

CURRICULUM VITAE di **SEVERI ILENIA, PhD**

Present address:

Division of Neuroscience and Cell Biology, Department of Experimental and Clinical Medicine, School of Medicine, Marche Polytechnic University
Email: i.severi@univpm.it

Mother tongue: Italian
Other languages: English

Current Position

- RTD art. 24, lett. a), L. 240/10 from 1st March 2017 to date (05/H1- “Human Anatomy”, BIO/16), Marche Polytechnic University

Education

1st May 2015 - 30th April 2016 / 1st May 2014 - 30th April 2015:

Postdoctoral Fellow at the Department of Experimental and Clinical Medicine, Division of Neuroscience and Cell Biology, Marche Polytechnic University, Italy
29th April- 29th September 2016: Maternity leave

17th – 28th August 2015: Dissection Course on Human Thoracic, Abdominal, Dorsum and Limb Anatomy at National University of Ireland, Galway (Anatomy Summer

School Galway).

2011-2014: PhD Degree, School of Medicine, Marche Polytechnic University, Curriculum “Nutrition, health and drugs”. Discussion of the thesis: “Ciliary neurotrophic factor in the mouse hypothalamus. A possible role in energy balance homeostasis”, supervisor: Prof. Saverio Cinti, co-supervisor: Prof. Antonio Giordano.

1st October 2012- 1st March 2013: Maternity leave.

2007-2010: Master’s Degree in Marine Biology, Marche Polytechnic University, Italy

110/110 cum laude.

February-September 2009: 8 months of research training at CEH (Center of Ecology and Hydrology), Lancaster, UK.

2003-2006: Bachelor’s Degree in Environmental Science, University of Bologna, 110/110 cum laude.

1998-2003: High School Degree, Liceo Scientifico Fulcieri Paolucci De Calboli, Forlì.

Scientific interests and research activity

Peripheral and central mechanisms of energy balance in mammals; functional anatomy of the hypothalamic and brainstem centers and circuits involved in food intake and energy expenditure; pathogenesis and physiopathology of obesity and associated diseases; functional anatomy of white and brown adipose tissues, and their involvement in the metabolic syndrome; transdifferentiative properties of adipocytes.

Lab expertise: I currently apply morphological techniques to my scientific projects, such as immunohistochemistry, confocal microscopy analysis, *in situ* hybridization, transmission electron microscopy and immuno-electron microscopy (pre- and post- embedding immuno-techniques on brain and peripheral tissues from mouse and human samples).

Financial support:

Bando Ricerca di Eccellenza 2018 della Fondazione Cariverona, P.I. Prof. Antonio Giordano, dal titolo "The ciliary neurotrophic factor: a possible novel regulator of body weight and energy balance in mammals" (300.000,00 €)

Univpm Strategic Project 2018/2019 "The mammalian Lipoprotein Lipase: from molecular structure to energy balance" as Unit Leader at the Department of Experimental and Clinical Medicine, Marche Polytechnic University. (43.000,00 €)

RSA- AA 2021/2022 Ilenia Severi

RSA- AA 2020/2021 Ilenia Severi

RSA- AA 2019/2020 Ilenia Severi

RSA- AA 2018/2019 Ilenia Severi

RSA- AA 2017/2018 Ilenia Severi

Bibliometric data on published papers:

Ilenia Severi is the author or co-author of about 40 scientific publications including full paper, congress communications and abstracts. In particular, she is the co-author of 28 full papers published in international peer-reviewed journals (first author in 6). Their total impact factor (Journal of Citation Reports, 2019) is over 160. The mean IF for each scientific publication is over 6.

Her bibliometric parameters are the following:

Total citations: 694 (Web of Science), 741 (Scopus)

h-index: 13 (Web of Science), 13 (Scopus)

https://orcid.org/0000-0002-3985-1131

Publications:

28. Perugini J., Di Mercurio E., Giuliani A., Sabbatinelli J., Bonfigli A.R., Tortato E., **Severi I.**, Cinti S., Olivieri F., le Roux C.W., Gesuita R., Giordano A. Ciliary neurotrophic factor is increased in the plasma of patients with obesity and its levels correlate with diabetes and inflammation indices.

Scientific Report 12:8331, 2022.

I.F.=4.379

27. Lama A., Pirozzi C., **Severi I.**, Morgese M.G., Senzacqua M., Annunziata C., Comella F., Del Piano F., Schiavone S., Petrosino S., Mollica M.P., Diano S., Trabace L., Calignano A., Giordano A., Mattace Raso G., Meli R. Palmitoylethanolamide dampens neuroinflammation and anxiety-like behavior in obese mice.

Brain Behav Immun 102:110-123, 2022.

I.F. =7.217

26. Colleluori G., Galli C., **Severi I.**, Giordano A. Early life stress, brain development, and obesity risk: is Oxytocyn the missing link?

Cells 11(4):623, 2022

I.F.=6.600

25. Maberly S. C., Gontero B., Puppo C., Villain A., **Severi I.**, Giordano M. Inorganic carbon uptake in a freshwater diatom, *Asterionella formosa* (Bacillariophyceae): from ecology to genomics.

