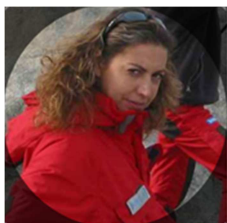


PERSONAL INFORMATION

Dr DANIELA PELLEGRINO, PhD



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Date of birth 04/09/1967 | Nationality Italian

Assistant Professor in Physiology, Department of Biology, Ecology and Earth Sciences (DiBEST) - University of Calabria (UNICAL)

CURRENT POSITION

Professor of Forensic Biology and Physiology of Behaviour
(Biological Science degree, UNICAL)

Professor of Cellular, Molecular, and Organ Physiology
(Chemistry and Pharmaceutical Technology degree, UNICAL)

EDUCATION AND TRAINING

- 2000-2003** **Research fellowship**
Department of Cellular Biology , UNICAL; Institute for fiskeri-og marinbiologi HØYTEKNOLOGI-SENTERET, University of Bergen, Norway; Institute for Polar and Marine Research "Alfred Wegener", Bremerhaven, Germany.
- 1998-2000** **Post-Doc research fellowship**
Department of Cellular Biology , UNICAL; Zoological Laboratory, University of Vancouver, Canada; Bamfield Marine Sciences Centre, Vancouver Island, Canada.
- 1994-1996** **PhD in Animal Biology**
Department of Cellular Biology , UNICAL; Zoological Laboratory, University of Vancouver, Canada; Zoological Station "A. Dohrn ", Naples, Italy.
Experimental thesis: Effects of nitric oxide on fish gill and frog heart.
Scientific field Physiology
- 1994** **Qualification as a Professional Biologist**
UNICAL
- 1993-1994** **Research fellowship**
Research within the CEE n. AIR1-CT920186 project "Improvement of the nutritional value, growth and resistance to stress of eels and sturgeon by controlled dietary lipids and conditions during intensive aquaculture". UNICAL, University of Birmingham, University of Copenhagen.
- 1993** **Master's degree in Biology**
Department of Cellular Biology , UNICAL.
Experimental thesis: Effects of the endothelin on the isolated and perfused frog heart.
Scientific field Physiology

KNOWLEDGE OF LANGUAGE: ITALIAN (MOTHER TONGUE) - ENGLISH (GOOD KNOWLEDGE)

INSTITUTIONAL ACTIVITY

Since 1996, D.P. is a member of the Antarctic National Research Program (PNRA) and plays the role of coordinator of the UNICAL Operative Unit within the following research projects PNRA: PDR 2010/A1.08; PDR 2013/AZ1.10; PDR 2013/AZ1.20.

Since 2012, D.P. plays the role of scientific coordinator of the project "Cardiovascular prevention: oxidative stress as a new indicator of risk" in the context of the health prevention and protection campaign "Keeping Up with the prevention" cofinanced by the Province of Cosenza, Cassa di Risparmio (Carical) Foundation and UNICAL.

Since 2016, D.P. is a member of the COMITATO ETICO DI ATENEO (CEA), University of Calabria (DR N. 88, 3/2/2016).

Since 2017, D.P. is a member of the "CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE (CoNISMa) Area Scientifica Tematica "Ambienti Polari".

At the UNICAL DiBEST she is head of the "Laboratory of Human Physiology, Cardio-Renal section" of which oversaw the construction and consolidation of experimental works concerning nitric oxide/nitrite system on isolated and perfused organs of fish and mammals, and research areas on Antarctic organisms in the context of PNRA.

At the UNICAL DiBEST she is also head of the "Laboratory of Analysis and Research on Oxidative Stress (LARSO)" of which took care the preparation and consolidation of the experimental activities.

RESEARCH INTERESTS

Oxidative stress, aging and chronic kidney disease (CKD): traditional and/or specific risk factors for chronic renal failure (oxidative stress, inflammation, endothelial damage) in both patients (CKD or end stage renal disease) and animal model (rat).

In collaboration with "Kidney and Transplantation" Research Centre, Annunziata Hospital

Oxidative stress as a new cardiovascular risk factor: epidemiological studies and animal models (spontaneously hypertensive rats and obese rats).

Morphofunctional cardiovascular adaptations to extreme environments: physiological relevance of nitric oxide signalling in the control of cardiac performance in both mammalian (rat) and non-mammalian (Antarctic and temperate teleost) experimental models.

