Degree	Psychology	UNED (National Distance-Learning University)	2020
PhD	Veterinary Sciences (Parasitology and Immunology)	Veterinary Faculty, University of Córdoba	2018
Master	Master of Medicine, Animal Health and Breeding	Veterinary Faculty, University of Córdoba	2013

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date registration	of Association	City
2013	Spanish Society of Parasitology	Córdoba (Spain)



2018	German Society of Parasitology	Hamburg (Germany)
2019	The European Federation of Animal Science	Córdoba (Spain)
2019	American Society of Tropical Medicine & Higiene. Member of American Committee of Molecular, Cellular and Immunoparasitology (ACMCIP) Subgroup	Bethesda, MD (USA)

FOREIGN LANGUAGES

Languages	level of knowledge
Spanish	Native
English	Fluent
German	Basic
French	Basic

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2011	Scholarship for Senior Degree Students. Parasitology and Parasitic Diseases Unit. €2,700
2012	Distinction given to the 3 best students of the year (Degree in Veterinary Medicine).
2012	Traineeship Programme at Stiftung Tierärztliche Hochschule Hannover (scholarship). €2,000
2013	University Teacher and Researcher Training Programme Grant (FPU). Ref. No. FPU13/04125 €4,500
2016	Award for the best oral presentation. I Congress Veterinary Medicine and Food Sciences and Technology.
2016	FPU Mobility Grant for Short-Term Stays and Brief Transfers. Ref. No. EST16/00406. €52,752

TRAINING OR RESEARCH ACTIVITY

Over the last 9 years, once I finished my degree (Veterinary Medicine, DVM) and Master degree (Master of Medicine, Animal Health and Breeding), I have developed my teaching and research activity in the Parasitology and Parasitic Diseases Unit of the Animal Health Department, led by Prof. Dr. Álvaro Martínez Moreno (University of Córdoba, UCO), and in the Laboratory of Malaria Immunology and Vaccinology (National Institutes of Allergy and Infectious Diseases, NIH, USA) led by Dr. Michal Fried.

During the time at the UCO, I have been actively involved in National and European projects conducted to the study and development of vaccines against helminth parasites in livestock (ruminants, poultry or pigs). Although I have worked on many different parasites, I dedicated an immense effort in Martínez's group to the knowledge of *Fasciola hepatica* infection, one of the most significant liver flukes in mammals, including human being as a re-emerging zoonosis. These projects aimed at testing a vast range of antigenic molecules through parasitology, immunology and anatomopathology analyses so that a feasible vaccine can be commercially released and be the key in the immunoprophylaxis of parasite diseases.

The topic of my research has been to gain a much better comprehension of host-parasite interaction and the immunological response in parasite-free and fluke-infected animals. It is far important to better understand how the cellular and humoral immune response acts when animals (sheep, goats, cattle) are



infected by this trematode, especially during the early stages of the infection. I have also studied how effective some antigens from the parasite (excretory-secretory products, tegumental proteins, etc.) could be in order to help and increase the efficacy of the immune system when they are used as vaccine candidates.

Since the Parasitology and Parasitic Diseases Unit is very well-known all over the country and constitutes a reference centre for parasitic diagnosis, I have been got trained in a broad variety of parasitological techniques, which include: the collection of parasites from the sample, treatment and mounting of specimens, their morphological identification and, in case it was necessary, the preservation of the parasite. As a diagnostic centre, I have been deeply involved in the parasitological diagnosis of a wide range of samples and parasites.

Amidst those, I could mention food for the analysis of foodborne parasites (e.g. *Anysakis* spp.), skin for mite detection, with special attention in small ruminants; faeces for coprology (conventional flotation, FLOTAC, sedimentation, etc.) and analysis of different genus and species of parasites (protozoan and helminths), blood (e.g. Piroplasmida, filarial parasites), meat for digestion and *Trichinella* spp. identification, and organs or tissues (e.g. *Leishmania* spp. in lymph nodes or bone marrow). As well, a wide assortment of hosts was analysed covering from domestic (small and large animals, livestock, exotic animals) to wildlife animals from zoos, national parks and natural reserves.

Likewise, the variety of knowledge in immunological procedures that I have acquired (ELISA, flow cytometry, cell proliferation, antigenic stimulation and mix leukocyte reaction assays,...) is also considerably important. Concretely, flow cytometry deserves to be highlighted as the major tool I have used throughout these years (studies of apoptosis, cellular immunophenotyping, bacterial populations in different organs and the co-interaction with other parasites,...). This ample group of techniques allowed me to characterise the cellular and humoral immune response in both in vivo and in vitro assays from different organic compartments and locations.

