

**Name:** Andrea Fuso

**Date:** March, 2021

**Education and Employment:**

- 1991-1997: Degree (MS) in Biological Sciences (Cum Laude), Sapienza University of Rome, Rome, Italy
- 1997-2001: Ph.D. in Enzymology, University of L'Aquila, L'Aquila, Italy
- 2002-2010: Postdoctoral Fellow (Assegno di Ricerca) in Neuroscience, Dept. of Surgery "P. Valdoni" and Dept. of Psychology, Sapienza University of Rome, Rome, Italy
- 2010-2013: Lecturer in Clinical Pathology, Post-graduation School of Clinical Pathology, Sapienza University of Rome, Rome, Italy
- 2012-2015: Assistant Professor (RTD), Dept. of Psychology, Sect. Neuroscience, Sapienza University of Rome (RTDa; 1/10/2012 - 30/9/2015)
- 2013-2017: Scientist, S. Lucia Foundation, Rome, Italy - Lab. of Lipid Neurochemistry (Lab. Head prof. M. Maccarrone)
- 2013: National Qualification (Abilitazione Scientifica Nazionale, ASN) as Associate Professor in Applied Biology (SSD 05/F1 – Bio/13; until 22/01/2020); National Qualification as Associate Professor in Biochemistry (SSD 05/E1 – Bio/10; until 16/06/2020).
- 2015-2018: Scientific Consultant to Lo.Li.Pharma S.r.l., Rome, Italy
- 2015-2018: Guest researcher, Dept. of Surgery, Sapienza University of Rome, Italy
- 2018-pres.: Assistant Professor (RTD), Dept. of Experimental Medicine, Sapienza University of Rome (RTDb; 1/11/2018 - 31/10/2021)

**Other professional experiences:**

- 1991-1997: **Undergraduate student, Dept. of Cellular Biotechnology and Hematology, Sapienza University of Rome, Rome, Italy**  
Study of the methylation status of 5'-flanking and exon I of the regulatory gene *myogenin*, during muscular differentiation *in vitro*. Study on the effects of hypomethylating drugs during muscle differentiation.
- 1997-2001: **Ph.D. student, Dept. of Cellular Biotechnology and Hematology, Sapienza University of Rome, and University of L'Aquila, Italy.**  
Further studies on the effect and mechanism of action of hypomethylating drugs on DNA methylation during muscle differentiation.
- 2002-2010: **Postdoctoral Fellow in Neuroscience, Dept. of Surgery "P. Valdoni" and Dept. of Psychology, Sapienza University of Rome, Rome, Italy.**  
Studies on One-carbon metabolism alterations *in vitro* and *in vivo* by modulation of B vitamins supplementation and use of hypomethylating and hypermethylating drugs. Alzheimer's Disease: study of the molecular mechanisms of homocysteine toxicity; role of DNA and protein methylation in amyloidogenesis and fibrillogenesis.
- 2010-2012.: **Contract Researcher and Lecturer in Clinical Pathology, Dept. of Surgery "P. Valdoni", Sapienza University of Rome, Rome, Italy.**  
Studies on the modulation of non-CpG methylation in *in vitro* and *in vivo* models. Studies on the role of One-carbon metabolism in Alzheimer's Disease in *in vitro* and *in vivo* models and in human samples. Studies on the DNA methylation of PSEN1 gene in relation to alterations of One-carbon metabolism. Studies on the effect of B vitamins on PARP activity and on RAGE and LRP1 regulation. Role of One-carbon metabolism on animal models of autism and Rett syndrome.

## **Main research interest**

General Areas:

- Epigenetics
- One-Carbon Metabolism
- Neurodegeneration
- Nutrition and disease

Applicative fields:

- Alzheimer's disease
- Rett Syndrome
- Autism
- Muscle differentiation

## **Current and past research support**

Active research projects:

- Private grant for translational studies on Vitamin K in Alzheimer's Disease, Gnosis s.p.a.; Starting grant: € 80.000. Role: PI
- Private grant for clinical studies on S-adenosylmethionine in Alzheimer's Disease, Gnosis s.p.a.; Budget under negotiation. Role: PI
- Sapienza University, Progetto Medie attrezzature #MA31916B89218960, Role: participant
- Sapienza University, Progetto di Ricerca Medio #RM11916B88D5E704. Role participant

Submitted: Grant program "Roche per la Ricerca", Grant MUR/Covid-19, Horizon2020 call "From farm to fork", PRIN 2020

Completed research projects:

1/12/2013 – 31/11/2016

Sapienza University Grant, title: Aggregazione di fibrille amiloidi nella malattia di Alzheimer: processi rapidi e processi lenti; Total budget: € 11.000/year. Role: Unit PI.

1/1/2013 – 31/12/2015

FP7 Grant, title: DEVELAGE; Total budget: € 4.000.000. Role: Co-investigator.

1/1/2007 – 31/12/2011

Research project financed by Gnosis s.p.a. for the development of researches on "Molecular mechanisms and possible clinical applications of S-adenosylmethionine". About 100.000 € per year. Role: Co-Investigator (PI: Scarpa S.)

1/1/2002 – 31/12/2003

Young researchers grant of the Sapienza University of Rome; study of the DNA methylation mechanisms in Alzheimer's Disease models. Role: PI

## **Committee responsibilities**

Referee for the Grant Programs of the:

Alzheimer's Association, Swiss National Science Foundation, Parkinson's UK, Lise Meitner-Program, Austrian Science Fund, UK Medical Research Council, MIUR, Università di Modena e Reggio Emilia, Unicampania, Università di Verona, PRIN

### **Editorial responsibilities (Reviewer)**

Neurobiology of Aging, Journal of Alzheimer's Disease, Journal of Neurochemistry, Current Alzheimer Research, PlosOne, Current Pharmaceutical Design, AGE, Epigenetics, International Journal of Developmental Neuroscience, Archives of Medical Research, Amino Acids, Frontiers in Aging Neuroscience, Frontiers in Genetics, WIRE, European Journal of Neuroscience, Cancer Biomarkers, Expert Review of Molecular Diagnostics, Epigenetics, Epigenomics, Longevity & Healthspan.

