Università degli Studi di Messina

DIPARTIMENTO DI SCIENZE VETERINARIE

Curriculum Vitae et Studiorum

Prof. Francesco Fazio

CURRENT POSITION

- **Full Professor** of Veterinary Physiology (SSD MVET-01/B, formerly VET/02)
- Department of Veterinary Sciences, **University of Messina**, Italy
- **Contacts:** Tel. +39 090 6766516 | E-mail: ffazio@unime.it | ORCID: 0000-0003-3198-2580

EDUCATION AND QUALIFICATIONS

- **1996:** Degree in Veterinary Medicine (single-cycle degree), University of Messina (110/110 cum laude).
- **1997:** Licence to practise as a Veterinary Surgeon.
- **1999:** PhD in Equine Physiology (XII cycle, 1997–1999).
- **2000–2002:** Two-year post-doctoral fellowship in "Equine Physiology".
- **2002:** Appointed "Cultore della Materia" (honorary teaching fellow) in "Veterinary Physiology".
- **2018:** Diplomate (de facto) of the **European College of Aquatic Animal Health (ECAAH)**.

ACADEMIC CAREER

- **2022 – present:** Full Professor of Veterinary Physiology (SSD VET/02, now MVET-01/B), University of Messina.
- **2016 – 2022:** Associate Professor of Veterinary Physiology.
- **2006 – 2016:** University Researcher (Assistant Professor) of Veterinary Physiology.
- **2002 – 2005:** Three-year research fellow on the chronophysiology of performance in the sport horse.

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RESEARCH ACTIVITY AND BIBLIOMETRIC INDICATORS

Head, since 2008, of the laboratories of:

- Veterinary Chronophysiology and Biological Complexity;
- Comparative Physiology of Exercise.

Bibliometric indicators (source: Scopus, 2001–2026):

- Indexed publications: 356
- Total citations: 8,581
- H-index: 44

The overall scientific activity is documented by more than 440 publications.

INSTITUTIONAL AND COORDINATION ROLES

- **2022 – 2025:** Coordinator of the PhD Programme in "Veterinary, Biotechnological and Agricultural Sciences".
- **2022 – 2025:** Chair of the Quality Assurance (QA) Group of the same PhD Programme.
- **2022 – present:** Member of the Scientific Committee of Messina University Press.
- **2020 – present:** Lecturer and member of the Board of the Specialisation School in "Inspection of Foods of Animal Origin".
- **2019 – present:** Member of the Orientation and Tutoring Committee.
- **2016 – 2023:** Member of the Joint Teaching Committee (Commissione Paritetica) of the Department (DiSciVet).
- **2007 – 2011:** Dean's Delegate for the management of Faculty services and for training.

PHD FACULTY BOARDS

Member, without interruption since 2006, of the Faculty Boards of PhD programmes of the University of Messina, including:

- PhD in Equine Physiology;
- PhD in Experimental Sciences Applied to Animal Organisms;
- PhD in Veterinary Sciences (since 2013);
- PhD in Veterinary, Biotechnological and Agricultural Sciences (ongoing).

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TEACHING ACTIVITY

University courses (course leader)

- **Since a.y. 2019-2020:** Physiology Applied to Animals in Quality Production (6 ECTS) – Master's Degree in Animal Production Safety and Quality (LM-86), University of Messina.
- **Since a.y. 2013-2014:** Applied Vegetative Physiology (3 ECTS) – Single-cycle Master's Degree in Veterinary Medicine (LM-42), University of Messina.
- **Since a.y. 2020-2021:** Physiology of Farm Animals (2 ECTS) – Specialisation School in Inspection of Foods of Animal Origin, University of Messina.
- **A.y. 2012-2013 to 2017-2018:** Aggregate Professor of Physiology of Farm Animals I (3 ECTS) – Degree in Animal Production Science and Technology, University "Magna Græcia" of Catanzaro.
- **A.y. 2010-2011:** Teaching of Veterinary Physiology by assignment – Degree in Biotechnology (L-2), University of Messina.
- **A.y. 2006-2007 and 2007-2008:** Aggregate Professor of Physiology Applied to Fish Species – Degree in Biotechnology Applied to Mariculture and Aquaculture, University of Messina.

Specialist teaching and master courses

- **A.y. 2022-2023 and 2023-2024:** Applied Basic Biology of Species Used in Experimental Procedures – Master in "Protection of Animals Used for Scientific Purposes", University of Messina.
- **A.y. 2013-2014:** Physiology of Reproduction – PON project "FORINNOVAQUA" (Training for technological innovation in aquaculture).
- **A.y. 2004-2005:** Practical classes in Physiology of Domestic Animals – Specialisation School in Inspection of Foods of Animal Origin, University of Messina (Caltanissetta site).
- **2003:** Teaching of Physiology – Course "Agro-livestock supply chain management technician", ISM Palermo.

