



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B Research fellowship

Paulina Melania Roux-Biejat

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Roux-Biejat
Name	Paulina Melania
Date of birth	09 July 1994

PRESENT OCCUPATION

Appointment	Structure
PhD Student in Pharmacological Biomolecular Sciences Experimental and Clinical	Department of Biomedical and Clinical Sciences "Luigi Sacco" Università degli Studi di Milano

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Veterinary Medicine	Warsaw University of Life Sciences (SGGW)	2018
Specialization			
PhD			
Master			
Degree of medical specialization			
Degree of European specialization			
Other			



REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
2018	Ordre National des Vétérinaires (Île-De-France / DOM) (National Order of Veterinarians)	Paris, France

FOREIGN LANGUAGES

Languages	level of knowledge
French	C2 - Mother Tongue
English	C1 - Advanced level
Polish	B2 - Upper-Intermediate level
Italian	B1 - Intermediate level

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2018	Winner of a Scholarship for the PhD in Pharmacological Biomolecular Sciences Experimental and Clinical

TRAINING OR RESEARCH ACTIVITY

description of activity
<p>2017-2018: During the last year of my Veterinary Medicine Degree I worked on my Experimental Thesis "Autophagic flux in differentiating C2C12 myoblasts. The effects of statins (atorvastatin, simvastatin), non-sterol isoprenoid geranylgeraniol and water soluble cholesterol" supervised by Prof. Orzechowski and Dr Jaśkiewicz. This gave me the opportunity to discover the world of research. I participated in the culturing of the murine skeletal muscle cell line C2C12, the isolation of proteins, the assessment of the Autophagic flux by treating cells with the lysosomotropic reagent chloroquine to then measure via Western Blot analysis the amount of MAP LC3IIB delivered to lysosomes for degradation, the establishment of IC50 concentration by MTT analysis in various conditions.</p>
<p>April-July 2018: Working as a veterinarian for exotic and small animals (rodents, rabbits, guinea pigs, birds, reptiles, dogs, cats...) at the Veterinary Hospital Center Advetia (Vélizy-Villacoublay, France) allowed me not only to acquire practice with animal handling, treatment administration, surgery but also to develop my sense of investigation to find the right diagnosis and treatment in consequence. Since I was working in a Veterinary Hospital Center, I had an important flow of patients but I was also in charge of processing samples of my patients from the withdrawal (Blood and other biological fluids) to the interpretation of the results. I performed the analysis using for example IDEXX analyzers (chemistry, electrolyte, immunoassay, hematology), IDEXX SNAP tests (FeLV, Giardia), refractometers to assess the specific gravity of liquids. Although this was a very enriching experience, my mind was already set to do a PhD, so I used the time I had between my graduation and the start of the PhD to do the work I am so passionate about.</p>



2018-present: Winning the scholarship for the PhD in Pharmacological Biomolecular Sciences Experimental and Clinical “*Targeting the Acid Sphingomyelinase pathway and oxidative stress in dystrophic mice as a novel pharmacological approach for Duchenne Muscular Dystrophy*” was the start of a great adventure on different levels. As a veterinarian, I was put in charge of the *in vivo* experiments on different strains of mice (mdx, A-SMase-KO), I am responsible of the drug administration, concurrently monitoring the health status *in vivo* and post-mortem, as well as testing the efficiency of the therapy. To evaluate the benefits of a drug in dystrophic mice, I need to withdraw blood to analyze the level of creatine kinase, I also do experiments to evaluate muscular function *in vivo*. Once the treatment is concluded, I collect all the samples required according to our experiments. I am able to isolate and put in culture Satellite Cells of skeletal muscles, collect the bone marrow and perform the differentiation/polarization to obtain Macrophages (M1, M2a, M2c) as well as testing drugs *in vitro*. I also snap-freeze muscles to carry on with histology (Hematoxylin-Eosin, Immunofluorescence). I also learnt different techniques of molecular biology: PCR and RT-PCR, cellular and biochemical biology: to test the activity of acid sphingomyelinase. This gave me the opportunity to join other projects regarding the role of A-SMase in paediatric obesity and diabetes, where I analyse the enzymatic activity from human serum. I am always eager to broaden my set of skills, for example by learning new techniques such as Flow Cytometry or taking as many classes as I can thanks to the PhD program. On a different aspect, moving to a different country and discovering a new culture and language has definitely been the wonderful bonus of this whole experience.