I have undertaken periods of stay in diverse European centres which are specialised in this area and where my professional experience has been extraordinarily vitalised (Institute for Parasitology in Hannover, School Veterinary Medicine and Conway Institute at the University College of Dublin, University of Bari, University of Ghent, Moredun Research Institute in Edinburgh, Bernhard Nocht Institute for Tropical Medicine).

After having obtained one of the most prestigious national grant, the FPU Grant (University Teaching Programme Grant) and the National Mobility Grant for Short-Term Stays and Brief Transfers FPU, I had my thesis dissertation with *Cum laude* and International Mention, which granted me the Doctoral degree, on December 20th, 2018.

Posterior to this period of time at the University of Córdoba, I began in 2019 my postdoctoral fellowship at the National Institutes of Health (NIH) in Bethesda (MD, USA). I am currently working at the National Institute of Allergy and Infectious Diseases. The malaria group consist of three laboratories and I am developing my research in the Laboratory of Malaria Immunology and Vaccinology, in the Molecular Pathogenesis and Biomarkers Section. My current projects are based on molecular biology for the study of the immune response, parasitic infection, epidemiology, and protein characterisation of the major cause of this disease, i.e., *Plasmodium falciparum*. Among the activities that I am involved, it can be found: the culturing/growing of different lines of mammalian cells, parasites and bacteria strains, transfection, transformation, protein purification, western blot, Coomassie, ELISA, PCR, RNAseq analysis, fingerprinting, etc.

My teaching activity has been conducted to give both theoretical and practical lectures in Parasitic Diseases degree subject and our Master's degree in Animal Health. In the theoretical lectures, I taught the foundations of parasitology (morphology, life cycles,...) and also a deep knowledge of the diseases in our



animals of veterinary interest (epidemiology, pathogenesis, diagnosis, treatment, control and prevention,...). Whereas in our practical lectures I made sure to connect the theory with good practice on how to apply all this knowledge to different real cases. Equally, I was in charge of the supervision of a considerable number of students for the activities carried out in our unit and I have given them guidance in their degree research projects. Additionally, I have also been involved in teaching projects, which were intended to improve understanding acquisition in this area.

In my humble opinion, I could describe myself as a very enthusiastic and self-motivated person. I feel very comfortable working in a group which has strong values (respect, excellent partnership,...) that goes beyond science. Giving the best out of oneself is the greatest response when someone places her/his trust in you, and this is one of the points which guides my everyday work. I consider learning an endless process and the supreme way of growing personally and workwise.

Therefore, I would kindly like to express my high interest in this position and raise the chance of being part of your work team. My experience can provide with new ideas and perspectives for the group to move forward in the field of tropical medicine, and also the experience of the team will be able to expand and strengthen my knowledge and research curriculum in the present topic.

PROJECT ACTIVITY

Year	Project
2015-2019	PARAGONE European Project (H2020-SFS-2014-2-635408-PARAGONE, Vaccines for animal parasites)
2016	ERC Project (OTRI Contract art. 83), in cooperation with Queens Belfast University
2014-2018	INTER-FAS National Project. AGL2015-67023-C2-1-R-INTERFAS (Host-parasite interaction in fasciolosis: molecular and cellular bases for vaccine development)
2012-2015	PARAVAC European Project. (FP7-PARAVAC-KBBE-2010-4-265862, Vaccines against helminth infection)
2012-2013	IMFASPRUM National Project. AGL2009-08726

PATENTS

Patent
N/A

CONGRESSES AND SEMINARS

Date	Title	Place
8 th -9 th December 2020, USA	14th NIAID Annual Fellows Virtual Workshop. (8th-9th December 2020, USA).	NIH, Bethesda (MD, USA)
23 rd -24 th March 2020	NIH-AACR Cancer, Autoimmunity, and Immunology Conference	NIH, Bethesda (MD, USA)
5-7 th February 2020	SESBE VII. Congress of the Spanish Society for Evolutionary Biology	Seville, Spain
20 th -24 th November 2019	ASTMH 68th Annual Meeting	National Harbor, Maryland (USA)
13 th November 2019	13th Annual NIAID Fellows Workshop	National Institutes of Health. Bethesda, MD (USA)



