

Curriculum vitae

Stefano Pallotti

WORK EXPERIENCE

- May 2022 – May 2024 **Post-Doc Fellow in General Zootechnics and Genetic Improvement (AGR/17)**
School of Biosciences and Veterinary Medicine, University of Camerino (UNICAM)
Topic: "Identificazione delle regioni genomiche sotto pressione selettiva nella capra cashmere attraverso analisi delle Runs of Homozygosity (ROH) da collezione pubblica di dati genomici "
Supervisor: Prof. Valerio Napolioni
- Academic year 2023 - 2024 **Member of the Scientific Council and teacher for the master "*GENCAM: genetics and genetic improvement in alpacas and llamas*"** activated by the School of Pharmacy - University of Camerino, for the academic year 2023/2024.
- February 2020 – May 2024 **Technical support** in the estimation of breeding values for the genetic improvement project "Alashan Super-fine white Cashmere goat". Alashan, Inner Mongolia (China)
- Academic year 2020 - 2021 **PROFESSORE A CONTRATTO (professor on contract)** Genetics and animal breeding (VE0007 - ZOOTECNICA GENERALE e MIGLIORAMENTO GENETICO). Anno Accademico 2020/2021 Corso: [LM-MV] MEDICINA VETERINARIA Percorso [PDS0-2017 - Ord. 2017] comune.
- February 2020 – January 2022 **Postdoctoral Researcher** - School of Pharmacy - University of Camerino Via Gentile III Da Varano s/n 62032 - Camerino (MC) Italy
Topic: Study of the role of R-Spondin1,2,3,4 genes in telogen-to-anagen transition in cashmere goat skin biopsies and hair follicles.
- January 2018 – June 2018 **Research activity:** Study of the candidate genes for the suri phenotype in alpaca (*Vicugna pacos*).
School of Bioscience and Veterinary Medicine, University of Camerino Via Gentile III Da Varano, 62032 - Camerino (Italy)
Head of research team: Prof. Carlo Renieri
▪ Molecular biology research:
isolation of DNA, RNA and proteins from various biological sources, primers design, gene cloning and plasmid extraction, RNA reverse transcription, PCR, RT-PCR, 5' and 3' RACE- PCR, qPCR, DNA gel electrophoresis cDNA library preparation, Western-blotting analysis. Bioinformatic analysis of the nucleotide sequences.
- January 2018 – May 2018 **Research activity:** Monitoring of the tenso-structures in the Upper Maceratese farms affected by the 2016 earthquake.
School of Bioscience and Veterinary Medicine, University of Camerino Via Gentile III Da Varano, 62032 - Camerino (Italy)
Head of research team: Prof. Annette Habluetzel

- Animal health check, quantification of parasite burden, tenso-structures state check, interviews breeders.

March 2018 –
April 2018

Coordinator for the rural development project: "Hemp network: hemp multipurpose in the agriculture no food field."

School of Bioscience and Veterinary Medicine, University of
Camerino Via Gentile III Da Varano, 62032 - Camerino (Italy)

December 2013
– February 2018

Veterinary physician

"Del Leone" Veterinary Ambulatory
Viale Giacomo Leopardi, 59, 62032 Camerino (Italy)

- Internal medicine of small animals, exotic animals and unconventional animals (rodents and reptiles)

EDUCATION and TRAINING

February 2022

Internship

SYNBIOTECH, Camerino (MC), Italy

Training in genomic techniques: genomic library construction and illumina sequencing

October 2018^a
and October
2020^b

Nomination "Cultore della Materia" (Subject Expert and Teaching Assistant) in "**s.s.d. ^aAGR/17: Zootechnica generale e miglioramento genetico**" (Genetics and animal breeding) and "**s.s.d. ^bVET/06 – Parassitologia e malattie parassitarie degli animali** (Veterinary parasitology and Parasitic Diseases)

School of Bioscience and Veterinary Medicine - University of Camerino (Italy)

November 2014
- December
2017

PhD in LIFE AND HEALTH SCIENCES: ECOSYSTEMS AND BIODIVERSITY MANAGEMENT

International School of Advanced Studies - University of Camerino (Italy)

Thesis Title: Genetic of coat variation in alpaca, dog and cashmere goat: an approach by molecular, population and quantitative genetics studies.