### **Editorial responsibilities (Editorial boards)**

- Epigenomes: Editorial Board Member
- Frontiers in Molecular Biosciences - Metabolomics: Review Editor
- Associate Editor for Metabolomics (specialty section of Frontiers in Molecular Biosciences, Frontiers in Environmental Science and Frontiers in Ecology and Evolution
- Annals of Nutritional Disorders & Therapy: Editorial Board Member

### **Teaching**

- 1998-2001: Guest lecturer at "Chemistry and Introductory Biochemistry" course at Nurse Training College "San Giovanni di Dio".
- 2002-2008: Guest lecturer at post-graduation courses (Scuola di Specializzazione) of Hematology and of Clinical Pathology, Sapienza University of Rome
- 2010-pres.: Guest lecturer at Sapienza University of Rome School of Medicine; seminars on "Molecular mechanisms of Alzheimer's Disease"
- 2011-2012: **Techniques of Cellular and Molecular Biology**, post-graduation course of "Clinical Pathology", Sapienza University of Rome.
- 2012-pres.: **Epigenetics**, Master in "Stress, sport, nutrition: new diagnostic and therapeutic approaches for fitness, wellness, prevention and rehabilitation", Medical and Pharmaceutical School, Sapienza University of Rome.
- 2013-2015: **Molecular basis of the Life** (classes of Biology and Genetics, Bio/13), School of Therapists of Child Neuropsychomotricity, Sapienza University of Rome
- 2015-2016: **Molecular basis of the Life** (classes of Biochemistry, Bio/10, and Biology, Bio/13), Schools of Nursing (S. Andrea, Pomezia, Frosinone), Sapienza University of Rome
- 2015-2016: **Epigenetics**, Master in Methodology for Therapeutic Intervention in Neurology, Sapienza University of Rome
- 2016-2019: **Epigenetics and Dementia**, Master in Diagnosi e terapia integrata della malattia di Alzheimer e delle altre demenze, Tor Vergata University, Rome
- 2019-pres: **Clinical Biochemistry**, School of Medicine, Sapienza University of Rome
- 2019-pres: **Biochemistry**, Nurse Science, Sapienza University of Rome.
- 2020-pres: **Molecular Biology**, School for Biomedical Laboratory Technicians, Sapienza University of Rome.

## **Mentoring**

2001-pres: more than 15 undergraduate students (Biological Sciences, Biotechnology) and PhD students (Human Biology)

## **Membership to scientific societies:**

2007-2018.: International Society to Advance Alzheimer Research and Treatment (ISTAART)  
2008-2018: Society for Neuroscience (SfN)  
2008-pres.: Italian Society for Neuroscience (SINS)  
2010-pres.: Epigenetics Society (ES); **Board of Directors member since 2015**  
2014-pres.: Associazione Italiana per la Ricerca sull'Invecchiamento Cerebrale (AIRIC)  
2019-pres.: Società Italiana di Biochimica Clinica e Biologia Molecolare Clinica (SIBIOC)  
2019-pres.: Società Italiana di Biochimica (SIB)

## **Honors:**

2001: Fellowship to attend the course "Technologies in Oncology", FORMIT Foundation  
2009: Invited Chair at the symposium "Epigenetics of Alzheimer's Disease", 9<sup>th</sup> International Conference on Alzheimer's Disease (ICAD) (Wien, Austria)  
2009: Organizer of the Symposium "Homocysteine in Alzheimer's Disease", National Congress of the Italian Society for Neuroscience (Milan, IT)  
2010: Travel Fellowship to attend the 10<sup>th</sup> International Conference on Alzheimer's Disease (ICAD) (Honolulu, HA, USA)  
2011: Invited Plenary Speaker, 8<sup>th</sup> International Conference on Homocysteine Metabolism (Lisbon, Portugal)  
2011: Travel Fellowship to attend the 11<sup>th</sup> International Conference on Alzheimer's Disease (ICAD) (Paris, France)  
2012: Invited Plenary Speaker, conference on Advances and Controversies in B-Vitamins and Choline (Leipzig, Germany)  
2012: Fellowship from Unipharma to perform studies on a schizophrenia animal model  
2013: Invited Plenary Speaker, Keystone Symposia on "Nutrition, Epigenetic and Human Disease" (Santa Fe, NM, USA)  
2013: Organizer and chair of the Symposium "Environment, epigenetics and neurodegeneration", National Conference of the Italian Society for Neuroscience (Rome, IT)  
2013: Chair of the Symposium "Neuroepigenetics: Environmental determinants of brain and behavior", Joint Italian-Israeli symposium at National ISFN Conference (Eilat, IL)  
2014: Invited Plenary Speaker, 20<sup>th</sup> Symposium on Neurobiology and Neuroendocrinology of Aging (Bregenz, AT)  
2015: Board of Directors, Epigenetic Society (ES)  
2015: Member of the Scientific/Organizing Committee, "Nanoscience and Nanotechnology" International Conference (Frascati, IT)  
2016: Member of the Scientific/Organizing Committee, "52° Congresso della Società Italiana di Neuropatologia e Neurobiologia Clinica" (Rome, IT)