Italian National Research Program in Antarctica

RESEARCH PROGRAMS

1993-1996. Research Program financed by **CEE N. AIR1-CT920186** "Improvement of the nutritional value, growth and resistance to stress of eels and sturgeon by controlled dietary lipids and conditions during intensive aquaculture" in cooperation with Birmingham University and Copenhagen University.

1994-1995. Research Program financed by **CEE N. CI1-CT93-0050** "Environmental influences on the ecology and physiology of sub-Antarctic fish" in collaboration with St. Andrews University and Centre of Marine Research, Ushuaia, Argentina.

1996-1999. PdR 1996/1.1 **ANTARCTIC NATIONAL RESEARCH PROGRAM** (PNRA) "Adaptation of teleost fishes at low temperatures: adaptive and non-adaptive characteristics of Antarctic and

Sub-Antarctic Nototenioidi." In the context of the project, Dr. Pellegrino took part in the **XIV Italian Antarctic Expedition** at the Terra Nova Bay Base.

1998-1999. Collaborative multi-national and multi-disciplinary project **I.C.E.FISH (INTERNATIONAL COLLABORATIVE EFFORT ON FISH)** as part of the EASIZ Programme (coastal/shelf Ecology of the Antarctic Sea Ice Zone) and SCAR Sub-Committee on Evolutionary Biology of Antarctic Organisms. Dott. Pellegrino had the role of Head of the research line "Adaptive and non-adaptive characteristics in the physiology of Antarctic and sub-Antarctic Nototenioidi"

1998-2000. CNR research project n. **CNR 98.00.104.PF31** "Development of new species and technologies for aquaculture. Topics 4. Industrial Biotechnology and innovative methodologies. Sub-theme 4F. Marine and environmental biotechnology" in collaboration with University of Lecce and University of Palermo.

1999-2001. PdR 1999/2c.1.1 **ANTARCTIC NATIONAL RESEARCH PROGRAM (PNRA):** "Physiological, biochemical and molecular bases of evolutionary adaptation in Antarctic teleost". In the context of the project Dott. Pellegrino took part in the **XVII Italian Antarctic Expedition** at the Terra Nova Bay Base.

1999-2001. Research project **MURST** n. 368 "Early indicators of heart failure: applications of new biotechnologies in Medicine; nitric control of cardiac performance: evolutionary aspects " in collaboration with University of Naples.

2000-2001. Research project **YOUNG RESEARCHERS** " Biochemical expression analysis of the nitric oxide synthase enzyme isoforms: constitutive (eNOS, nNOS) and inducible (iNOS) in the fishes teleost heart in physiological and pathophysiological conditions" coordinated by Dr. Pellegrino at the Department of Biology Cell, University of Calabria, Arcavacata Rende (CS).

2001. Research program financed by **CEE N. HPRI-1999-CT-00056** "Cardiovascular function in *Salmo salar* with infectious salmon anemia (ISA): putative role of nitric oxide" held at the Institute for fiskeri-og marinbiologi HØYTEKNOLOGI-SENTERET, Bergen University (Norway).

2002-2004. PdR 2002/1.02 **ANTARCTIC NATIONAL RESEARCH PROGRAM (PNRA):** "Physiological, biochemical and molecular bases of evolutionary adaptation in Antarctic teleost " In the context of project Dr. Pellegrino took part in the **XX Italian Antarctic Expedition** at the Terra Nova Bay Base.

2003. Relevant Project of National Interest (**PRIN**) "The vasostatine as new regulators peptides of cardiac function and smooth muscle", University of Calabria.

2004-2006 (prolonged until 2009). PdR 2004/1.03 **Antarctic National Research Program (PNRA):** "Evolution and molecular adaptations in the transport of oxygen in polar fishes: nitric oxide and circulation breathing homeostasis"..

2007. Relevant Project of National Interest (**PRIN**) "Orexigenic and anorexigenic Peptides: peripheral heart action".

2010-2013. PdR 2010/A1.08 **Antarctic National Research Program (PNRA):** "The role of oxygen in the evolution-genes and proteins of polar marine organisms (ROSE)" Coordinator and Head of the UNICAL Scientific Unit: Dott. Daniela Pellegrino.