28-29th October 2019	NIH-Japan-JSPS Symposium "Advances in Inflammation Research"	National Institutes of Health. Bethesda, MD (USA)
17-18 th October 2019	Congress in Cancer and Inflammation: From Micro to Macro	National Institutes of Health. Bethesda, MD (USA)
12 th August 2019	Symposium on Experimental Imaging of Infectious Diseases	National Institutes of Health. Bethesda, MD (USA)
3 rd to 5 th July 2019	XXI Congress of Spanish Parasitology Society	Pontevedra (Spain)
1 st to 4 th July 2019	I Iberian Congress of Applied Science to Hunting Resources (CICARC)	Ciudad Real (Spain)
5 th to 8 th December 2018	European College of Veterinary Pathologists Annual Meeting	Cluj-Napoca (Romania)
17th and 18th October 2018	2 nd National Congress of Animal Health	Córdoba (Spain)
26th and 27th September 2018	2nd COMBAR Working Groups meeting "Anthelmintic resistance: past, present and future"	León (Spain)
20th and 21st June 2018	I International Virtual Congress of University Teaching Innovation We Teach & We Learn	Córdoba (Spain)
13th to 15th June 2018	XXX Meeting of Spanish Veterinary Pathological Anatomy Society	Murcia (Spain)
21st to 23rd March 2018	PARAGONE Consortium Meeting III	University of Cordoba (Spain)
9th February 2018	II Congress Veterinary Medicine and Food Sciences and Technology	Veterinary Faculty, University of Córdoba (Spain)
19th to 21st July 2017	XX Congress of Spanish Parasitology Society	Tenerife (Spain)
14th to 16th June 2017	XXIX Meeting of Spanish Veterinary Pathological Anatomy Society	Cáceres (Spain)
30th November to 1st December 2016	V Scientific Congress of Trainee Researchers of University of Córdoba	University of Córdoba (Spain)
16th and 17th June 2016	III Congress of Veterinary Teaching	Córdoba (Spain)
8th to 10th June 2016	XXVIII Meeting of Spanish Veterinary Pathological Anatomy Society	Córdoba (Spain)
12th February 2016	I Congress Veterinary Medicine and Food Sciences and Technology	Córdoba (Spain)
23rd to 25th July 2015	XIX Congress of Spanish Parasitology Society	Vitoria (Spain)
18th to 20th June 2015	XXVII Meeting of Spanish Veterinary Pathological Anatomy Society	Barcelona (Spain)
27th to 30th August 2014	Meeting of European Society & College of Veterinary Pathologists	Berlin (Germany)



20th and 21st March 2014	PARAVAC Consortium Meeting	University of Córdoba (Spain)
4th and 5th February 2014	I Symposium on Teaching Innovation in Veterinary Medicine (INNOVET)	Madrid (Spain)
17th to 20 September 2013	XVIII Congress of Spanish Parasitology Society	Veterinary Faculty, Gran Canaria (Spain)
4th to 7th September 2013	31st Meeting of European Society & College of Veterinary Pathologists	London (UK)
19th to 21st June 2013	XXV Congress of Spanish Veterinary Pathological Anatomy Society	Toledo (Spain)

PUBLICATIONS

Books
Pérez Caballero, R. , Acosta García, I., Buffoni Perazzo, L. (2019). Capítulo 42. Cenurosis. In Enfermedades infectocontagiosas en rumiantes. “Manuales Clínicos de Veterinaria”. Córdoba, España. Ed. Elsevier. ISBN: 9788491133537, E-ISBN: 9788491135951.
Buffoni Perazzo, L., Pérez Caballero, R. (2019). Capítulo 49. Cisticercosis. In Enfermedades infectocontagiosas en rumiantes. “Manuales Clínicos de Veterinaria”. Córdoba, España. Ed. Elsevier. ISBN: 9788491133537, E-ISBN: 9788491135951.
Ruiz-Campillo, M.T., Molina-Hernández, V., Pérez, J., Pacheco, I.L., Pérez-Caballero, R. , Escamilla, A., Martínez-Moreno, F.J., Martínez-Moreno, Á., Zafra, R. (2020). Microscopical Techniques to Analyze the Hepatic and Peritoneal Changes Caused by <i>Fasciola hepatica</i> Infection. <i>Fasciola hepatica: Methods and Protocols. Methods in Molecular Biology</i> . ISBN 978-1-0716-0474-8, ISBN 978-1-0716-0475-5 (eBook) https://doi.org/10.1007/978-1-0716-0475-5