## **Invited lectures:**

- "Epigenetic mechanisms in AD", RepEat Project - University of Teramo, November 13 2017; host Dr. Claudio D'Addario

- "CpG and non-CpG methylation in Alzheimers' Disease"; The Hebrew University of Jerusalem, May 19 2016; host Dr. Aron Troen.
- "CpG and non-CpG methylation patterns of PSEN1 during neurodevelopment and neurodegeneration in mice and humans"; CIBIO, University of Trento, February 27 2015; host Dr. Margherita Grasso.
- "DNA methylation and mRNA expression patterns of PSEN1 during neurodevelopment and neurodegeneration in mice and humans"; Dept. of Cellular Biology and Neurosciences, Istituto Superiore di Sanità, Rome, February 2 2015; host Dr. Bianca De Filippis
- "Presenilin1 CpG and non-CpG methylation in Alzheimer's Disease"; Dept. of Biochemical Sciences, Sapienza University of Rome - January 16 2015; host Dr. Maria D'Erme
- "Looking for Alzheimer's Disease mechanisms: one-carbon metabolism and methylation reactions"; Dept. of Scienze e Biotecnologie Medico-Chirurgiche, Sapienza University of Rome - Latina, February 8 2011; host Dr. Rita Businaro.
- "Role of methylation metabolism in Alzheimer's Disease"; Mario Negri Institute for Pharmacological Research, February 23 2010; host Dr. Ugo Lucca.
- "Methylation imbalance as a pathway to disease: the Alzheimer's Disease model"; Dept. Of Histology and Medical Embryology, Sapienza University of Rome, November 25, 2009; host Dr. Carla Boitani.
- "DNA methylation and Alzheimer's Disease"; Center for Research in Neurobiology "Daniel Bovet", Sapienza University of Rome, June 8, 2009; host Dr. Antonella De Jaco.
- "Homocysteine cycle, methylation and Alzheimer's Disease"; Dept. of Pharmacology, Chemiotherapy and Medical Toxicology, CNR Center, University of Milan, September 27, 2006; host Dr. Carlo Sala.

### **Patents:**

- S-Adenosylmethionine and derivatives thereof for the treatment and prevention of Alzheimer's Disease. Patent n° WO2001IT00528.
- Use of S-adenosylmethionine (SAM) e Superoxidedismutase (SOD) for the preparation of drugs for the treatment of Alzheimer's Disease. Application n° 08425123.0

### **Scientific Collaborations:**

- I. Ferrer, Institute of Neuropathology, Bellvitge University Hospital, Hospitalet de Llobregat (Barcelona), Spain
- E. Aronica, Amsterdam University, Netherland
- G. Kovacs, Medical University Wien, Austria
- A. Troen, Yuval Dor, Benjamin Glaser, Institute of Biochemistry, Food Science and Nutrition, Hebrew University of Jerusalem
- F. Gosselet, Université d'Artois, Lens, France
- E. Rodrigues, iMed.UL - Research Institute for Medicines and Pharmaceutical Sciences, Faculty of Pharmacy, University of Lisbon, Portugal
- M. D'Erme, L. Mosca, Dept. Biochemistry, Sapienza University of Rome
- Stefano Gustincich, SISSA, Trieste
- L. Ricceri, G. Laviola, B. De Filippis, Dept. Cell Biology and Neuroscience, Istituto Superiore di Sanità, Rome
- R. Businaro, Dept. Scienze e Biotecnologie Medico-Chirurgiche, Sapienza University of Rome

## Languages:

Italian: mother tongue

English: fluent, written and spoken.

French: fluent, spoken; good, written

## Other Relevant and non-professional achievements:

- Emergency Responder (BLS – EFR)
- Chair of the Sapienza local head office of ARTeD (Associazione Ricercatori a Tempo Determinato) 2013-2015

## Full Papers:

**Int. publications: 70; h-index: 29; citations: 2418**

(\*corr. author)

1. Napoletani G, Vigli D, Cosentino L, Grieco M, Talamo MC, Lacivita E, Leopoldo M, Laviola G, **Fuso A**, d'Erme M, De Filippis B. Stimulation of the Serotonin Receptor 7 Restores Brain Histone H3 Acetylation and MeCP2 Corepressor Protein Levels in a Female Mouse Model of Rett Syndrome. *J Neuropathol Exp Neurol*. 2021 Feb 22;80(3):265-273. doi: 10.1093/jnen/nlaa158.
2. **Fuso A**, Troen AM. Environmental Epigenetics: Myth and Reality. *Organisms. Journal of Biological Sciences* 2021. 4(2):31-34. doi:https://doi.org/10.13133/2532-5876/17351.
3. Sterrantino M, **Fuso A**, Pierandrei S, Bruno SM, Testino G, Cimino G, Angeloni A, Lucarelli M. Quantitative Evaluation of CFTR Pre-mRNA Splicing Dependent on the (TG)mTn Poly-Variant Tract. *Diagnostics (Basel)*. 2021 Jan 25;11(2):168. doi: 10.3390/diagnostics11020168
4. Proietti S, Cucina A, Pensotti A, **Fuso A**, Marchese C, Nicolini A, Bizzarri M. Tumor reversion and embryo morphogenetic factors. *Semin Cancer Biol*. 2020 Sep 10:S1044-579X(20)30194-2. doi: 10.1016/j.semcancer.2020.09.005.
5. Tarashi S, Badi SA, Moshiri A, Ebrahimzadeh N, Fateh A, Vaziri F, Aazami H, Siadat SD, **Fuso A**. The inter-talk between *Mycobacterium tuberculosis* and the epigenetic mechanisms. *Epigenomics*. 2020 Mar;12(5):455-469. doi: 10.2217/epi-2019-0187.
6. **Fuso A**, Raia T, Orticello M, Lucarelli M. The complex interplay between DNA methylation and miRNAs in gene expression regulation. *Biochimie*. 2020 Jun;173:12-16. doi: 10.1016/j.biochi.2020.02.006.
7. Versele R, Corsi M, **Fuso A**, Sevin E, Businaro R, Gosselet F, Fenart L, Candela P. Ketone Bodies Promote Amyloid- $\beta_{1-40}$  Clearance in a Human in Vitro Blood-Brain Barrier Model. *Int J Mol Sci*. 2020 Jan 31;21(3):934. doi: 10.3390/ijms21030934.
8. **Fuso A**, Raia T. The Relevance of Epigenetics in the SARS-CoV-2 Infection and COVID-19 Disease. *Organisms. Journal of Biological Sciences*. 2020; 4(1):11-14. ISSN 2532-5876. doi:https://doi.org/10.13133/2532-5876/16956.
9. Monti N, Cavallaro RA, Stoccoro A, Nicolia V, Scarpa S, Kovacs GG, Fiorenza MT, Lucarelli M, Aronica E, Ferrer I, Coppedè F, Troen AM, **Fuso A**. CpG and non-CpG Presenilin1 methylation pattern in course of neurodevelopment and neurodegeneration is associated with gene expression in human and murine brain. *Epigenetics*. 2020 Aug;15(8):781-799. doi: 10.1080/15592294.2020.1722917.