Supplementary teaching, tutoring and orientation

- **Since 2006:** Continuous student reception, orientation and tutoring activity, with assistance to candidates in drafting degree and PhD theses; permanent member of examination and graduation committees.
- **A.y. 1997-2009:** Lecture and practical cycles for the courses of Vegetative Physiology of Domestic and Athletic Species – Master's Degree in Veterinary Medicine.
- **A.y. 2004-2006:** Tutoring and practical teaching (Cardiology, Surgery, Medicine of non-conventional animals) at the University "Magna Græcia" of Catanzaro and the University of Messina.

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SUPERVISION OF PHD AND DEGREE THESES

- **2017 – 2020:** PhD Tutor in Veterinary Sciences (XXXIII cycle). Thesis: "*Mugil cephalus* as a bioindicator of the anthropic load of some heavy metals in the Faro Lake".
- **2021 – 2024:** PhD Tutor in Veterinary Sciences (XXXVII cycle). Thesis: "Influence of the circadian rhythmicity of some inflammatory biomarkers in the athlete horse: evaluation of the time of exercise training".
- **Supervisor of degree theses** (selection):
    - "Effects of finishing in the Faro Lake (Messina) on the biodistribution of some essential inorganic elements (Ca, K, Na, Mg, Se, Co) in bivalve molluscs (*Mytilus galloprovincialis*): short- and long-term monitoring" (LM-86, a.y. 2025/26).
    - "Effects of shearing on thermal welfare in Barbaresca sheep reared in Sicily: short- and long-term responses of acute-phase proteins" (LM-86, a.y. 2024/25).
    - "Automated haematological approach in tilapia (*Oreochromis niloticus*): an innovative experimental model towards aquaculture" (LM-42, a.y. 2022/23).
    - "Biodistribution of some heavy metals (As, Cd, Pb and Hg) and blood biomarkers in Barbaresca sheep reared in Sicily" (LM-86, a.y. 2022/23).
    - "Assessment of circadian and seasonal changes in rectal and skin temperature in the horse" (LM-86, a.y. 2020/21).

Thesis titles originally written in Italian are given in English translation.

EVALUATION COMMITTEES AND ASSESSMENT ACTIVITY

Evaluation committees

- Final PhD examinations (XXVIII and XXXII cycles).
- Entrance examinations to the PhD programme (XLII cycle).
- Research fellowships (assegni di ricerca) on morphology, ultrastructure and comparative pathology (SSD VET/01 and MVET-01/A).
- PNRR procedures (Investment 1.6 – Active orientation in the school-to-university transition).

External examiner of PhD theses

- **July 2026:** Universitat Autònoma de Barcelona (Spain). Thesis: "Proteomic analysis of seminal plasma and nanoplastics effects on sperm cells in *Sparus aurata*".
- **December 2024:** University of Sargodha (Pakistan). Thesis: "Assessment of Biogenic Amines in Edible Fishes and Their Correlation with Storage Conditions".
- **November 2023:** University of Sargodha (Pakistan). Thesis: "Systemic Effects of Feed and Habitat on Selected Fish Species in Biofloc Technology and Earthen Pond System".

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Review of research projects

- **2022:** Reviewer for the Czech Science Foundation (GAČR) – evaluation of proposals for basic research projects (Standard Projects 2023).
- **2021:** Reviewer for the Italian Science Fund (FIS) – Ministry of University and Research (MUR).
- **2019:** Reviewer of junior research fellowship proposals – University of Insubria.
- **2013:** Reviewer for the selection of FIR (Futuro in Ricerca) projects (MIUR).
- **2011 – 2014:** Reviewer for the VQR (Research Quality Assessment, ANVUR).

Peer review for scientific journals

Regularly acts as a reviewer for numerous international indexed journals (Web of Science/Scopus), including: Aquaculture, Aquaculture Research, Environmental Science and Pollution Research, Animals, Antioxidants, Fish & Shellfish Immunology, Science of the Total Environment, Chemosphere, International Journal of Molecular Sciences, Journal of Fish Diseases, Ecotoxicology and Environmental Safety, Sustainability, Toxics, Metabolites, BMC Veterinary Research, Veterinary Clinical Pathology, Chronobiology International, Journal of Animal Physiology and Animal Nutrition, Acta Zoologica, Tissue and Cell. The complete list comprises more than 80 international journals in the fields of veterinary physiology, aquaculture, environmental toxicology and animal science.

EDITORIAL ROLES

Editor-in-Chief

- **2019 – 2023:** Veterinary Medicine – Open Journal (VMOJ).

Associate Editor

- **2023 – 2025:** Heliyon (Cell Press).
- Frontiers in Physiology (Aquatic Physiology section), Research Topics:
    - "Aquatic Physiology, Environmental Pollution, Nanotoxicology and Phytoremediation";
    - "The Effect of Physical and Chemical Stressors on the Reproduction of Marine Invertebrates".