PROJECT ACTIVITY

Year	Project
2018 - present	PhD in Pharmacological Biomolecular Sciences Experimental and Clinical - “Targeting the Acid Sphingomyelinase pathway and oxidative stress in dystrophic mice as a novel pharmacological approach for Duchenne Muscular Dystrophy” - Department of Biomedical and Clinical Sciences “Luigi Sacco” Università degli Studi di Milano
2020-present	Project: “Acid sphingomyelinase as a new marker of paediatric obesity”. Laboratory of Pharmacology - Department of Biomedical and Clinical Sciences “Luigi Sacco” Università degli Studi di Milano. In collaboration with: Clinica Pediatrica, Ospedale dei Bambini V. Buzzi, Università degli Studi di Milano, Milano (PI: Dott.ssa Chiara Mamelì)
2021-present	Project: “Acid Sphingomyelinase as new mark of inflammation in Diabetes” Laboratory of Pharmacology - Department of Biomedical and Clinical Sciences “Luigi Sacco” Università degli Studi di Milano. In collaboration with: Clinica Pediatrica, Ospedale dei Bambini V. Buzzi, Università degli Studi di Milano, Milano (PI: Dott.ssa Chiara Mamelì)

PATENTS

Patent

CONGRESSES AND SEMINARS

Date	Title	Place
2020	IV Edition of Spring School - PhD in Pharmacological Biomolecular, Experimental and Clinical Sciences, Università degli Studi di Milano Oral Presentation: “ <i>Targeting Inflammation and Oxidative Stress with the Acid Sphingomyelinase Pathway in Duchenne Muscular Dystrophy</i> ”	Chiesa in Valmalenco, Italia
2019	XVI IIM Meeting Oral Presentation: “ <i>Inhibition of Acid Sphingomyelinase as Novel Alternative Therapy for Duchenne Muscular Dystrophy</i> ”	Assisi, Italia



2019	III Edition of Spring School - PhD in Pharmacological Biomolecular, Experimental and Clinical Sciences, Università degli Studi di Milano Oral Presentation: <i>“Inhibition of ASMase and mitochondria reactivation as the novel alternative strategies for Duchenne Muscular Dystrophy treatment”</i>	Chiesa in Valmalenco, Italia
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PUBLICATIONS

Articles in reviews	
<ul style="list-style-type: none">• <i>Givinostat as metabolic enhancer reverting mitochondrial biogenesis deficit in Duchenne Muscular Dystrophy</i> Matteo Giovarelli, Silvia Zecchini, Giorgia Catarinella, Claudia Moscheni, Patrizia Sartori, Cecilia Barbieri, <u>Paulina Roux-Biejat</u>, Alessandra Napoli, Chiara Vantaggiato, Davide Cervia, Cristiana Perrotta, Emilio Clementi, Lucia Latella, Clara De Palma, Pharmacological Research, Volume 170, 2021, 105751, ISSN 1043-6618, https://doi.org/10.1016/j.phrs.2021.105751.	
<ul style="list-style-type: none">• <i>Acid Sphingomyelinase Downregulation Enhances Mitochondrial Fusion and Promotes Oxidative Metabolism in a Mouse Model of Melanoma.</i> Marco Coazzoli[#], Alessandra Napoli[#], <u>Paulina Roux-Biejat</u>[#], Clara De Palma, Claudia Moscheni, Elisabetta Catalani, Silvia Zecchini, Vincenzo Conte, Matteo Giovarelli, Sonia Caccia, Patrizia Procacci, Davide Cervia, Emilio Clementi, Cristiana Perrotta. Cells, 2020; 9(4):848. doi: 10.3390/cells9040848. [#]equal contribution - First Author.	
<ul style="list-style-type: none">▪ <i>Drp1 overexpression induces desmin disassembling and drives kinesin-1 activation promoting mitochondrial trafficking in skeletal muscle.</i> Matteo Giovarelli, Silvia Zecchini, Emanuele Martini, Massimiliano Garrè, Sara Barozzi, Michela Ripolone, Laura Napoli, Marco Coazzoli, Chiara Vantaggiato, <u>Paulina Roux-Biejat</u>, Davide Cervia, Claudia Moscheni, Cristiana Perrotta, Dario Parazzoli, Emilio Clementi, Clara De Palma, Cell Death and Differentiation. 2020, 27(8):2383-2401. doi: 10.1038/s41418-020-0510-7.	