Articles in reviews
Pérez-Caballero, R. , Martínez Moreno, F.J., Corripio-Miyar, Y., McNeilly, T., Cwiklinski, K., Dalton, J.P., Zafra, R., Pérez, J., Martínez-Moreno, Á., Leandro Buffoni, L. Antigen-specific response of CD4 ⁺ T cells and hepatic lymph node cells to <i>Fasciola hepatica</i> -derived molecules at the early and late stage of the infection in sheep. <i>Under revision</i> .
Zafra, R., Buffoni, L., Pérez-Caballero, R. , Molina-Hernández, V., Ruiz, M.T., Pérez, J., Martínez-Moreno, Á., Martínez-Moreno, F.J. (2021). Efficacy of a multivalent vaccine against <i>Fasciola hepatica</i> infection in sheep. <i>Veterinary Research</i> , 52:13. https://doi.org/10.1186/s13567-021-00895-0
Buffoni, L., Garza-Cuartero, L., Pérez-Caballero, R. , Zafra, R., Martínez-Moreno, F.J., Molina-Hernández, V., Pérez, J., Martínez-Moreno, Á., Mulcahy, G. (2020). Identification of protective peptides of <i>Fasciola hepatica</i> -derived cathepsin L1 (FhCL1) in vaccinated sheep by a linear B-cell epitope mapping approach. <i>Parasites & Vectors</i> . https://doi.org/10.1186/s13071-020-04260-6
De la de la Peña, E., Martín, J., Barja, I., Pérez-Caballero, R. , Acosta, I., Carranza, J. (2020). The immune challenge of mating effort: steroid hormone profile, dark ventral patch and parasite burden in relation to intrasexual competition in male Iberian red deer. <i>Integrative Zoology</i> , 00, 1-14. https://doi.org/10.1111/1749-4877.12427
Pacheco, I.L., Abril, N., Zafra, R., Morales-Prieto, N., Molina-Hernández, V., Ruiz, M.T., Pérez-Caballero, R. , Martínez-Moreno, A. (2019). Identification of reference genes for real-time PCR cytokine gene expression studies in sheep experimentally infected with <i>Fasciola hepatica</i> . <i>Scientific Reports</i> 9, 1485. https://doi.org/10.1038/s41598-018-37672-7
Pacheco, I. L., Abril, N., Zafra, R., Molina-Hernández, V., Morales-Prieto, N., Bautista, M. J., Ruiz-



Campillo, M.T., Pérez-Caballero, R., Martínez-Moreno, A., Pérez, J. (2018). *Fasciola hepatica* induces Foxp3 T cell, proinflammatory and regulatory cytokine overexpression in liver from infected sheep during early stages of infection. *Veterinary Research*, 49(1), 56. <http://doi.org/10.1186/s13567-018-0550-x>

Ruiz-Campillo, M. T., Molina-Hernández, V., Pérez, J., Pacheco, I. L., Pérez, R., & Escamilla, A. (2018). Study of peritoneal macrophage immunophenotype in sheep experimentally infected with *Fasciola hepatica*. *Veterinary Parasitology*, 257, 34-39. <http://doi.org/10.1016/j.vetpar.2018.05.019>

Pérez-Caballero, R., Martínez-Moreno, F.J., Zafra, R., Molina-Hernández, V., Pacheco, I.L., Ruiz-Campillo, M.T., Escamilla, A., Pérez, J., Martínez-Moreno, Á., Buffoni, L. (2018). Comparative dynamics of peritoneal cell immunophenotypes in sheep during the early and late stages of the infection with *Fasciola hepatica* by flow cytometric analysis. *Parasites & Vectors*. 11:640. <https://doi.org/10.1186/s13071-018-3250-5>

Pérez-Caballero, R., Buffoni, L., Martínez-Moreno, F.J., Zafra, R., Molina-Hernández, V., Pérez, J., Martínez-Moreno, Á. (2018). Expression of free radicals by peritoneal cells of sheep during the early stages of *Fasciola hepatica* infection. *Parasites & Vectors*. 11:500. <https://doi.org/10.1186/s13071-018-3072-5>

Pérez-Caballero, R., Siles-Lucas, M., González-Miguel, J., Martínez-Moreno, F. J., Escamilla, A., Pérez, J., Martínez-Moreno, Á, Buffoni-Perazzo, L. (2018). Pathological, immunological and parasitological study of sheep vaccinated with the recombinant protein 14-3-3z and experimentally infected with *Fasciola hepatica*. *Veterinary Immunology and Immunopathology*, 202(February), 115-121. <http://doi.org/10.1016/j.vetimm.2018.07.006>

