TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO ID CODE 5788

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **the Department of Veterinary Medicine and Animal Science**

Scientist- in – charge: **Prof. Alberto Maria Luciano**

Pritha Dey

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Dey
Name	Pritha

PRESENT OCCUPATION

Appointment	Structure
Ph.D. Student	University of Milan

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Bachelor	Biochemistry, Genetics, Biotechnology (Bachelor Degree)	Dayananda Sagar Institutions (Bangalore University)	2016 (Attachment 2.1)
Specialization	N/A	N/A	N/A
PhD	Veterinary Medicine and Animal Science	University of Milan, Italy	In progress (Attachment 1.2)
Master	Bioinformatics and Applied Biotechnology (Master Degree)	Institute of Bioinformatics and Applied Biotechnology (Mysore University)	2018 (Attachment 1.1)
Degree of medical specialization	N/A	N/A	N/A
Degree of European specialization	N/A	N/A	N/A
Other	N/A	N/A	N/A

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
N/A	N/A	N/A

FOREIGN LANGUAGES

Languages	level of knowledge
English	C1

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2020-2023	PhD Scholarship– Marie Skłodowska-Curie Action, Innovative Training Network - ETN, *'EUROVA – European Oocyte Biology Research Innovation Training Net'*. Grant Identification No.: 860960 (Attachment 2.2)

TRAINING OR RESEARCH ACTIVITY

- Bovine primordial follicle isolation and culture.
- Media preparation, cell culture maintenance and viability assessment.
- Molecular Biology: nucleic acid extraction, whole exome and RNA (mRNA and small RNA) sample preparation for sequencing, electrophoresis, FPLC, qPCR and Gibson Assembly.
- Microscopy: Fluorescence microscopy and imaging.
- Bioinformatics and In-silico analysis: Data Pre-processing and downstream analysis for Genome and Transcriptome Profiling, Interspecies metanalysis of transcriptome data. (Tools: FastQC, Trimgalore, Fastp, HISAT2, Salmon, FeatureCounts, HTSeq, R(DESeq2))
- Theoretical Modeling: Metabolic Modeling via Flux Balance Analysis (Tool: MATLAB).
- Computational Biology: Structural Analysis, Homology Modeling and Docking (Tool: Pymol, Chimera).
- Network Analysis: network generation and clustering. (Tool: Cytoscape)
- Programming Languages: R, Python, MATLAB, MySQL, C, C++, JAVA, Shell, Perl.
- Web Development: HTML, XML, PHP Scripting.
- Operating Systems: Windows, Linux, Mac.
- Statistical Analysis: R, Graphpad Prism.
- Laboratory management, from sample handling to waste management.
- Laboratory equipment maintenance

Supervision/Training of Internship, Master, PhD students and Post-Doctoral Fellows:

Tranining of Undergraduate Students:

Group training in bioinformatics and lab induction (2018-2020) at the Indian Institute of Science (IISc), Bangalore - India

2 Undergraduate students at the University of Milan, Italy.

Master's Student Supervision:

Manasa K (2020), SasG protein in MRSA (COL strain) and Non-MRSA (NCTC 8325), Indian Institute of Science (IISc), Bangalore - India

PhD Students & Post-Doctoral Fellow Training:

Ph.D. Students (1st and 2nd Year): Metabolic Modeling and Flux Balance Analysis (2018-2020), Indian Institute of Science (IISc), Bangalore - India

Ph.D. Students (1st and 2nd Year) & Post-Doctoral Fellow: Shell scripting and RNA Seq Analysis, University of Milan, Lodi, - Italy (2022-2023)

PROJECT ACTIVITY (attachments 2.3)

Year	Project
2014-2016	Title: Utilizing marine industry waste derived collagen cryptic peptides and assaying their bioactivities to substitute food additives. FUNDING AGENCY: Vision Group on Science and Technology, Government of Karnataka. PI: Prof. Pradipta Banerjee, Centre of Science and Advanced Research, Dayananda Sagar Institutions (Bangalore University) Role: Bachelor's student/Junior Researcher (Attachment 2.3_1)
2018	Title: Designing CRISPR/Cas9 co-expression vectors for mammalian gene editing. PI: Dr. Sanjay Ghosh, Institute of Bioinformatics and Applied Biotechnology (Mysore University) Role: Master's Student
2018-2020	Titles: Metabolic Modeling of *Staphylococcus epidermidis* via Flux Balance Analysis PI: Prof. Nagasuma Chandra, Indian Institute of Science Role: Research Assistant (Attachment 2.3_2)
2020-2023	Title: Physiological culture systems to access untapped ovarian reserves for improving reproductive efficiency FUNDING AGENCY: Marie Sklodowska Curie Actions ITN H2020 Scholarship, Grant ID No.: 860960 PI: Prof. Alberto Maria Luciano, University of Milan Role: Ph.D. Student.