OTHER INFORMATION

High Training Course in Advanced Myology (Università degli studi di Perugia, 3 CFU, 2019)
Introductory Course to Animal Experimentation at the IRCCS-Istituto di Ricerche Farmacologiche "M. Negri" di Milano (2018)
Research Integrity - Biomedical sciences (Epigeum Online Course System, 2019)
Animal welfare and non-animal testing (Università degli Studi di Milano, 2 CFU, 2019)
Nutrition and nutraceuticals: analytical, experimental, clinical and regulatory aspects (Università degli Studi di Milano, 2 CFU, 2019)
Advanced approaches to neurodegeneration: focus on early stages (Università degli Studi di Milano, 2 CFU, 2019)
Stem cells in experimental and clinical pharmacology (Università degli Studi di Milano, 2 CFU, 2019)
Novel biotechnological approaches in pharmacology (Università degli Studi di Milano, 2 CFU, 2019)
Advances in cellular and molecular pharmacology and applied statistic (Università degli Studi di Milano, 2 CFU, 2020)
Flow cytometry in biomedical research (Università degli Studi di Milano, 4 CFU, 2020)
Corso di aggiornamento "Covid-19 e lavoro: cosa conoscere" per Lavoratore e Preposto (AIFOS, 2020)
Recommendation letter

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: Milan, 12/07/2021

SIGNATURE



**AL MAGNIFICO RETTORE
DELL'UNIVERSITA' DEGLI STUDI DI MILANO**

I the undersigned ask to be admitted to participate in the public selection, by qualifications and examinations, for the assignment of a type B fellowship for collaboration to research activities lasting 12 months,

Scientist- in - charge : **Prof. Emilio Clementi**

declare:

SURNAME	Roux - Biejat
NAME	Paulina Melania
DATE OF BIRTH	09/07/1994
PLACE OF BIRTH	Gdynia (Polonia)

ADDRESS WHERE TO SEND COMMUNICATIONS CONCERNING THE COMPETITION:

Via Ruggero Bonghi	n.4
City Milan	Zip code 20141
State Milan	
Phone +39 375 533 3962	e-mail paulina.roux@unimi.it
Citizenship French	

- Absence of criminal record;
- No employment at University or other bodies as those indicated in art. 22 paragraph 1 legge 240 30/12/2010;
- No exceed of limits established by laws in force for fellowships (6 years except for foreign fellowships and for the period corresponding to PhD without scholarship within the maximum limit of the legal duration of the related course);
- Not have a degree of consanguinity up the fourth degree included, with a professor or researcher of the Department proponent, with the Rector, the General Manager or the Board of Directors member.