Escamilla, A., Pérez-Caballero, R., Zafra, R., Bautista, M. J., Pacheco, I. L., Ruiz, M. T., Martínez-Cruz, M.S., Martínez-Moreno, A., Molina-Hernández, V., Pérez, J. (2017). Apoptosis of peritoneal leucocytes during early stages of *Fasciola hepatica* infections in sheep. *Veterinary Parasitology*, 238, 49-53. <http://doi.org/10.1016/j.vetpar.2017.03.015>

Congress proceedings

Ruiz Campillo, M.T., Zafra, R., Molina Hernández, V., Escamilla, A., Pérez Caballero, R., Martínez Moreno, A., Pérez Arévalo, Pacheco, I.L. (2017). Liver expression of cytokines and foxp3 in sheep immunized with a cocktail vaccine and challenged with *Fasciola hepatica*. *Journal of Comparative Pathology*. <https://doi.org/10.1016/j.jcpa.2018.10.112>

OTHER INFORMATION

Workshops

- Teaching Innovation Project. Updated methodological practice in teaching Microbiology microscopic study in the process of bacterial identification (Córdoba, June 5th 2009).
- Senior Student in the research project: "Immunoprophylaxis of small ruminant fasciolosis: Study of new vaccine candidates from juvenile forms of *Fasciola hepatica* - AGL2009-08276". Academic year 2011-2012. Veterinary Faculty of Córdoba.
- Fourth Conference of Students of Health Sciences. Teaching Innovation Project (Córdoba, 9th to 11th May 2012).
 - o Poster presentation entitled "species of veterinary interest. Species that cannot be marketed in any presentation: *Agaricus*".
- Challenges of bilingual instruction in higher education. Development of Multilingualism Plan ceiA3 (Córdoba, June 3rd 2013).
- Certificate of competence in animal welfare in animals used for experimentation and others scientific ends (Category B). Institute for Agricultural and Fisheries Research and Training (IFAPA).
- Workshop on Immunological, Proteomic and Transcriptional Studies of Caprine Helminth Infections. (Edinburgh, Moredun Research Institute and University of Glasgow, 23rd to 25th September 2013).



- Springer Course. How to publish Research Works. (Córdoba, 23rd October 2013).
 - Workshop on Immunohistochemistry: Basic principles and application in helminth infections. (Córdoba, University of Córdoba, 18th and 19th March 2014).
 - VI Symposia in Disclosure of Molecular, Cellular, Genetic Biology and Biotechnology Investigation. (Córdoba, University of Córdoba, 8th and 9th May 2014).
 - Statistical data analysis with R Course. Miríadax Courses (Catholic University of Murcia, 4th May - 17th June 2014. 30h).
 - Practical Course of Biostatistics with R. Miríadax Courses (San Pablo University, 19th May - 23rd June 2014. 30h).
 - Flow Cytometry Course. (Dublin, Conway Institute, 17th and 21st July 2014).
 - Fundamentals of Immunology, Part I Course. EdX Courses BIOC372.1x (Rice University, Houston. 18th August 2014. 80h).
 - Epidemics Course. EdX Courses HKU01x (University of Hong Kong, Hong Kong. 23rd September 2014. 30h).
 - BIO-RAD Course “Droplet Digital PCR: The next generation in Q-PCR”. (Córdoba, University of Córdoba, 17th October 2014).
 - Fundamentals of Immunology, Part II Course. EdX Courses BIOC372.2x (Rice University, Houston. 20th October 2014. 90h).
 - Symposia of Investigation with animal models: legal framework and projects evolution. (Córdoba, 10th December 2014).
 - Course for Directive Skills to Promote the Success. PhD of the Future. (Córdoba, 21st January to 18th February 2015).
 - III Symposia in Scientific Disclosure #divulgA3. (Córdoba, University of Córdoba, 9th March 2015. 10h).
 - Measuring adaptative and innate immune responses in ruminants. (9th July 2015. 1h). Webinar, AbD Sertoc®.
- Main Speaker: Professor Gary Entrican, Principal Research Scientist at Moredun Research Institute (Edinburgh, Scotland).
- 4th Parasitology Summer Course. IV ParSCO. Residency Course on Arthropod vectors and transmitted pathogens in the Mediterranean area. (EVPC and University of Bari, Italy, 5th to 12th September de 2015).
 - Course “Public Speaking. Techniques and tools”. (Córdoba, 22nd and 23rd February 2016. 8h).
 - IV Symposia in Scientific Disclosure #divulgA3: Beyond the papers. (Córdoba, 10th March 2016. 10h).
 - European Veterinary Vaccinology Workshop. (Ghent, 9th and 10th May 2016).
 - Workshop Cytognos “Basic tools of Infinicyt™ v1.8”. (Seville, 9th June 2016. 3h).
 - PARAGONE Cooperia Vaccine Training. (Ghent, 5th to 9th September 2016).
 - “Author Workshop” Course. (University of Córdoba, 4th November 2016).
- Main Speaker: Anthony Newman.
- Scientific Symposia: Animal Models in Biomedical Investigation”. (University of Córdoba, 26th April 2017).
 - PARAGONE Workshop on Immunological Tools and Livestock Infection Models. (Gran Canarias, 24th to 26th May 2017).
 - PARAGONE NGS Workshop II. RNA-Seq-Differential Gene Expression Analysis. (Córdoba, 19th to 20th



