

Maria Stefania Spagnuolo

Researcher (permanent position)

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Education and Professional Experience

2008-to date: Researcher (Permanent position)

December 2005-December 2007: Researcher (Temporary position)

March 2004-March 2005: Advanced Research Award, granted by POR Campania 2000/2006 (misura 3.13), at University of Naples Federico II, Department of General and Environmental Physiology.

October 2003-May 2005: Appointed as researcher in the project "Bioactive compounds in pasture species for phytotherapy and animal wellbeing" (ANFIT PROJECT), funded by Ministero delle Politiche Agricole e Forestali (DM 417757/26/06/01), at ISPAAM-CNR.

November 2000-October 2003: Ph.D. in Animal, Vegetal and Microbic Physiology at Department of General and Environmental Physiology, University of Naples Federico II

March 2000-November 2000: Fellowship granted by ISPAAM-CNR, attending the laboratory of Prof P.Abrescia, in the Department of General and Environmental Physiology, University of Naples Federico II.

March 1999-March 2000: Training post lauream at Department of General and Environmental Physiology, University of Naples Federico II.

February 1997-December 1998: Studentship in the laboratory of Prof. S. Filosa (Department of Evolutive and Comparative Biology, University of Naples Federico II).

December 2008: Degree with first class honours in Biological Sciences, University of Naples Federico II.

Keywords

Molecular Physiology, Cell biology, Redox homeostasis, Oxidative stress, Inflammation, Animal welfare, Apolipoproteins, Haptoglobin, Cholesterol, Lactation, Environmental pollution.

Selected publications

1. **Spagnuolo MS**, Iossa S, Cigliano L. Sweet but Bitter: Focus on Fructose Impact on Brain Function in Rodent Models. *Nutrients*. 2020 Dec 22;13(1):1. doi: 10.3390/nu13010001.
2. Matuozzo M, **Spagnuolo MS**, Hussein HA, Gomaa AM, Scaloni A, D'Ambrosio C. Novel Biomarkers of Mastitis in Goat Milk Revealed by MALDI-TOF-MS-Based Peptide Profiling. *Biology (Basel)*. 2020 Jul 28;9(8):193. doi: 10.3390/biology9080193.
3. **Spagnuolo MS**, Pallottini V, Mazzoli A, Iannotta L, Tonini C, Morone B, Ståhlman M, Crescenzo R, Strazzullo M, Iossa S, Cigliano L. A Short-Term Western Diet Impairs Cholesterol Homeostasis and Key Players of Beta Amyloid Metabolism in Brain of Middle Aged Rats. *Mol Nutr Food Res*. 2020 Aug;64(16):e2000541. doi: 10.1002/mnfr.202000541.
4. Mazzoli A, **Spagnuolo MS**, Gatto C, Nazzaro M, Cancelliere R, Crescenzo R, Iossa S, Cigliano L. Adipose Tissue and Brain Metabolic Responses to Western Diet-Is There a Similarity between the Two? *Int J Mol Sci*. 2020 Jan 25;21(3):786. doi: 10.3390/ijms21030786.
5. Mazzoli A, Crescenzo R, Cigliano L, **Spagnuolo MS**, Cancelliere R, Gatto C, Iossa S. Early Hepatic Oxidative Stress and Mitochondrial Changes Following Western Diet in Middle Aged Rats. *Nutrients*. 2019 Nov 5;11(11):2670. doi: 10.3390/nu11112670.
6. Cigliano L, **Spagnuolo MS**, Boscaino F, Ferrandino I, Monaco A, Capriello T, Cocca E, Iannotta L, Treppiccione