10. Lucarelli M, Ferraguti G, **Fuso A**. Active Demethylation of Non-CpG Moieties in Animals: A Neglected Research Area. *Int J Mol Sci*. 2019 Dec 12;20(24):6272. doi: 10.3390/ijms20246272.
11. Delfino D, Rossetti DV, Martelli C, Inserra I, Vincenzoni F, Castagnola M, Urbani A, Scarpa S, **Fuso A**, Cavallaro RA, Desiderio C. Exploring the brain tissue proteome of TgCRND8 Alzheimer's Disease model mice under B vitamin deficient diet induced hyperhomocysteinemia by LC-MS top-down platform. *J Chromatogr B Analyt Technol Biomed Life Sci*. 2019 Aug 15;1124:165-172. doi: 10.1016/j.jchromb.2019.06.005.
12. Cosentino L, Vigli D, Medici V, Flor H, Lucarelli M, **Fuso A**, De Filippis B. Methyl-CpG binding protein 2 functional alterations provide vulnerability to develop behavioral and molecular features of post-traumatic stress disorder in male mice. *Neuropharmacology*. 2019 Dec 1;160:107664. doi: 10.1016/j.neuropharm.2019.06.003.
13. **Fuso A**, Lucarelli M. CpG and Non-CpG Methylation in the Diet-Epigenetics-Neurodegeneration Connection. *Curr Nutr Rep*. 2019 Jun;8(2):74-82. doi: 10.1007/s13668-019-0266-1.
14. Dinicola S, **Fuso A**, Cucina A, Santiago-Reyes M, Verna R, Unfer V, Monastra G, Bizzarri M. Natural products - alpha-lipoic acid and acetyl-L-carnitine - in the treatment of chemotherapy-induced peripheral neuropathy. *Eur Rev Med Pharmacol Sci*. 2018 Jul;22(14) 4739-4754.
15. Micili SC, Goker A, Kuscu K, Ergur BU, **Fuso A\***.  $\alpha$ -Lipoic Acid Vaginal Administration Contrasts Inflammation and Preterm Delivery in Rats. *Reprod Sci*. 2019 Jan;26(1):128-138.
16. Cavallaro RA, Nicolìa V, Fiorenza MT, Scarpa S, **Fuso A\***. S-Adenosylmethionine and Superoxide Dismutase 1 Synergistically Counteract Alzheimer's Disease Features Progression in TgCRND8 Mice. *Antioxidants (Basel)*. 2017 Sep 30;6(4).
17. Dinicola S, Proietti S, Cucina A, Bizzarri M, **Fuso A\***. Alpha-Lipoic Acid Downregulates IL-1 $\beta$  and IL-6 by DNA Hypermethylation in SK-N-BE Neuroblastoma Cells. *Antioxidants (Basel)*. 2017 Sep 26;6(4). pii: E74.
18. Pipolo S, Puglisi R, Mularoni V, Esposito V, **Fuso A**, Lucarelli M, Fiorenza MT, Mangia F, Boitani C. Involvement of sperm acetylated histones and the nuclear isoform of Glutathione peroxidase 4 in fertilization. *J Cell Physiol*. 2018 Apr;233(4):3093-3104.
19. Dinicola S, Santiago-Reyes M, Canipari R, Cucina A, Bizzarri M, **Fuso A\***. Alpha-lipoic acid represses IL-1B and IL-6 through DNA methylation in ovarian cells. *Pharma Nutrition*. 2017, 5:77-83.
20. Nicolìa V, Cavallaro RA, López-González I, Maccarrone M, Scarpa S, Ferrer I, **Fuso A\***. DNA methylation profiles of selected pro-inflammatory cytokines in Alzheimer's Disease. *J Neuropathol Exp Neurol*. 2017; 76:27-31. IF 3.43
21. Nicolìa V, Ciraci V, Cavallaro RA, Ferrer I, Scarpa S, **Fuso A\***. GSK3 $\beta$  5'-flanking DNA methylation and expression in Alzheimer's Disease patients. *Curr Alz Res*. 2017; 14:753-759. IF 3.15
22. Palladino G, Nicolìa V, Kovacs GG, Canterini S, Ciraci V, **Fuso A**, Mangia F, Scarpa S, Fiorenza MT. Sexually dimorphic expression of reelin in the brain of a mouse model of Alzheimer disease. *J Alz Dis*. 2017; 61:359-367. IF 3.92
23. Bizzarri M, **Fuso A**, Dinicola S, Cucina A, Bevilacqua A. Pharmacodynamics and pharmacokinetics of inositol(s) in health and disease. *Expert Opin Drug Metab Toxicol*. 2016;12:1181-96. IF 2.83
24. Martire S, **Fuso A**, Mosca L, Forte E, Correani V, Fontana M, Scarpa S, Maras B, d'Erme M. Bioenergetic impairment in animal and cellular models of Alzheimer's disease: PARP-1 inhibition rescues metabolic dysfunctions. *J Alz Dis*. 2016;54:3017-24. IF 4.15
25. **Fuso A**, Iyer AM, van Scheppingen J, Maccarrone M, Scholl T, Hainfellner JA, Feucht M, Jansen FE, Spliet WG, Krsek P, Zamecnik J, Mühlebner A, Aronica E. Promoter-specific hypomethylation