2012-2015. Pilot project in the field of **health protection and prevention** "Keeping Up with the prevention": "Cardiovascular prevention: oxidative stress as a new risk indicator" (Coordinator and scientific responsible: Dott. Daniela Pellegrino). Project cofinanced by UNICAL, Province of Cosenza and Calabria and Lucania (Carical) Cassa di Risparmio Foundation.

2013-2014. PdR 2013/AZ1.10 **Antarctic National Research Program (PNRA):** "Response to thermal stress in Antarctic nototenioidi: an integrated molecular approach to study the effect of the temperature increase in *Trematomus bernacchii* and *Chionodraco hamatus*" Coordinator and Head of the UNICAL Scientific Unit: Dott. Daniela Pellegrino.

2013-2014. PdR 2013/AZ1.20 **Antarctic National Research Program (PNRA):** "The emerging role of Antarctic fish new globins in defense against oxidative and nitrosative stress" Coordinator and scientific responsible of UNICAL Scientific Unit: Dott. Daniela Pellegrino.

2017-present. Progetto **MAGNA** On the route from Greece To Magna Graecia, EASME/EMFF/2016/1.2.112/010, European Commission's Executive Agency for Small and Medium –Sized Enterprise, 1/071/2018-1/01/2020.

2017-present. Progetto **MATACOS**, Materiali e tecnologie avanzate per la conservazione subacquea, Fondo per la Crescita Sostenibile, Bando "HORIZON 2020" PON I&C 2014-2020, D.M. 1 giugno 2016, Ditta: TECH4SEA S.r.l. Capofila.

2017-present. Progetto **CRATI**, Conoscenza e Restauro Attraverso Tecnologie avanzate Integrate, POR calabria 2014-2020.