Vote: Very Good

February 2017 –
May 2017

Internship

NordGen institute, Ås (Norway)

Training in genomic techniques: use of high density 600K SNP genotyping array for chicken in order to carried out runs of homozygosity in five Norwegian laying hens breeds.

November 2013

Veterinary License

School of Bioscience and Veterinary Medicine - University of Camerino (Italy)

October 2013

Master degree in Veterinary Medicine

School of Bioscience and Veterinary Medicine - University of Camerino (Italy)

Thesis Title: Genetic improvement of fiber production in the Inner Mongolia Cashmere Goat. Vote: 102/110

September 2010
– September
2011

Erasmus project

Facultad de Veterinaria UNEX , Avda. de la Universidad s/n, 10003 Cáceres (Spain).

July 2005

High school diploma (classical studies)

Liceo Classico "Costanza Varano" - Camerino (Italy)

PERSONAL SKILLS

Mother tongue

Italian

Other languages

Self-assessment	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
Spanish	C2	C2	C2	C2	C2
French	A2	A2	A2	A2	A2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
Common European Framework of Reference for Languages

Communication skills

During my PhD and post-doctoral experiences I gained good communication skills through lectures, seminars, writing papers and training more junior people.

Organizational / managerial skills

In June, 2017 I was one of the main organizer for the 7th European Symposium on South American Camelids and 3rd European Meeting on Fibre Animals.
In 2018 I was coordinator for the rural development project: "Hemp network: hemp multipurpose in the agriculture no food field."

Job-related skills

- Molecular biology techniques:

Isolation of DNA, RNA and proteins from various biological sources, primers design, gene cloning and plasmid extraction, RNA reverse transcription, PCR, RT-PCR, 5' and 3' RACE-PCR, qPCR, DNA gel electrophoresis cDNA library preparation, Western-blotting analysis. Bioinformatic analysis of the nucleotide sequences.

- Genomics and bioinformatics:

Good competences in the WGS analysis through the use of the main softwares such as Plink, SRAToolkit, Samtools, IGV, GATK, SnpEff

- Estimation of breeding values (EBV):

Good competences in the estimation of breeding values through the use of the main softwares: MTDFREML and WOMBAT.

- Genetics, genomics and population genetics software:

(please see the software listed below in the "Digital skills" section)

- Good competences in **breeding, clinic and diagnostic techniques** including those applied for the identification of parasitic infections in small animals, exotic animals and unconventional animals (rodents and reptiles).

- Excellent skills in microlivestock breeding and reproduction: mainly terrestrial invertebrates (cockroaches, grasshoppers, crickets, reduviidae, beetles, phasmids, arachnids, ants, mealworm...).

- Good competences in collection, classification and preparation of insects and arachnids specimen.

- Good skills in safely handling of poisonous insects and arachnids.

Digital skills

SELF-ASSESSMENT			
Information processing	Communication	Content creation	Safety
Proficient user	Proficient user	Proficient user	Proficient user
Levels: Basic user - Independent user - Proficient user			

▪ Operating system:

Excellent skills with Windows os., Mac os. and Unix o.s.

▪ General software and Genetic analysis software:

Microsoft office package; Geospiza FinchTV; GenAlEx; Excel microsatellite toolkit; PHYLIP software; STRUCTURE; Endog 4.8; GENEPOP.; ARLEQUIN; Plink software; R studio ; Admixture; SRAToolkit; Samtools; IGV; GATK; SnpEff; MTDFREML; WOMBAT.

Driving licence

B

Peer reviewer for:

Frontiers in Genetics - Livestock Genomics

BioTechniques

Journal of Agricultural Science and Technology (Tarbiat Modares University, Faculty of Agriculture)

Scientific Reports

Evaluator

Fondo para la Investigación Científica y Tecnológica (FONCYT) - Argentina - Convocatoria PICT 2021

Presentations and Conferences:

Oral presentation: "Genome-wide scan for runs of homozygosity in South American Camelids"

Joint International Congress on Animal Science co-organised by the European Federation of Animal Science (EAAP), the World Association for Animal production (WAAP) and Interbull.

29 agosto - 1 settembre 2023, Lyon (Francia).