correlates with IL-1 $\beta$  overexpression in Tuberous Sclerosis Complex (TSC). *J Mol Neurosci*. 2016;59:464-70. IF 2.34

26. Businaro R, Corsi M, Azzara G, Di Raimo T, Laviola G, Romano E, Ricci L, Maccarrone M, Aronica E, **Fuso A**, Ricci S. Interleukin-18 modulation in autism spectrum disorders. *J Neuroinflammation*. 2016;13(1):2. IF 5.4
27. De Filippis B, Chiodi V, Adriani W, Lacivita E, Mallozzi C, Leopoldo M, Domenici MR, **Fuso A**, Laviola G. Long-lasting beneficial effects of central serotonin receptor 7 stimulation in female mice modeling Rett syndrome. *Frontiers in Behavioral Neuroscience* 2015. *In Press*. IF 4.16
28. **Fuso A\***, Ferraguti G., Scarpa S., Ferrer I., Lucarelli M. Disclosing bias in bisulfite assay: MethPrimers underestimate high DNA methylation. *PLoS One* 2015. 10(2):e0118318. IF 3.53
29. López-González I, Schlüter A, Aso E, Garcia-Esparcia P, Ansoleaga B, Llorens F, Carmona M, Moreno J, **Fuso A**, Portero-Otin M, Pamplona R, Pujol A, Ferrer I. Neuroinflammatory Signals in Alzheimer Disease and APP/PS1 Transgenic Mice: Correlations With Plaques, Tangles, and Oligomeric Species. *J Neuropathol Exp Neurol*. 2015;74(4):319-44. IF 4.37
30. Persichilli S, Gervasoni J, Di Napoli A, **Fuso A**, Nicolìa V, Giardina B, Scarpa S, Desiderio C, Cavallaro RA. Plasma Thiols Levels in Alzheimer's Disease Mice under Diet-Induced Hyperhomocysteinemia: Effect of S-Adenosylmethionine and Superoxide-Dismutase Supplementation. *J Alzheimers Dis*. 2015;44(4):1323-31. IF 3.61
31. Nicolìa V, Lucarelli M, **Fuso A\***. Environment, epigenetics and neurodegeneration: Focus on nutrition in Alzheimer's disease. *Exp Gerontol*. 2014 pii: S0531-5565(14)00281-2. IF 3.529
32. De Filippis B, Nativio P, Fabbri A, Ricceri L, Adriani W, Lacivita E, Leopoldo M, Passarelli F, **Fuso A**, Laviola G. Pharmacological stimulation of the brain serotonin receptor 7 as a novel therapeutic approach for Rett syndrome. *Neuropsychopharmacology*. 2014. 39(11):2506-18. IF 8.678
33. Romano E, De Angelis F, Ulbrich L, De Jaco A, **Fuso A**, Laviola G. Nicotine exposure during adolescence: cognitive performance and brain gene expression in adult heterozygous reeler mice. *Psychopharmacology*. 2014; 231: 1775-87. IF 4,061
34. Martire S., **Fuso A.**, Rotili D., Tempera I., Giordano C., De Zottis I., Muzi A., Vernole P., Graziani G., Lococo E., Faraldi M., Maras B., Scarpa S., Mosca L., d'Erme M. PARP-1 modulates Amyloid Beta peptide-induced neuronal damage. *Plos One*. 2013; 8: e72169. IF 3,734
35. Romano E, **Fuso A**, Laviola G. Nicotine Restores Wt-Like Levels of Reelin and GAD67 Gene Expression in Brain of Heterozygous Reeler Mice. *Neurotox Res*. 2013; 24:205-15. IF 3,514; cit. 1
36. **Fuso A\***. The 'golden age' of DNA methylation in neurodegenerative diseases. *Clin Chem Lab Med*. 2013; 51(3):523-34. IF 2,15; cit. 4
37. Coppedè F, Bosco P, **Fuso A**, Troen AM. Nutrition and Dementia. *Curr Gerontol Geriatr Res*. 2012. 2012: 926082.; cit. 1
38. De Filippis B, Ricceri L, **Fuso A**, Laviola G. Neonatal exposure to low dose corticosterone persistently modulates hippocampal mineralocorticoid receptor expression and improves locomotor/exploratory behavior in a mouse model of Rett syndrome. *Neuropharmacology*. 2013; 68:174-83. IF 4,677; cit. 3
39. Businaro R, Ippoliti F, Ricci S, Canitano N, **Fuso A**. Alzheimer's Disease promotion by obesity-induced mechanisms and advisable guide lines for its prevention. *Curr Gerontol Geriatr Res*. 2012. 2012:986823; cit. 6
40. **Fuso A\***, Cavallaro RA, Nicolìa V, Scarpa S. PSEN1 Promoter Demethylation in Hyperhomocysteinemic TgCRND8 Mice is the Culprit, not the Consequence. *Curr Alzheimer Res*. 2012; 9(5): 527-535. IF 4,95; cit. 5