PATENTS

Patent
N/A

CONGRESSES AND SEMINARS (attachments 2.4)

Date	Title	Place
May 2022-June 2023	VAS Ph.D. School Seminar Series: • Genetics and Omics Sciences Applied to Livestock. **Oral**	Lodi, Italy.

	Presentation: Development of physiological systems for in vitro culture of isolated primordial follicles by gene expression profiling. 5th June 2023 • Animal Models in Research. **Attendee.** 21st March 2023 • Innovative Strategies for Animal Nutrition. **Attendee.** 6th March 2023 • Biotechnology, immunology and in vitro studies. **Attendee**. 1st February 2023 • Genetics and Omics Sciences Applied to Livestock. **Oral Presentation:** Preserving fertility: strategies for developing isolated primordial follicles. 22nd November 2022 • Antibiotics residues, environmental pollutants and consumers' risk perception in livestock productions. Insights from different chain stages. **Attendee.** 5th July 2022 • Sustainability in livestock: Beyond the Known Problems. **Attendee.** 5th July 2022 • Species-specific approaches to performance quality in livestock animals. **Attendee.** 3rd May 2022	
28th May – 2nd June 2023	11th International Ruminant Reproduction Symposium. **Oral and Poster Presentation:** A transcriptomic approach towards the improvement of physiological systems for the in vitro culture of isolated bovine primordial follicles. **Poster selected for Oral Presentation.** (Attachment 2.4_1)	Galway, Ireland.
16th, 19th and 23rd May 2023	Cryobiology for conservation and therapy. **Attendee.** (Attachment 2.4_2)	Lodi, Italy.
November 2021 – March 2023	EUROVA Basic Oocyte Biology Forum – **Organiser and Co-Host**: • Mammalian oocytes store mRNAs in a mitochondria-associated membraneless compartment by Dr. Melina Schuh, Max Plack Institute for Multidisciplinary Sciences. 13th March 2023. (Attachment 2.4_3) • Bioengineering approaches to improve oocyte in vitro maturation by Dr. Antonella Mastrorocco, University of Bari Aldo Moro. 13th February 2023. (Attachment 2.4_4) • The potential of extracellular vesicle-mediated molecular signalling for oocyte growth and development by Prof. Dawit Tesfaye, Colorado State university. 28th November 2022. (Attachment 2.4_5) • Ca2+ oscillations, ATP production, and egg activation in mouse and human eggs by Prof. Karl Swann, Cardiff University. 10th October 2022. (Attachment 2.4_6) • SMART-ART: Application of Artificial Intelligence in the IVF Laboratory by Dr. Charles L. Bormann, Massachusettts General Hospital. 24th May 2022. (Attachment 2.4_7) • Role of extracellular vesicles in embryo communication by Dr. Krishna Chaitanya Pavani, Ghent University.19th April 2022. (Attachment 2.4_8) • Oocyte response to heat stress by Prof. Fabiola Paula-Lopes, Federal University of São Paulo. 22nd February 2022. (Attachment 2.4_9) • Long-term molecular consequences for calves of being derived from	Lodi, Italy (Online)