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Editorial Board Member

- Animals (MDPI);
- Journal of Equine Veterinary Science (Elsevier);
- Journal of Applied Aquaculture (Taylor & Francis);
- Turkish Journal of Fisheries and Aquatic Sciences;
- Turkish Journal of Zoology.

Guest Editor of Special Issues (Animals, MDPI)

- "Climate Change Impact on Blood Biomarkers in Domestic and Production Animals";
- "Effects of Pollutants on Fish" (completed);
- "Feed Vegetable Integration and Nutraceuticals Effects in Fish: The Future of Aquaculture" (completed);
- "Use of Plant-Based Bioactive Products in Good Aquaculture Practices (GAPs)" (completed).

INVITED LECTURES AND CONFERENCE SCIENTIFIC COMMITTEES

Invited lectures

- **September 2021:** University event "Sea in SHELL" – Workshop: "The study of blood parameters in fish and the protection of the marine environment".
- **March 2019:** Course in Medicine and Biology of Mediterranean Cetaceans – Lecture: "Physiological adaptation strategies of cetaceans to the aquatic environment".
- **2014:** Seminars in Cognitive Ethology (Messina).
- **December 2012:** Training event of the Istituto Zooprofilattico Sperimentale della Sicilia (Palermo) – "Animal welfare, farm management and quality of production".

Conference scientific committees

- **2022:** 1st International Symposium on "Sustainable Aquatic Research".
- **2021:** Scientific Committee for SOFIVET – 74th SISVet Congress.
- **2020:** International Symposium on Fisheries and Aquatic Sciences (Trabzon, Turkey).
- **2019:** Scientific Committee for SOFIVET – 73rd SISVet Congress (Olbia).

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RESEARCH PROJECTS

Principal investigator

- **PRA 2008/2009** (University Research Project): "Iron profile in monitoring adaptation to exertion in the athletic horse during training and after racing".
- **Young Researchers Project 2002:** "Assessment of blood-gas parameters during exercise in the athletic horse".

Participant

- **PRA 2004** (University Research Project): "Influence of the time of ration administration on the circadian pattern of some physiological parameters".
- **PRA 2002** (University Research Project): "Food intake as a temporal cue for the circadian rhythm in ruminants".

INTERNATIONAL MOBILITY (ERASMUS+)

- **July 2024:** Staff Mobility for Training – Muğla Sıtkı Koçman University (Turkey).
- **September 2023:** Staff Mobility for Training – Kastamonu University, Faculty of Veterinary Medicine (Turkey).
- **September 2022:** Staff Mobility for Training – Medical University of Varna, Faculty of Pharmacy (Bulgaria).
- **May 2019:** Staff Mobility for Teaching – Medical University of Varna, Faculty of Pharmacy (Bulgaria).
- **July 2018:** Staff Mobility for Training – Medical University of Varna, Faculty of Pharmacy (Bulgaria).
- **June 2017:** Staff Mobility for Training – Medical University of Varna, Faculty of Pharmacy (Bulgaria).

CONTRIBUTIONS TO SPECIALIST TEXTBOOKS

- Author of chapter 5 "Physiology of the muscle" in *Fisiologia Veterinaria* (eds. M. Albertini and F. Pirrone), 2nd updated edition, Point Vétérinaire Italie, 2024.
- Collaboration in drafting chapter 10 "Physiology of digestion and absorption" (author Prof. G. Piccione) in *Fisiologia Veterinaria* (ed. M.G. Clemente), Point Vétérinaire Italie, 2009.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

- Member of SOFIVET (Italian Society of Veterinary Physiology).

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INTERNATIONAL AND NATIONAL SCIENTIFIC COLLABORATIONS

Established research collaborations with institutions and universities, aimed at joint scientific production and the exchange of experimental protocols:

- **Turkey:** Department of Aquaculture, Muğla Sıtkı Koçman University; Department of Animal Nutrition, Kastamonu University; Faculty of Veterinary Medicine, Erciyes University (Kayseri).
- **USA:** Circadian Rhythm Laboratory, Boise State University (Boise, Idaho).
- **Bulgaria:** Faculty of Pharmacy, Medical University of Varna.
- **Iran:** Department of Marine Science, Caspian Sea Basin Research Center, University of Guilan.
- **Pakistan:** Department of Zoology, University of Sargodha.
- **Russian Federation:** A.O. Kovalevsky Institute of Biology of the Southern Seas (IBSS), Russian Academy of Sciences.
- **Italy:** CNR – Institute for Coastal Marine Environment (Messina); Department of Sciences, University of Basilicata; Department of Chemical, Biological, Pharmaceutical and Environmental Sciences (ChiBioFarAm), University of Messina.

Messina, 11 October 2026

Prof. Francesco Fazio

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