41. Canterini S, Bosco A, Carletti V, **Fuso A**, Curci A, Mangia F, Fiorenza MT. Subcellular TSC22D4 localization in cerebellum granule neurons of the mouse depends on development and differentiation. *Cerebellum*. 2012;11(1):28-40. *IF 3,29; cit. 4*
42. Ricci S, **Fuso A**, Ippoliti F, Businaro R. Stress-induced cytokines and neuronal dysfunction in alzheimer's disease. *J Alzheimer's Dis*. 2012;28(1):11-24. *IF 4,26; cit. 9*
43. Grasso M, **Fuso A**, Dovere L, de Rooij DG, Stefanini M, Boitani C, Vicini E. Distribution of GFRA1-expressing spermatogonia in adult mouse testis. *Reproduction*. 2012 Mar;143(3):325-332. *IF 3,094; cit. 10*
44. **Fuso A\***, Nicolìa V, Ricceri L, Cavallaro RA, Isopi E, Mangia F, Fiorenza MT, Scarpa S. S-adenosylmethionine reduces the progress of the alzheimer-like features induced by B-vitamin deficiency in mice. *Neurobiol Aging*. 2012; 33: 1482.e1-1482.e16. *IF 6,634; cit 16; Media release: Sapienza University website, Le Scienze, Le Scienze Web News, Quotidiano Sanità, La Stampa, MedicinaLive;*
45. Ricceri L, De Filippis B, **Fuso A**, Laviola G. Cholinergic hypofunction in MeCP2-308 mice: Beneficial neurobehavioural effects of neonatal choline supplementation. *Behav Brain Res*. 2011;221(2):623-9. *IF 3,220; cit. 6*
46. **Fuso A\***, Scarpa S. One-carbon metabolism and alzheimer's disease: Is it all a methylation matter? *Neurobiol Aging*. 2011;32(7):1192-5. *IF 5,937; cit. 19*
47. **Fuso A\***, Nicolìa V, Cavallaro RA, Scarpa S. DNA methylase and demethylase activities are modulated by one-carbon metabolism in alzheimer's disease models. *J Nutr Biochem*. 2011;22(3):242-51. *IF 4,288; cit. 23*
48. **Fuso A**, Nicolìa V, Pasqualato A, Fiorenza MT, Cavallaro RA, Scarpa S. Changes in presenilin 1 gene methylation pattern in diet-induced B vitamin deficiency. *Neurobiol Aging*. 2011;32(2):187-99. *IF 5,937; cit. 47*
49. Milagre I, Nunes MJ, Moutinho M, Rivera I, **Fuso A**, Scarpa S, Gama MJ, Rodrigues E. Chromatin-modifying agents increase transcription of CYP46A1, a key player in brain cholesterol elimination. *J Alzheimer's Dis*. 2010;22(4):1209-21. *IF 5,1; cit. 4*
50. Borro M, Cavallaro RA, Gentile G, Nicolìa V, **Fuso A**, Simmaco M, Scarpa S. One-carbon metabolism alteration affects brain proteome profile in a mouse model of alzheimer's disease. *J Alzheimer's Dis*. 2010;22(4):1257-68. *IF 5,1; cit. 1*
51. **Fuso A**, Ferraguti G, Grandoni F, Ruggeri R, Scarpa S, Strom R, Lucarelli M. Early demethylation of non-CpG, CpC-rich, elements in the myogenin 5'-flanking region: A priming effect on the spreading of active demethylation? *Cell Cycle*. 2010;9(19):3965-76. *IF 4,12; cit. 17; Commented by M. Szyf in the same Issue.*
52. Cavallaro RA, **Fuso A**, Nicolìa V, Scarpa S. S-adenosylmethionine prevents oxidative stress and modulates glutathione metabolism in TgCRND8 mice fed a B-vitamin deficient diet. *J Alzheimer's Dis*. 2010;20(4):997-1002. *IF 5,1; cit. 17*
53. Nicolìa V, **Fuso A**, Cavallaro RA, Di Luzio A, Scarpa S. B vitamin deficiency promotes tau phosphorylation through regulation of GSK3 $\beta$  and PP2A. *J Alzheimer's Dis*. 2010;19(3):895-907. *IF 5,1; cit. 20*
54. Ceccarelli F, **Fuso A**, Civitelli L, Ranieri E, Caprio G, Pagni P, Rengo M, Scarpa S. Urokinase expression in course of benign and malignant mammary lesions: Comparison between nodular and healthy tissues. *J Cancer Res Clin Oncol*. 2010;136(1):157-63. *IF 2,217; cit. 1*
55. Grisanti L, Falciatori I, Grasso M, Dovere L, Fera S, Muciaccia B, **Fuso A**, Berno V, Boitani C, Stefanini M, Vicini E. Identification of spermatogonial stem cell subsets by morphological analysis and prospective isolation. *Stem Cells*. 2009;27(12):3043-52. *IF 7,531; cit. 46*