	an in vitro produced embryo by Dr. Maria Belen Rabaglino, University College Dublin. 25th January 2022. (Attachment 2.4_10) • Development of new oocyte in vitro culture strategy to enhance the outcome of assisted reproductive technologies bby Dr. Rodrigo Garcia Barros, University of Milan. 2nd December 2021. (Attachment 2.4_11) • Taking advantage of genome-wide metabolic models to understand mouse and human ovarian follicle development by Prof. Beatriz Penalver Bernabe, University of Chicago, Illinois. 23rd November 2021. (Attachment 2.4_12)	
October 2021 – February 2023	MSCA-H2020 EUROVA Training Network Symposiums and Workshops: • EUROVA Workshop - Insights from Industry Innovation Sprint Workshop & Career Development. **Attendee.** 8th -9th February 2023.(Barcelona, Spain) • EUROVA Symposium - Factors Affecting Ovarian Function & Oocyte Quality. **Oral Presentation:** Development of physiological culture systems to access untapped ovarian reserves to improve reproductive efficiency. 6th -7th February 2023.(Barcelona, Spain) • EUROVA Workshop 4: Comparative Oocyte Models. **Attendee.** 25th - 28th April 2022. (Brussels, Belgium) (Attachment 2.4_13) • EUROVA - Symposium II: Molecular mechanisms regulating oocyte development. **Attendee.** 14th October 2021 (Dublin, Ireland) • EUROVA - Mid Term Meeting. **Poster Presentation:** Development of physiological culture systems to access untapped ovarian reserves to improve reproductive efficiency. 13th October 2021. (Dublin, Ireland) (Attachment 2.4_14)	Europe
November 2022	INNOVA: • Quali prospettive nell'allevamento della razza Vaseze-Ottonese-Tortonese ai fini della conservazione, valorizzazione e tutela della biodiverstia. **Attendee.** 26th November 2022. (Cisliano, Italy) • I programmi di tutela della biodiversità delle razze bovine a rischio di erosione genetica by Prof. Valentina Lodde, University of Milan. **Attendee.** 16th November 2022. (Codogno, Italy) • **Poster Presentation:** Development of physiological culture systems to access untapped ovarian reserves to improve reproductive efficiency. 15th November 2021	Italy
July 2022 – January 2023	Novogene Webinar Series: • A Beginner's Guide to Next Generation Sequencing: Principles and Recent Developments. **Attendee.** 19th January 2023 • Introducing NovoMagic – Novogene's Online RNA-seq Bioinformatics Analysis Tool. **Attendee.** 24th November 2022 • Beginner's Guide to DNA Seq: Recent Advances. **Attendee.** 20th October 2022 • ncRNA-seq Results Explained: What you can explore with non-coding RNA data. **Attendee.** 21st July 2022	Novogene, UK (Online)
27th September 2022	VAS Ph.D. School Anuual Retreat 'VAS Days' - **Oral Presentation:** Development of an efficient and effective culture system for the isolation and culture of bovine primordial follicles.	Lodi, Italy (Online)

21st September 2022	Genome and Epigenome measured in a single sequencing run. **Attendee.**	Pacific BioSciences, USA (Online)
26-30th June 2022	19th International Congress on Animal Reproduction. **Poster Presentation:** Development of an efficient and effective protocol for the isolation and culture of primordial follicles. (Attachment 2.4_15)	Bologna, Italy.
17th June 2022	Basics of microfluidics and its applications in Reproduction & The IVF Lab on a chip: dream or reality? **Attendee.**	GeneraLife (Online)
2020-2022	RedBioLab Joint Seminar Series: • Extended in vitro embryo culture in ungulates by Dr. Priscila Ramos Ibeas, Instituto nacional de investigación y tecnología agraria y alimentaria. **Attendee.** 29th April 2022 • Development of 3D hydrogel scaffolds for intestinal tissue engineering in fish by Elise Demuynck, Ghent University. **Attendee.** 1st April 2022. • Citrus pectin (CP) modulates chicken peripheral blood mononuclear cells (PBMC) proteome in vitro by Gabriela De Los Angeles Avila Morales, University of Milan. **Attendee.** 18th March 2022 • Use of microRNAs and young cell secretome to promote anti-aging effects by Dr. Sharon Arcuri, University of Milan. **Attendee.** 4th February 2022 • Gonadal tissue banking in animal models by Dr. Isa Mohammed Alkali, University of Milan. **Attendee.** 26th November 2021 • Effect of dietary supplementation of alpha linolenic acid (ALA) during early stage of pregnancy in ewes: preliminary results. **Attendee.** 8th November 2021 • Extensive Morphological And Functional Characterization of the Rainbow Trout Gut To Develop A Predictive In Vitro Intestinal Model'. **Attendee.** 29th October 2021 • Somatic signals regulating mRNA translation in mammalian oocytes by Dr. Magdalena Ladron de Guevara, Uuniversity of Milan. **Attendee.** 1st October 2021 • Modeling *Staphylococcus epidermidis,* University of Milan. **Presenter.** 16th November 2020.	Lodi, Italy (Online)
November 2021 – March 2022	NAWA Workshop: 3rd International Workshop with APM NAWA project ScienceNet - Assisted ReproductionL Comparative aspects between large and small animals. **Attendee.** 12th March 2022 2nd International Workshop with APM NAWA project ScienceNet: Cryobanking - a life insurance for biodiversity. **Attendee.** 6th November 2021	Lodi, Italy (Online)
Feb 2021 & March 2022	Evidence Based Assisted Reproduction Technology Congress: • The 4th International EBART Congress. **Attendee.** 9-11th March 2022 • The 3rd International EBART Congress. **Attendee.** 18th-19th February 2021	Barcelona, Spain (online)