- L, Luongo D, Maurano F, Rossi M, Bergamo P. Dietary Supplementation with Fish Oil or Conjugated Linoleic Acid Relieves Depression Markers in Mice by Modulation of the Nrf2 Pathway. *Mol Nutr Food Res*. 2019 Nov;63(21):e1900243. doi: 10.1002/mnfr.201900243.
7. Crescenzo R, **Spagnuolo MS**, Cancelliere R, Iannotta L, Mazzoli A, Gatto C, Iossa S, Cigliano L. Effect of Initial Aging and High-Fat/High-Fructose Diet on Mitochondrial Bioenergetics and Oxidative Status in Rat Brain. *Mol Neurobiol*. 2019 Nov;56(11):7651-7663. doi: 10.1007/s12035-019-1617-z.
 8. Cigliano L, **Spagnuolo MS**, Napolitano G, Iannotta L, Fasciolo G, Barone D, Venditti P. 24S-hydroxycholesterol affects redox homeostasis in human glial U-87 MG cells. *Mol Cell Endocrinol*. 2019 Apr 15;486:25-33. doi: 10.1016/j.mce.2019.02.013.
 9. **Spagnuolo MS**, Bergamo P, Crescenzo R, Iannotta L, Treppiccione L, Iossa S, Cigliano L. Brain Nrf2 pathway, autophagy, and synaptic function proteins are modulated by a short-term fructose feeding in young and adult rats. *Nutr Neurosci*. 2020 Apr;23(4):309-320. doi: 10.1080/1028415X.2018.1501532.
 10. Monaco A, Ferrandino I, Boscaino F, Cocca E, Cigliano L, Maurano F, Luongo D, **Spagnuolo MS**, Rossi M, Bergamo P. Conjugated linoleic acid prevents age- dependent neurodegeneration in a mouse model of neuropsychiatric lupus via the activation of an adaptive response. *J Lipid Res*. 2018 Jan;59(1):48-57. doi: 10.1194/jlr.M079400.
 11. Cigliano L, **Spagnuolo MS**, Crescenzo R, Cancelliere R, Iannotta L, Mazzoli A, Liverini G, Iossa S. Short-Term Fructose Feeding Induces Inflammation and Oxidative Stress in the Hippocampus of Young and Adult Rats. *Mol Neurobiol*. 2018 Apr;55(4):2869-2883. doi: 10.1007/s12035-017-0518-2.
 12. **Spagnuolo MS**, Mollica MP, Maresca B, Cavaliere G, Cefaliello C, Trinchese G, Scudiero R, Crispino M,

Cigliano L. High Fat Diet and Inflammation – Modulation of Haptoglobin Level in Rat Brain. *Front Cell Neurosci.* 2015 Dec 15;9:479. doi: 10.3389/fncel.2015.00479.

13. Cigliano L, Nebbia C, Rychen G, Feidt C, Girolami F, Rossetti C, **Spagnuolo MS**. Evaluation of serum markers of blood redox homeostasis and inflammation in PCB naturally contaminated heifers undergoing decontamination. *Sci Total Environ.* 2016 Jan 15;542(Pt A):653-64. doi: 10.1016/j.scitotenv.2015.10.104.
14. La Marca V, Maresca B, **Spagnuolo MS**, Cigliano L, Dal Piaz F, Di Iorio G, Abrescia P. Lecithin-cholesterol acyltransferase in brain: Does oxidative stress influence the 24-hydroxycholesterol esterification? *Neurosci Res.* 2016 Apr;105:19-27. doi: 10.1016/j.neures.2015.09.008.
15. Genuardo V, Perucatti A, Pauciullo A, Iannuzzi A, Incarnato D, **Spagnuolo MS**, Solinas N, Bullitta S, Iannuzzi L. Analysis of chromosome damage by sister chromatid exchange (SCE) and redox homeostasis characterization on sheep flocks from Sardinian pasturelands. *Sci Total Environ.* 2015 Sep 15;527-528:393-400. doi: 10.1016/j.scitotenv.2015.05.021.
16. Maresca B, **Spagnuolo MS**, Cigliano L. Haptoglobin modulates beta-amyloid uptake by U-87 MG astrocyte cell line. *J Mol Neurosci.* 2015 May;56(1):35-47. doi: 10.1007/s12031-014-0465-6.
17. **Spagnuolo MS**, Maresca B, Mollica MP, Cavaliere G, Cefaliello C, Trinchese G, Esposito MG, Scudiero R, Crispino M, Abrescia P, Cigliano L. Haptoglobin increases with age in rat hippocampus and modulates Apolipoprotein E mediated cholesterol trafficking in neuroblastoma cell lines. *Front Cell Neurosci.* 2014 Aug 5;8:212. doi: 10.3389/fncel.2014.00212.
18. **Spagnuolo MS**, Maresca B, La Marca V, Carrizzo A, Veronesi C, Cupidi C, Piccoli T, Maletta RG, Bruni AC, Abrescia P, Cigliano L. Haptoglobin interacts with

apolipoprotein E and beta-amyloid and influences their crosstalk. ACS Chem Neurosci. 2014 Sep 17;5(9):837-47. doi: 10.1021/cn500099f.

19. La Marca V, **Spagnuolo MS**, Cigliano L, Marasco D, Abrescia P. The enzyme lecithin-cholesterol acyltransferase esterifies cerebrosterol and limits the toxic effect of this oxysterol on SH-SY5Y cells. J Neurochem. 2014 Jul;130(1):97-108. doi: 10.1111/jnc.12713. Epub 2014 Apr 2. PMID: 24620755.
20. **Spagnuolo MS**, Di Stasi R, De Rosa L, Maresca B, Cigliano L, D'Andrea LD. Analysis of the haptoglobin binding region on the apolipoprotein A-I-derived P2a peptide. J Pept Sci. 2013 Apr;19(4):220-6. doi: 10.1002/psc.2487. Epub 2013 Feb 19. PMID: 23420675.