56. Cucina A, **Fuso A**, Coluccia P, Cavallaro A. Nicotine inhibits apoptosis and stimulates proliferation in aortic smooth muscle cells through a functional nicotinic acetylcholine receptor. *J Surg Res*. 2008;150(2):227-35. *IF 2,038; cit. 21*
57. **Fuso A**, Nicolia V, Cavallaro RA, Ricceri L, D'Anselmi F, Coluccia P, Calamandrei G, Scarpa S. B-vitamin deprivation induces hyperhomocysteinemia and brain S-adenosylhomocysteine, depletes brain S-adenosylmethionine, and enhances PS1 and BACE expression and amyloid- $\beta$  deposition in mice. *Molecular and Cellular Neuroscience*. 2008;37(4):731-46. *IF 4,607; cit. 62; among the "Top 25 cited" in the Journal; commented in the Alzheimer Research Forum*
58. D'Anselmi F, Cucina A, Cavallaro G, Bizzarri M, Cavallaro RA, **Fuso A**, Cavallaro A, Scarpa S. S-adenosylmethionine inhibits ubiquitin-proteasome system in vitro and on rat vascular smooth muscle cells. *Protein Peptide Lett*. 2008;15(1):58-62. *IF 1,13; cit. 3*
59. **Fuso A**, Cavallaro RA, Zampelli A, D'Anselmi F, Piscopo P, Confaloni A, Scarpa S.  $\gamma$ -Secretase is differentially modulated by alterations of homocysteine cycle in neuroblastoma and glioblastoma cells. *J Alzheimer's Dis*. 2007;11(3):275-90. *IF 3,058; cit. 30*
60. Cucina A, Scavo MP, Muzzioli L, Coluccia P, Ceccarini S, **Fuso A**, Cavallaro A. High density lipoproteins downregulate basic fibroblast growth factor production and release in minimally oxidated-LDL treated smooth muscle cells. *Atherosclerosis*. 2006;189(2):303-9. *IF 3,777; cit. 11*
61. Riccioli A, Starace D, Galli R, **Fuso A**, Scarpa S, Palombi F, De Cesaris P, Ziparo E, Filippini A. Sertoli cells initiate testicular innate immune responses through TLR activation. *Journal of Immunology*. 2006;177(10):7122-30. *IF 6,387; cit. 41*
62. Cavallaro RA, **Fuso A**, D'Anselmi F, Seminara L, Scarpa S. The effect of S-adenosylmethionine on CNS gene expression studied by cDNA microarray analysis. *J Alzheimer's Dis*. 2006;9(4):415-9. *IF 3,058; cit. 15*
63. Scarpa S, Cavallaro RA, D'Anselmi F, **Fuso A**. Gene silencing through methylation: An epigenetic intervention on alzheimer disease. *J Alzheimer's Dis*. 2006;9(4):407-14. *IF 3,058; cit. 38*
64. **Fuso A**, Scarpa S, Grandoni F, Strom R, Lucarelli M. A reassessment of semiquantitative analytical procedures for DNA methylation: Comparison of bisulfite- and HpaII polymerase-chain-reaction-based methods. *Anal Biochem*. 2006;350(1):24-31. *IF 2,67; cit. 6*
65. Desiderio C, Cavallaro RA, De Rossi A, D'Anselmi F, **Fuso A**, Scarpa S. Evaluation of chemical and diastereoisomeric stability of S-adenosylmethionine in aqueous solution by capillary electrophoresis. *J Pharm Biomed Anal*. 2005;38(3):449-56. *IF 1,889; cit. 12*
66. **Fuso A**, Seminara L, Cavallaro RA, D'Anselmi F, Scarpa S. S-adenosylmethionine/homocysteine cycle alterations modify DNA methylation status with consequent deregulation of PS1 and BACE and beta-amyloid production. *Molecular and Cellular Neuroscience*. 2005;28(1):195-204. *IF 4,641; cit. 174; among the "Top 10 cited" in the Journal*.
67. Scarpa S, **Fuso A**, D'Anselmi F, Cavallaro RA. Presenilin 1 gene silencing by S-adenosylmethionine: A treatment for alzheimer disease? *FEBS Lett*. 2003;541(1-3):145-8. *IF 3,609; cit. 100*
68. **Fuso A**, Cavallaro RA, Orrù L, Buttarelli FR, Scarpa S. Gene silencing by S-adenosylmethionine in muscle differentiation. *FEBS Lett*. 2001;508(3):337-40. *IF 3,644; cit. 19*
69. Lucarelli M, **Fuso A**, Strom R, Scarpa S. The dynamics of myogenin site-specific demethylation is strongly correlated with its expression and with muscle differentiation. *J Biol Chem*. 2001;276(10):7500-6. *IF 7,258; cit. 74*

### **Book Chapters:**

1. Tarashi S., Omrani MD, Siadat SD, **Fuso A.** The Correlation of Microbiota and Host Epigenome in Tuberculosis. In "Tuberculosis", Springer (in press).
2. **Fuso A.** Aging and Disease: the epigenetic bridge. 2017; in press. In: Tollefsbol, T. (ed), Epigenetics in Human Disease - II edition. Academic Press/Elsevier
3. **Fuso A.** Epigenetica e demenza. In: Sancesario, G. And Caltagirone, C. (eds), Malattia di Alzheimer e Altre Demenze: Diagnosi e Terapia Integrata. 2017 In press. Società Editrice Universo
4. **Fuso A** and Domenichelli C. Diet, epigenetics and Alzheimer's Disease. In: Patel, V. and Preedy, V.R. (eds), Handbook of nutrition, diets and epigenetics. Springer, In Press
5. Cavallaro R.A. and **Fuso A.** Next Generation Drugs in Alzheimer's Disease Treatment: From Benchtop to Bedside. 2013; 109-146. In: Atta-Ur-Rahman (ed), Frontiers in Clinical Drug Research – Alzheimer Disorders (vol. # 1), 465 pp. September 2013. Bentham Science Publications
6. **Fuso A.** Aging and Disease: the epigenetic bridge. 2012; 519-544. In: Tollefsbol, T. (ed), Epigenetics in Human Disease. 592 pp. June 2012. Academic Press/Elsevier