8th November 2021	UCLA Bioinformatics IDP and Human Genetics Seminar Series: 'Population genetics in an era of genomic health'. **Attendee.**	USA (Online)
October & November 201	International IVF Initiative: • Session 81: RBMO IV. **Attendee.** 2nd November 2021 • Session 80: Reports and Updates. **Attendee.** 19th October 2021	Online
21st October 2021	NIH/NICHD/ASRM Workshop: Use Of Artificial Intelligence/Machine Learning To Develop Personalized Approaches To Improve Reproductive Health Outcomes. **Attendee.**	USA (Online)
20th October 2021	Progress Educational Trust Event : Female Fertility: What Does the Future Hold? **Attendee.**	Online
26th June – 1st July 2021	ESHRE 37th Annual Meeting. **Attendee.**	Online
23rd – 24th April 2021	ESHRE Virtual Workshop: Cryopreservation of Ovarian Tissue. **Attendee.**	Online
15th May 2018	Master Degree Project Evaluation (In lieu of the thesis) **Poster Presentation:** CRISPR/Cas9 Co-Expressing Vectors for Mammalian Gene Editing. (Attachment 2.4_16)	Bangalore, India
5th March 2018	IBAB M.Sc Final Student's Seminar Series. **Oral Presentation**: An Exploration of Unexplained Infertilities - focusing on the zona pellucida dysmorphologies and their association with diminished IVF success rates.	Bangalore, India
November 2016	M.Sc Student's Seminar Series: • **Oral Presentation:** DNA Replication & The Discovery of Okazaki Fragments. 20th November 2016 • **Oral Presentation:** Structural Biology of DNA Ligases. 13th November 2016	Bangalore, India

PUBLICATIONS

Books
Germ Cells Development: **Dey, P.**, Monferini, N., Donadini, L., Franciosi, F., Lodde, V., and Luciano, A. M. 'Methods for in Vitro Culture of Mammalian Primordial Follicle.' Methods in Molecular Biology (2023). (Manuscript in press).

Articles in reviews (2.5 attachments)
Luciano, A. M., Franciosi, F., **Dey, P.**, De Guevara, M. L., Monferini, N., Bonumallu, S. K. N., Musmeci G., Franchi, F.F., Barros, R.G., Colombo, M. & Lodde, V. **(2023)**. Progress toward species-tailored prematuration approaches in carnivores. Theriogenology, 196, 202-213. (Attachment 2.5_1)
Dey, P., & Luciano, A. M. **(2022)**. A century of programmed cell death in the ovary: a commentary. Journal of Assisted Reproduction and Genetics, 39(1), 63-66. (Attachment 2.5_2)
Dey, P., Kadharbasha, S., Bajaj, M., Das, J., Chakraborty, T., Bhat, C., & Banerjee, P. **(2021)**. Contribution

of quasifibrillar properties of collagen hydrolysates towards lowering of Interface tension in emulsion-based food leading to shelf-life enhancement. Food and Bioprocess Technology, 14, 1566-1586. (Attachment 2. 5_3)
Saleem, K., **Dey, P.**, Sumeet, C., Bajaj, M., Geetika, Y., Vishwadeep, A., Tagadghar, P & Banerjee, P. (2021). Contribution of quasi-fibrillar superstructures in peroxide quenching by collagen peptides derived from fish processing by-products and their application as natural food additives. bioRxiv, Preprint DOI: 10.1101/2021.02.11.430827, 2021-02. (Attachment 2.5_4)
Das, J., **Dey, P.**, Chakraborty, T., Saleem, K., Nagendra, R., & Banerjee, P. **(2018)**. Utilization of marine industry waste derived collagen hydrolysate as peroxide inhibition agents in lipid-based food. Journal of Food Processing and Preservation, 42(2), e13430. (Attachment 2.5_5)
Das, J., **Dey, P.**, & Banerjee, P. **(2017)**. Redesigning nature: to be or not to be?. Current Science, 1346-1350. (Attachment 2.5_6)

Congress proceedings
A transcriptomic approach towards the improvement of physiological systems for the in vitro culture of isolated bovine primordial follicles. **Dey. P,** Monferini, N., Lodde. V., Zambelli. F, Franciosi. F, Luciano, A.M. In: 11th International Ruminant Reproduction Symposium (IRRS), 2023, Galway, Ireland.
Gene expression profiling using next generation sequencing of primordial, primary and secondary bovine follicles. Monferini, N., **Dey, P.**, Franciosi. F, Zambelli. F, Lodde. V., Luciano, A.M. In: 11th International Ruminant Reproduction Symposium (IRRS), 2023, Galway, Ireland.
Development of an efficient and effective protocol for the isolation and culture of primordial follicles. **Dey, P.**, Donadini. L., Monferini. N, V. Lodde. V, Franciosi. F, Luciano A.M. In: 19th International Congress on Animal Reproduction (2022), Bologna, Italy.

OTHER INFORMATION

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.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: Lodi, Italy, 7th June 2023.