PUBLICATIONS

1. D. La Russa, F. Giordano, A. Marrone, M. Parafati, E. Janda, **D. Pellegrino**. "Oxidative imbalance and kidney damage in cafeteria diet-induced rat model of metabolic syndrome: effect of bergamot polyphenolic fraction". *Antioxidants*, 8: 66 (2019).
2. D. La Russa, **D. Pellegrino**, A. Montesanto, P. Gigliotti, A. Perri, A. La Russa, R. Bonofiglio. Oxidative balance and inflammation in hemodialysis patients: biomarkers of cardiovascular risk? *Oxid Med Cell Longev*, 2019:8567275 (2019).
3. A. Montesanto, **D. Pellegrino**, S. Geracitano, D. La Russa, V. Mari, S. Garasto, F. Lattanzio, A. Corsonello, G. Passarino. Cardiovascular risk profiling of long-lived people shows peculiar associations with mortality compared with younger individuals. *Geriatrics & Gerontology International*, 19:165-170 (2019).
4. E. Janda, A. Lascala, C. Martino, **D. Pellegrino**, M. Parafati, M. Oliverio, R. Salerno, V. Mollace. Analysis of proautophagic activities of Citrus flavonoids in liver cells reveals the superiority of a natural polyphenol mixture over pure flavones. *Journal of Nutritional Biochemistry*, 58:119-130 (2018).
5. E. Brunelli, D. La Russa, **D. Pellegrino**. Impaired oxidative status is strongly associated with cardiovascular risk factors. *Oxid Med Cell Longev*, 2017:6480145 (2017).
6. D. La Russa, E. Brunelli, **D. Pellegrino**. Oxidative imbalance and kidney damage in spontaneously hypertensive rats: activation of extrinsic apoptotic pathway. *Clin Sci (Lond)*, 131(13): 1419-1428 (2017).
7. R. Macirella, A. Guardia, **D. Pellegrino**, I. Bernabò, V. Tronci, L.O.E. Ebbesson, S. Sesti, S. Tripepi, E. Brunelli. "Effects of two sublethal concentrations of mercury chloride on the morphology and metallothionein activity in the liver of zebrafish (*Danio rerio*). *Int J Mol Sci*, 17, 361 (2016).
8. **D. Pellegrino**. "Antioxidants and Cardiovascular Risk Factors". *Diseases*, 4, 11 (2016).
9. E. Brunelli, A. Ferraro, R. Macirella, **D. Pellegrino**, F. Romeo, M.L. Panno. "AR and CgA in situ detection as prognostic clinical markers in prostate adenocarcinoma". *IJLRST*, 4(6): 39-43 (2015).
10. F. Garofalo, D. Amelio, A. Gattuso, M.C. Cerra, **D. Pellegrino**. "Cardiac contractility in Antarctic teleost is modulated by nitrite through xanthine oxidase and cytochrome p-450 nitrite reductase". *Nitric Oxide-Biology and Chemistry*, 49:1-7 (2015).
11. E. Brunelli, F. Domanico, D. La Russa, **D. Pellegrino**. "Sex differences in circulating oxidative stress biomarkers". *Current Drug Targets* 15(8): 811-815 (2014).
12. G. Montesanti, M.L. Parisella, G. Garofalo, **D. Pellegrino**. "Nitrite as Direct S-Nitrosylating Agent of Kir2. 1 Channels" *International Scholarly Research Notices* ID 517126 (2014).
13. T. Angelone, E. Filice, A. Quintieri, S. Imbrogno, N. Amodio, T. Pasqua, **D. Pellegrino**, F. Mulè, MC. Cerra. "Receptor identification and physiological characterization of glucagon-like peptide-2 in the rat heart". *Nutrition Metabolism and Cardiovascular Diseases*, 22(6): 486-494 (2012).
14. M.L. Parisella, T. Angelone, A. Gattuso, MC. Cerra, **D. Pellegrino**. "Glycyrrhizin and glycyrrhetic acid directly modulate cardiac performance in rat beating hearts". *Journal of Nutritional Biochemistry*, 23(1): 69-75 (2012).
15. E. Filice, T. Angelone, EM. De Francesco, **D. Pellegrino**, M. Maggiolini, MC. Cerra. "Crucial role of phospholamban phosphorylation and S-nitrosylation in the negative lusitropism induced by 17 β -estradiol in the male rat heart". *Cell Physiol Biochem.*, 28(1): 41-52 (2011).
16. **D. Pellegrino**, M.L. Parisella. "Nitrite as a Physiological Source of Nitric Oxide and a Signalling Molecule in the Regulation of the Cardiovascular System in Both Mammalian and Non-Mammalian Vertebrates". *Recent Pat Cardiovasc Drug Discov.*, 5(2): 91-96 (2010).
17. E. Filice, A.G. Recchia, **D. Pellegrino**, T. Angelone, M. Maggiolini, M.C. Cerra. "A new membrane G protein-coupled receptor (GPR30) is involved in the cardiac effects of 17 β -estradiol in the male rat". *J. Physiol. Pharmacol.*, 60 (4): 3-10 (2009).
18. F. Garofalo, **D. Pellegrino**, D. Amelio, B. Tota. "The Antarctic hemoglobinless icefish, fifty five years later: A unique cardiocirculatory interplay of disaptation and phenotypic plasticity". *Comp. Biochem. Physiol.*, 154A: 10-28 (2009).
19. M.C. Cerra, T. Angelone, M.L. Parisella, **D. Pellegrino** and B. Tota. "Nitrite modulates contractility of teleost (*Anguilla anguilla* and *Chionodraco hamatus*, i.e. the Antarctic