Poster: "Identification of candidate gene variants for the alpaca Suri phenotype by Whole Genome Sequencing analysis"

Joint International Congress on Animal Science co-organised by the European Federation of Animal Science (EAAP), the World Association for Animal production (WAAP) and Interbull.

29 agosto - 1 settembre 2023, Lyon (Francia).

Oral presentations (coautor): "Loro Piana Alashan progetto mingyuan: studi e selezione della capra cashmere cinese Alashan White".

"Woolfair: migliorare la gestione dell'allevamento ovino in centro Italia per valorizzare la lana nel rispetto del benessere animale".

Congresso Nazionale SIPAOC (Società Italiana di Patologia e di Allevamento degli Ovini e dei Caprini). 22 febbraio 2023, Viterbo

Seminar speaker: INTRODUCTION TO DOG GENOMICS.

Veterinary Medicine Department- School of Bioscience and Veterinary Medicine – University of Camerino (February 12, 2021).

Seminar speaker: POPULATION GENETICS IN DOG.

Veterinary Medicine Department- School of Bioscience and Veterinary Medicine – University of Camerino (May 31, 2018).

LOCAL ORGANIZERS for 7th European Symposium on South American Camelids and 3rd European Meeting on Fibre Animals.

Assisi, Italy (June 2017).

BIOLOGY AND GENETICS OF THE DOG'S COAT: COLOR AND STRUCTURE.

Theatre presentations: *inheritance of the color of the coat*.

Carried out in Chiaravalle(Italy), Auditorium Croce Gialla - via F.lli Cervi,1/A on 06 september 2014

GENETICS AND CLINIC OF THE DOG

Theatre presentation: *Genetic variability of the Segugio Italiano*.

carried out in Abitalia Tower Plaza Hotel - San Rossore – PISA (Italy) on 03 june 2016

Publications

1. **Pallotti, S.**, Picciolini, M., Deiana, G., Pediconi, D., Antonini, M., Napolioni, V., Renieri, C., (2024). Whole genome sequencing analysis of alpaca suggests TRPV3 as a candidate gene for the suri phenotype. *BMC Genomics*. 2024 Feb 16;25(1):185.
2. **Pallotti, S.**, Antonini, M., Napolioni, V., & Renieri, C. (2023). Whole-genome sequencing of alpaca revealed variants in KIT gene potentially associated with the white coat phenotype. *Animal Genetics*, 54(6), 816-817.
3. **Pallotti, S.**, Picciolini, M., Antonini, M., Renieri, C., & Napolioni, V. (2023). Genome-wide scan for runs of homozygosity in South American Camelids. *BMC genomics*, 24(1), 470.
4. **Pallotti, S.**, Pediconi, D., Valbonesi, A., Renieri, C., Haizhou, S., Junwen, Z., & Antonini, M. (2023). Phenotypic Correlation between Guard Hair and Down Hair in Chinese Alashan Left Banner White Cashmere Goat: A Preliminary Study. *Animals*, 13(8), 1295.
5. Dato, S., De Rango, F., Crocco, P., **Pallotti, S.**, Belloy, M. E., Le Guen, Y., ... & Napolioni, V. (2023). Sex-and APOE-specific genetic risk factors for late-onset Alzheimer's disease: Evidence from gene-gene interaction of longevity-related loci. *Aging Cell*, 22(9), e13938.