March 2018).

- Enabling Non-Model Organism Genomics with Multi-Dimensional NGS Datatype. (3rd April 2018. 1h). Webinar, GenomeWeb®.

Main Speakers: Ellie Armstrong, PhD Student. Petrov and Hadly Labs, Department of Biology, Stanford (USA). Adam Abdool. Director of Product Management. Dovetail Genomics.

- 7 Essential Considerations for Rare Event Analysis. (5th April 2018. 1h). Webinar, Excyte®.

Main Speaker: Tim Bushnell, PhD.

- 11th Young Parasitologist Course. (Bernhard-Nocht-Institut für Tropenmedizin, Hamburg, 30th July to 3rd August 2018).

- Course National Institutes of Health: Information Security Awareness. (National Institute of Health, Bethesda, 28th March 2019).

- Course National Institutes of Health: Information Management for new hires. (National Institute of Health, Bethesda, 29th March 2019).

- Introduction to Lab Safety - On-line Training. (National Institute of Health, Bethesda, 5th June 2019).

- NIH Laboratory Safety Training 101 (not for Baltimore Research Center personnel). (National Institute of Health, Bethesda, 5th June 2019).

- Working Safely with HIV and Other Bloodborne Pathogens (for Non-Hospital Personnel). (National Institute of Health, Bethesda, 5th June 2019).

- Course National Institutes of Health: 2019 information security and management refresher. (National Institute of Health, Bethesda, 6th June 2019).

- Course "Overview of Common Statistical Tests". (National Institute of Health, Bethesda, 27th June 2019).

- Course "Experiment design, data visualization, and hypothesis formation; Useful tips for Proteomic analysis". (National Institute of Health, Bethesda, 7th August 2019).

- Course "NIH Anti-Harassment Training (No FEAR/POSH)". (National Institute of Health, Bethesda, 11th September 2019).

- Ethics in Research Training for Postdocs. (National Institute of Health, Bethesda, 17th January 2020).

- Course "Introduction to Geneious for Genomics". (National Institute of Health, Bethesda, 1st April 2020).

- Course "How to Write an Abstract". (National Institute of Health, Bethesda, 8th April 2020).

- Course "How to Write a Research Paper I & II". (National Institute of Health, Bethesda, 15th April 2020).

- Course "Studying the Microbiome Using the Nephel Web Platform". (National Institute of Health, Bethesda, 21st April 2020).

- Course "Statistical Considerations in Preparing Your Manuscript". (National Institute of Health, Bethesda, 22nd April 2020).

- Course "Copyright and Plagiarism: What Authors Need to Know". (National Institute of Health, Bethesda, 29th April 2020).

- Course "RNA-Seq Data Analysis in Partek Flow". (National Institute of Health, Bethesda, 21st May 2020).

- Course "CLC Biomedical Workbench and Microbial Tools". (National Institute of Health, Bethesda, 3rd June 2020).



Research Stays abroad

Residency Programme at the Institute for Parasitology. Institut für Parasitologie. Stiftung Tierärztliche Hochschule Hannover. Hannover, 20th of July - 21st of August 2013.

Residency Programme at the University College of Dublin. UCD. Dublin, 7th July - 7th October 2014.

Residency Programme at the Moredun Research Institute. Disease Control Division. Edinburgh, 12th September to 12th October 2016.

Residency Programme at the Moredun Research Institute. Disease Control Division. Edinburgh, 14th July to 14th October 2017.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: _____ Washington, DC (USA) _____, ___12th May 2021_____

SIGNATURE