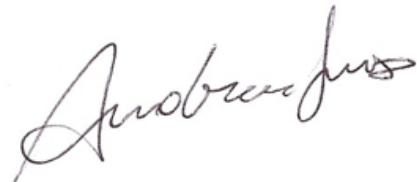
### **Conference lectures:**

1. **Fuso A.** Insight into the effects of vaginal lipoic acid in delaying hormone -induced delivery in rats. 38th Annual SMFM Pregnancy Meeting. Dallas, USA, January 31-February 3, 2018. **Oral presentation.**
2. **Fuso A.** Nutrition, epigenetics and neurodegeneration. ETHZ winter school on "Gut matters: Human Health, Microbiome, and Nutrition". Fiesch, Switzerland, March 12-18, 2017. **Invited speaker.**
3. **Fuso A.** Acido lipoico: antiossidante, antiinfiammatorio e prometabolico. Scuola di Nutrizione Salernitana - Aggiornamenti in nutrizione umana .02. Roma (IT), June 11-12, 2016. **Invited Plenary Lecture.**
4. **Fuso A.** Epigenetic regulation of pro-inflammatory cytokines in neurodegenerative diseases. Congresso congiunto AINPENC-AIRIC, Roma (IT), May 26-28, 2016. **Invited Plenary Lecture, Chairmen and Conference organizer.**
5. **Fuso A.** Environment, epigenetics and neurodegeneration: focus on nutrition in Alzheimer's Disease. The Twelfth International Symposium on Neurobiology and Neuroendocrinology of Aging. Bregenz, Austria, July 27–August 1, 2014. **Invited Plenary Lecture.**
6. **Fuso A.** Epigenetica e neurodegenerazione: il ruolo della metilazione del DNA nella malattia di Alzheimer. Congresso congiunto AINPENC-AIRIC, Verbania (IT), June 5-7, 2014. **Invited Plenary Lecture.**
7. **Fuso A.** Nutrizione, epigenetica e neurodegenerazione. Scuola di Nutrizione Salernitana - Aggiornamenti in nutrizione umana .01. Salerno (IT), May 24-25, 2014. **Invited Plenary Lecture.**
8. **Fuso A.** Epigenetics of neurodegeneration: efficacy of S-adenosylmethionine in a mouse model of Alzheimer's Disease. Israeli Society for Neuroscience (ISFN) National conference; Joint Italian- Israeli symposium. Eilat, IL, December 14-17, 2013. **Invited Symposium Lecture.**
9. **Fuso A.** Epigenetic mediators of environmental stimuli in aging and neurodegeneration. SINS Conference. Rome, IT, October 3-5, 2013. **Symposium Lecture**
10. **Fuso A.,** Ferraguti G., Ferrer I., Scarpa S., Lucarelli M. There's A Trick And You Can See It: Methprimers Underestimate CpG Methylation And Mask Non-CpG Methylation. 9th International Conference on Homocysteine and One-Carbon Metabolism. Dublin, IR, September 8-12, 2013. **Oral presentation.**

11. Fuso A. Nutrient regulation of one-carbon metabolism modulates gene-specific methylation: the Alzheimer's Disease model. Keystone Symposia on: "Nutrition, Epigenetics and Human Disease". Santa Fè, USA, February 19-24, 2013. **Invited Plenary Lecture.**
12. Fuso A. The Role of Epigenetics in Neurodegeneration. Advances and Controversies in B-Vitamins and Choline Conference. Leipzig, Germany, March 5-8, 2012. **Invited Plenary Lecture.**
13. Fuso A. Epigenetics in Hyperhomocysteinemia. 8<sup>th</sup> International Conference on Homocysteine Metabolism. Lisbon, Portugal, June 19-22, 2011. **Invited Plenary Lecture.**
14. Fuso A., Cavallaro R.A., Nicolìa V., Ricceri L., Fiorenza M.T., Scarpa S. Alzheimer-like features in TgCRND8 mice are exacerbated by B-vitamin deficiency and rescued by S-adenosylmethionine. 8<sup>th</sup> International Conference on Homocysteine Metabolism. Lisbon, Portugal, June 19-22, 2011. **Oral presentation.**
15. Fuso A., Cavallaro R.A., Scarpa S. Methylation Impairment and Alzheimer's Disease. XIII National Congress of the Italian Society for Neuroscience. Milan, Italy, October 2-5, 2009. **Symposium Lecture.**
16. Fuso A. One-carbon metabolism and DNA methylation: molecular mechanisms and possible intervention in Alzheimer's Disease. Alzheimer's Association International Conference on Alzheimer's Disease. Vienna, Austria, July 11-16, 2009. *Alzheimers Dement.* 5(S1): P147. **Invited Symposium Lecture.**
17. Fuso A., Nicolìa V., Di Luzio A., Cavallaro R.A., Scarpa S. Effect of one-carbon metabolism alteration on DNA methylation machinery in Alzheimer's Disease models. 7<sup>th</sup> International Conference on homocysteine metabolism. Prague, Czech Republic, June 21-25, 2009. **Oral presentation.**

Rome, March 3, 2021

Andrea Fuso

A handwritten signature in cursive script, appearing to read "Andrea Fuso". The signature is written in dark ink and is positioned to the right of the typed name.