Degree	Veterinary Medicine
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Achieved in the year:	2018
Date:	25/01/2018
Place:	Warsaw University of Life Sciences (SGGW) (Poland)

PhD / specialization diploma in medical area in:	
Achieved in the academic year:	
Date:	
Place:	



I ENCLOSE THE FOLLOWING ASSESSABLE QUALIFICATIONS TO THE PURPOSE OF THE COMPETITION:

Curriculum Vitae

Publications

List of Publications

Graduation Diploma

Certificate of Subscription to the “Ordre National des Vétérinaires” (Île-De-France / DOM) and Card of the “Ordre National des Vétérinaires” (Île-De-France / DOM)

Honours Thesis 2018: “Autophagic flux in differentiating C2C12 myoblasts. The effects of statins (atorvastatin, simvastatin), non-sterol isoprenoid geranylgeraniol and water soluble cholesterol”

CERTIFICATES OF PARTICIPATION AT THE FOLLOWING COURSES:

High Training Course in “Advanced Myology” (University of Perugia, 2019)

Introductory Course to Animal Experimentation at l’IRCCS-Istituto di Ricerche Farmacologiche “M. Negri” di Milano (2018)

Research Integrity - Biomedical sciences (EpiGeum Online Course System, 2019)

Animal welfare and non-animal testing (Università degli Studi di Milano, 2019)

Nutrition and nutraceuticals: analytical, experimental, clinical and regulatory aspects (Università degli Studi di Milano, 2019)

Advanced approaches to neurodegeneration: focus on early stages (Università degli Studi di Milano, 2019)

Stem cells in experimental and clinical pharmacology (Università degli Studi di Milano, 2019)

Novel biotechnological approaches in pharmacology (Università degli Studi di Milano, 2019)

Advances in cellular and molecular pharmacology and applied statistic (Università degli Studi di Milano, 2020)

Flow cytometry in biomedical research (Università degli Studi di Milano, 2020)

Corso di aggiornamento “Covid-19 e lavoro: cosa conoscere” per Lavoratore e Preposto (AIFOS, 2020)

CERTIFICATES OF CONGRESS PARTICIPATION / PROGRAMS OF THE MEETINGS:

Spring School 2019 III edition - PhD in Pharmacological Biomolecular, Experimental and Clinical Sciences, Università degli Studi di Milano

Certificate of participation and the program of the IIM Meeting 2019 Interuniversity Institute of Myology

Spring School 2020 IV edition - PhD in Pharmacological Biomolecular, Experimental and Clinical Sciences, Università degli Studi di Milano

Recommendation Letter



Date, 12/07/2021

Signature

A handwritten signature in black ink, consisting of a large, stylized initial 'P' followed by a smaller, looped character.



Enclosure 1

SELF-CERTIFICATION
(ART. 46 D.P.R 28/12/2000, n. 445)

I the undersigned Paulina Melania Roux-Biejat

Born in Gdynia (Poland), on 09 July 1994,

DECLARE

Under my own responsibility, aware of penalties in case of false or mendacious statements as from art. 76 D.P.R. 28/12/2000 n. 445 I will lose the right immediately to the fellowship:

1. I have earned the degree in Veterinary Medicine on 25/01/2018 at the Warsaw University of Life Sciences (SGGW) (Poland).

2. I have the following professional/ study qualifications:
 - Member of the National Order of Veterinarians (Île-De-France / DOM)

date, 12/07/2021

(signature)

INFORMATION ACCORDING TO ART. 13 D.Lgs. 196/2003

Personal information will be gathered and handled according to the laws, within the purposes related to the development of institutional activities, especially for all executions connected to the performance of research activity with Università degli Studi di Milano. The agreement to handling information given is not required according to art. 24 of D.Lgs. 196/03



SELF-DECLARATION IN SUBSTITUTION OF ATTESTED AFFIDAVIT
(ART. 47 D.P.R 28/12/2000, n. 445)

Al Magnifico Rettore
dell'Università degli Studi di Milano

I the undersigned Paulina Melania Roux-Biejat born in Gdynia (Poland) on 09/07/1994 resident in Milan (Italy) Address Via Ruggero Bonghi n. 4 zip code. 20141 TEL +39 375 533 3962

With reference to the fellowship whose Scientist-in-charge is Prof. Emilio Clementi and Prof. Cristiana Perrotta.