Phycologia, 60:5, 427-438, 2021

I.F.=2.857

24. **Severi I.**, Fosca M., Colleluori G., Marini F., Imperatori L., Senzacqua M., Di Vincenzo A., Barbatelli G., Fiori F., Rau J.V., Giordano A. High-Fat Diet Impairs Mouse Median Eminence: A Study by Transmission and Scanning Electron Microscopy Coupled with Raman Spectroscopy.

International Journal of Molecular Science 22(15):8049, 2021

I.F.= 5.924

23. Neess D., Kruse V., Marcher A.B., Wæde M.R., Vistisen J., Møller P.M., Petersen R., Brewer J.R., Ma T., Colletuori G., **Severi I.**, Cinti S., Gerhart-Hines Z., Mandrup S., Færgeman N.J. Epidermal Acyl-CoA-binding protein is indispensable for systemic energy homeostasis.

Molecular Metabolism 44:101144, 2021

I.F.= 7.422

22. Cinti F., Mezza T., **Severi I.**, Suleiman M., Cefalo C.M.A., Sorice G.P., Moffa S., Impronta F., Quero G., Alfieri S., Mari A., Pontecorvi A., Marselli L., Cinti S., Marchetti P., Giaccari A. Noradrenergic fibers are associated with beta-cell dedifferentiation and impaired beta-cell function in humans.

Metabolism 114:154414, 2020

I.F.=6,159

21. Ruocco C., Ragni M., Rossi F., Carullo P., Ghini V., Piscitelli F., Cutignano A., Manzo E., Ioris R. M., Bontems F, Tedesco L., Greco C., Pino A., **Severi I.**, et al., Manipulation of dietary amino acids prevents and reverses obesity in mice through multiple mechanisms that modulate energy homeostasis.

Diabetes 69(11): 2324-2339, 2020

I.F. =7,720

20. Castillo-Armengol J., Barquissau V., Geller S., Ji H., **Severi I.**, Venema W., Fenandez E. A., Moret C., Huber K., Leal-Esteban L. C., Nasrallah A., Martinez-Carreres L., Niederhauser G., Seoane-Collazo P., Lagarrigue S., Lopez M., Giordano A., Croizier S., Thorens B., Lopez-Mejia I. C., Fajas L. Hypothalamic CDK4 regulates thermogenesis by modulating sympathetic innervation of adipose tissues.

EMBO REPORTS 21 (9): e49807, 2020

I.F.=7,497

19. Venema W. (*), **Severi I.** (*), Perugini J., Di Mercurio E., Mainardi M., Maffei M., Cinti S., Giordano A. Ciliary Neurotrophic Factor acts on distinctive hypothalamic arcuate neurons and promotes Leptin entry into and action on the mouse hypothalamus.

Frontiers in Cellular Neuroscience 14:140, 2020

(*) Equally contributing first Authors

I.F.=3,900

18. Lama A., Pirozzi C., Annunziata C., Morgese M.G., Senzacqua M., **Severi I.**, Calignano A., Trabace L., Giordano A., Meli R., Mattace Raso G.

Palmitoylethanolamide counteracts brain fog improving depressive-like behaviour in obese mice: Possible role of synaptic plasticity and neurogenesis.

British Journal of Pharmacology, 2020 Apr 28. doi: 10.1111/bph.15071.

I.F.=7,730

17. Perugini J., Di Mercurio E., Tossetta G., **Severi I.**, Monaco F., Reguzzoni M., Tomasetti M., Dani C., Cinti S., Giordano A. Biological Effects of Ciliary Neurotrophic Factor on hMADS Adipocytes.

Frontiers in Endocrinology 10:768, 2019

I.F.=3,644

16. de Farias T.D.S.M., Cruz M.M., de Sa R.C.D.C., **Severi I.**, Perugini J., Senzacqua M., Cerutti S.M., Giordano A., Cinti S., Alonso-Vale M.I.C. Melatonin Supplementation Decreases Hypertrophic Obesity and Inflammation Induced by High-Fat Diet in Mice.

Frontiers in Endocrinology 10:750, 2019

I.F.=3,644

15. Banhos Danneskiold-Samsøe N., Sonne S.B., Larsen J.M., Hansen A.N., Fjære E., Isidor M.S., Petersen S., Henningsen J., **Severi I.**, Sartini L., Schober Y., Wolf J., Nockher W.A., Wolfrum C., Cinti S., Sina C., Hansen J.B., Madsen L., Brix S., Kristiansen K. Overexpression of cyclooxygenase-2 in adipocytes reduces fat accumulation in inguinal white adipose tissue and hepatic steatosis in high-fat fed mice.