6. **Pallotti, S.**, Piras, I. S., Marchegiani, A., Cerquetella, M., & Napolioni, V. (2022). Dog–human translational genomics: state of the art and genomic resources. *Journal of Applied Genetics*, 63(4), 703-716.
7. Huang, J., Liang, Z. S., **Pallotti, S.**, Ranson, J. M., Llewellyn, D. J., Zheng, Z. J., King, D. A., Zhou, Q., Zheng, H., & Napolioni, V. (2021). PAGEANT: personal access to genome and analysis of natural traits. *Nucleic acids research*, gkab1245. Advance online publication. <https://doi.org/10.1093/nar/gkab1245>.
8. Napolioni, V., Bianconi, F., Potenza, R., Carpi, F. M., Ludovini, V., Picciolini, M., Tofanetti, F.R., Bufalari, A., **Pallotti, S.**, ... & Vannucci, J. (2021). Genome-wide expression of the residual lung reacting to experimental Pneumonectomy. *BMC genomics*, 22(1), 1-15. DOI: 10.1186/s12864-021-08171-3
9. Saravanaperumal, S. A., **Pallotti, S.**, Pediconi, D., Renieri, C., & La Terza, A. (2021). Exon-1 skipping and intron-1 retaining by alternative splicing of the c-KIT gene encodes a novel splice variant in the skin of Merino sheep (*Ovis aries*). *Molecular Biology Reports*, 48(5), 4987-4994. <https://doi.org/10.1007/s11033-021-06486-8>
10. Huang, J., **Pallotti, S.**, Zhou, Q., Kleber, M., Xin, X., King, D. A., & Napolioni, V. (2021). PERHAPS: Paired-End short Reads-based HAPlotyping from next-generation Sequencing data. *Briefings in Bioinformatics*, 22(4), bbaa320.
11. **Pallotti S.**, Chandramohan B., Pediconi D., Nocelli C., La Terza A., Renieri C. Interaction between the Melanocortin 1 Receptor (MC1R) and Agouti Signaling Protein Genes (ASIP), and their association with black and brown coat color phenotypes in Peruvian alpaca. *Italian Journal of Animal Science*, 19:1,1508-1512, DOI: 10.1080/1828051X.2020.1850216
12. **Pallotti, S.**, Pacheco, C., Valbonesi, A., & Antonini, M. (2020). A comparison of quality of the fleece and follicular activity between sheared and non-sheared yearling alpacas (*Vicugna pacos*). *Small Ruminant Research*, 106243.
13. **Pallotti, S.**, Riganelli, S., Antonini, S., Valbonesi, A., & Renieri, C. (2020). Estimates of non- genetic effects for measures of hunting performance in short-haired and rough-haired Italian hound. *Italian Journal of Animal Science*, 19(1), 439-446.
14. **Pallotti, S.**, Valbonesi, A., Yujie, L., Jiyan, Y., Peirong, T., & Antonini, M. (2020). Postnatal development of the skin follicle population in the chinese alashan left banner white cashmere goat. *Small Ruminant Research*, 106087.
15. **Pallotti, S.**, Valbonesi, A., Yujie, L., Peirong, T., Sarti, F. M., Mancinelli, A. C., & Antonini, M. (2020). Changes in fleece characteristics of yearling Chinese Alashan Left Banner White Cashmere goat. *Small Ruminant Research*, 182, 1-4.
16. Pazzaglia, I., Mercati, F., Antonini, M., Capomaccio, S., Cappelli, K., Dall’Aglia, C., ... **Pallotti, S.**, Pediconi, D., & Renieri, C. (2019). PDGFA in Cashmere Goat: A Motivation for the Hair Follicle Stem Cells to Activate. *Animals*, 9(2), 38.
17. Esposti, R., Habluetzel, A., Matricardi, G., **Pallotti, S.** (2019) Dai pascoli alla tavola. la redditività della filiera zootecnica locale, tra differenziazione e diversificazione, in: NUOVI SENTIERI DI SVILUPPO PER L’ APPENNINO MARCHIGIANO DOPO IL SISMA DEL 2016, *Ancona. ISSN 1721-5269; ISBN 978 88 3280 083 8*
18. **Pallotti, S.**, Pediconi, D., Subramanian, D., Molina, M. G., Antonini, M., Morelli, M. B., ... & La Terza, A. (2018). Evidence of post-transcriptional readthrough regulation in FGF5 gene of alpaca. *Gene*. DOI: 10.1016/j.gene.2018.01.006

19. **Pallotti, S.**, La Terza, A., De Cosmo, A., Pediconi, D., Pazzaglia, I., Nocelli, C., & Renieri, C. (2017). Genetic variability of the short-haired and rough-haired Segugio Italiano dog breeds and their genetic distance from the other related Segugio breeds. *Italian Journal of Animal Science*. DOI: 10.1080/1828051X.2017.1317221
20. **Pallotti, S.**, Wang, J., Tang, P., Antonini, M., Lou, Y., Pieramati, C., Valbonesi, A., & Renieri, C. (2017). Variability of fibre quality on Chinese Alashan Left Banner White Cashmere goat. *Italian Journal of Animal Science*. DOI: 10.1080/1828051X.2017.1350121