Availing myself of regulations as from Art. 47 D.P.R. 28/12/2000 n. 445 and aware of penalties established in artt. 483, 495 and 496 of penal code for false statements and mendacious declarations

DECLARE

- That photocopies of qualifications enclosed in the application form and listed below are conform to the original copies:

List of documents enclosed in photocopy:

Certificate of Subscription to the "Ordre National des Vétérinaires" (Île-De-France / DOM) and Card of "Ordre National des Vétérinaires" (Île-De-France / DOM)

Honours Thesis 2018: "Autophagic flux in differentiating C2C12 myoblasts. The effects of statins (atorvastatin, simvastatin), non-sterol isoprenoid geranylgeraniol and water soluble cholesterol"
Supervisor: Prof. Arkadiusz Orzechowski, Co-supervisor: Dr. Anna Jaśkiewicz

ARTICLES

Givinostat as metabolic enhancer reverting mitochondrial biogenesis deficit in Duchenne Muscular Dystrophy

Matteo Giovarelli, Silvia Zecchini, Giorgia Catarinella, Claudia Moscheni, Patrizia Sartori, Cecilia Barbieri, Paulina Roux-Biejat, Alessandra Napoli, Chiara Vantaggiato, Davide Cervia, Cristiana Perrotta, Emilio Clementi, Lucia Latella, Clara De Palma, Pharmacological Research, Volume 170, 2021, 105751, ISSN 1043-6618, <https://doi.org/10.1016/j.phrs.2021.105751>.

Acid Sphingomyelinase Downregulation Enhances Mitochondrial Fusion and Promotes Oxidative Metabolism in a Mouse Model of Melanoma.

Marco Coazzoli[#], Alessandra Napoli[#], Paulina Roux-Biejat[#], Clara De Palma, Claudia Moscheni, Elisabetta Catalani, Silvia Zecchini, Vincenzo Conte, Matteo Giovarelli, Sonia Caccia, Patrizia Procacci, Davide Cervia, Emilio Clementi, Cristiana Perrotta.

Cells, 2020; 9(4):848. doi: 10.3390/cells9040848. #equal contribution - First Author.

Drp1 overexpression induces desmin disassembling and drives kinesin-1 activation promoting mitochondrial trafficking in skeletal muscle.

Matteo Giovarelli, Silvia Zecchini, Emanuele Martini, Massimiliano Garrè, Sara Barozzi, Michela Ripolone, Laura Napoli, Marco Coazzoli, Chiara Vantaggiato, Paulina Roux-Biejat, Davide Cervia, Claudia Moscheni, Cristiana Perrotta, Dario Parazzoli, Emilio Clementi, Clara De Palma, Cell Death and Differentiation. 2020, 27(8):2383-2401. doi: 10.1038/s41418-020-0510-7.



COURSE CERTIFICATES

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Introductory Course to Animal Experimentation at the IRCCS-Istituto di Ricerche Farmacologiche “M. Negri” di Milano (2018)

Research Integrity - Biomedical sciences (Epigeum Online Course System, 2019)

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Flow cytometry in biomedical research (Università degli Studi di Milano, 2020)

Corso di aggiornamento “Covid-19 e lavoro: cosa conoscere” per Lavoratore e Preposto (AIFOS, 2020)

PROGRAMS & CERTIFICATES OF ATTENDANCE TO CONFERENCES

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Certificate of participation and the program of the IIM Meeting 2019 Interuniversity Institute of Myology

Spring School 2020 IV edition - PhD in Pharmacological Biomolecular, Experimental and Clinical Sciences, Università degli Studi di Milano

Recommendation Letter.

I also enclose photocopy of my passport and identity card.

Read, confirmed and undersigned.

For use¹

Date, 12/07/2021

Signature

¹Please indicate the application/procedure related to the declaration given. The declaration must a) be undersigned in front of the qualified employee or b) sent together with a photocopy of valid passport/identity card of the person concerned.