- hemoglobinless icefish) and frog (*Rana esculenta*) hearts". BBA, 1787:849–855 (2009).
20. **D. Pellegrino**, S. Shiva, T. Angelone, M.T. Gladwin and B. Tota. "Nitrite exerts potent negative inotropy in the isolated heart via eNOS-independent nitric oxide generation, cGMP-PKG pathway activation and inhibition of mitochondrial respiration". BBA, 1787:818–827 (2009).
 21. L. Quassinti, **D. Pellegrino**, F. Garofalo, E. Maccari, M. Bramucci. "Comparison of angiotensin converting enzyme-like activity in the Antarctic teleosts *Trematomus bernacchii* and *Chionodraco hamatus*". Polar Biology, 32:673–677 (2009).
 22. A.G. Recchia, E. Filice, **D. Pellegrino**, A. Dobrinaa, M.C. Cerra, M. Maggiolini. "Endothelin-1 induces Connective Tissue Growth Factor expression in cardiomyocytes". JMCC, 46(3):352-359 (2009).
 23. F. Garofalo, D. Amelio, M.C. Cerra, B. Tota, B.D. Sidell and **D. Pellegrino**. "Morphological and Physiological study of the Cardiac NOS-NO System in the Antarctic (Hb-/Mb-) icefish *Chaenocephalus aceratus* and in the red-blooded *Trematomus bernacchii*". Nitric Oxide-Biology and Chemistry, 20: 69-78 (2009).
 24. T. Angelone, E. Filice, A. Quintieri, S. Imbrogno, E. Pulera', C. Mannarino, **D. Pellegrino** and M.C. Cerra. "Beta3-adrenoceptors modulate left ventricular relaxation in the rat heart via the NO-cGMP-PKG pathway". Acta Physiol (Oxf), 193(3): 229-239 (2008).
 25. M.C. Cerra and **D. Pellegrino**. "Cardiovascular cGMP-generating systems in physiological and pathological conditions". Current Medicinal Chemistry, 14(5): 585-599 (2007).
 26. D. Amelio, F. Garofalo, **D. Pellegrino**, F. Giordano, B. Tota and M.C. Cerra. "Cardiac expression and distribution of Nitric Oxide Synthases in the ventricle of the cold-adapted Antarctic teleosts, the hemoglobinless *Chionodraco hamatus* and the red-blooded *Trematomus bernacchii*". Nitric Oxide-Biology and Chemistry, 15(3): 190-198 (2006).
 27. B. Tota, D. Amelio, **D. Pellegrino**, Y.K. Ip and M.C. Cerra. "NO modulation of myocardial performance in fish hearts". Comp. Biochem. Physiol. (A), 142(2): 164-177 (2005).
 28. **D. Pellegrino**, B. Tota and D.J. Randall. "Adenosine/Nitric oxide cross-talk in the branchial circulation of *Squalus acanthias* and *Anguilla anguilla*". Comp. Biochem. Physiol. (A), 142(2): 198-204 (2005).
 29. **D. Pellegrino**, R. Acierno and B. Tota. "Control of cardiovascular function in the icefish *Chionodraco hamatus*: involvement of serotonin and nitric oxide". Comp. Biochem. Physiol. (A) 134(2): 471-480 (2003).
 30. **D. Pellegrino**, C.A. Palmerini and B. Tota. "No hemoglobin but NO: the icefish (*Chionodraco hamatus*) heart as a paradigm". J. Exp. Biol. 207(22): 3855-3864 (2004).
 31. **D. Pellegrino**, E. Sprovieri, R. Mazza, D.J. Randall and B. Tota. "Nitric oxide-cGMP-mediated vasoconstriction and effects of acetylcholine in the branchial circulation of the eel" Comp. Biochem. Physiol. (A)132: 447-457 (2002).
 32. M. Maffia, R. Acierno, M. Rollo, A. Rizzello, C. Storelli, **D. Pellegrino** and B. Tota. "Ionic regulation in Antarctic teleosts". Ital. J. Zool., supplement 1: 47-52 (2000).
 33. C. Agnisola, D.J. McKenzie, **D. Pellegrino**, P. Bronzi, B. Tota, E.W. Taylor. "Cardiovascular response to hypoxia in the Adriatic sturgeon (*Acipenser naccarii*)". J. Appl. Ichthyol. 15: 67-72 (1999).
 34. Gattuso, **D. Pellegrino**, R. Mazza and B. Tota. "Endocardial endothelium mediates luminal ACh-NO signaling in isolated frog heart". Am. J. Physiol. 276:H633-H641 (1999).
 35. Tota, M.C. Cerra, R. Mazza, **D. Pellegrino** and J. Icardo, "The heart of the Antarctic icefish as paradigm of cold adaptation". J. Thermal Biol. 22(6):409-417 (1997).
 36. S.U. Sys, **D. Pellegrino**, R. Mazza, A. Gattuso, L.J. Andries and B. Tota. "Endocardial endothelium in the avascular heart of the frog: morphology and role of nitric oxide". J. Exp. Biol. 200: 3109-3118 (1997).
 37. R. Acierno, A. Gattuso, M.C. Cerra, **D. Pellegrino**, C. Agnisola and B. Tota. "The isolated and perfused working heart of the frog, *Rana esculenta*: an improved preparation". General Pharmacology 25(3): 521-526 (1994).
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