Scientific Reports 9(1):8979, 2019

I.F.= 3,998

14. Pellegrinelli V., Peirce V.J., Howard L., Virtue S., Türei D., Senzacqua M., Frontini A., Dalley J.W., Horton A.R., Bidault G., Severi I., Whittle A., Rahmouni K., Saez-Rodriguez J., Cinti S., Davies A.M., Vidal-Puig A. Adipocyte-secreted BMP8b mediates adrenergic-induced remodeling of the neuro-vascular network in adipose tissue.

Nature Communications 9(1):4974, 2018

I.F.=12,121

13. Alpár A., Zahola P., Hanics J., Hevesi Z., Korchyńska S., Benevento M., Pifl C., Zachar G., Perugini J., Severi I., Leitgeb P., Bakker J., Miklosi A.G., Tretiakov E., Keimpema E., Arque G., Tasan R.O., Sperk G., Malenczyk K., Máté Z., Erdélyi F., Szabó G., Lubec G., Palkovits M., Giordano A., Hökfelt T.G., Romanov R.A., Horvath T.L., Harkany T. Hypothalamic CNTF volume transmission shapes cortical noradrenergic excitability upon acute stress.

EMBO Journal 37(21). pii: e100087, 2018

I.F.= 10,557

12. Kotzbeck P., Giordano A., Mondini E., Murano I., **Severi I.**, Venema W., Cecchini M.P., Kershaw E.E., Barbatelli G., Haemmerle G., Zechner R., Cinti S. Brown adipose tissue whitening leads to brown adipocyte death and adipose tissue inflammation.

Journal of Lipid Research pii: jlr.M079665. doi: 10.1194/jlr.M079665, 2018

I.F.= 4,483

11. Camastra S., Vitali A., Anselmino M., Gastaldelli A., Bellini R., Berta R., **Severi I.**, Baldi S., Astiarraga B., Barbatelli G., Cinti S., Ferrannini E. Muscle and adipose tissue morphology, insulin sensitivity and beta-cell function in diabetic and nondiabetic obese patients: effects of bariatric surgery.

Scientific Reports 7(1):9007, 2017

I.F.= 3,998

10. Colaianni G., Mongelli T., Cuscito C., Pignataro P., Lippo L., Spiro G., Notarnicola A., **Severi I.**, Passeri G., Mori G., Brunetti G., Moretti B., Tarantino U., Colucci S.C., Reseland J.E., Vettor R., Cinti S., Grano M. Irisin prevents and restores bone loss and muscle atrophy in hind-limb suspended mice.

Scientific Reports 7(1):2811, 2017

I.F.= 3,998

9. Maurizi G., Poloni A., Mattiucci D., Santi S., Maurizi A., Izzi V., Giuliani A., Mancini S., Zingaretti M.C., Perugini J., **Severi I.**, Falconi M., Vivarelli M., Rippo M.R., Corvera S., Giordano A., Leoni P., Cinti S. Human White Adipocytes Convert Into "Rainbow" Adipocytes In Vitro.

Journal of Cellular Physiology 232(10):2887-2899, 2017

I.F.= 5,546

8. Yang H., Wu J.W., Wang S.P., **Severi I.**, Sartini L., Frizzell N., Cinti S., Yang G., Mitchell G.A. Adipose-Specific Deficiency of Fumarate Hydratase in Mice Protects Against Obesity, Hepatic Steatosis and Insulin Resistance.

Diabetes pii: db160136, 2016

I.F.=7,720

7. Senzacqua M. (*), **Severi I.** (*), Perugini J., Acciarini S., Cinti S., Giordano A. Action of Administered Ciliary Neurotrophic Factor on the Mouse Dorsal Vagal Complex.

Frontiers in Neuroscience 10:289, 2016

(*) Equally contributing first Authors

I.F.= 3,707

6. Gautheron J., Vucur M., Schneider A.T., **Severi I.**, Roderburg C., Roy S., Bartneck M., Schrammen P., Diaz M.B., Ehling J., Gremse F., Heymann F., Koppe C., Lammers T., Kiessling F., Van Best N., Pabst O., Courtois G., Linkermann A., Krautwald S., Neumann U.P., Tacke F., Trautwein C., Green D.R., Longerich T., Frey N., Luedde M., Blüher M., Herzig S., Heikenwalder M., Luedde T.

The necroptosis-inducing kinase RIPK3 dampens adipose tissue inflammation and glucose intolerance.

Nature Communications 7:11869, 2016

I.F.= 12,121

5. **Severi I.** (*), Senzacqua M., Mondini E., Fazioli F., Cinti S., Giordano A. Activation of transcription factors STAT1 and STAT5 in the mouse median eminence after systemic ciliary neurotrophic factor administration.

Brain Research 1622:217-29, 2015

(*) First Author

I.F.= 2,733

4. Ubaldi M., Giordano A., **Severi I.**, Li H., Kallupi M., de Guglielmo G., Ruggeri B., Stopponi S., Ciccocioppo R., Cannella N.

Activation of hypocretin-1/orexin-A neurons projecting to the bed nucleus of the stria terminalis and paraventricular nucleus is critical for reinstatement of alcohol seeking by neuropeptide S.

Biological Psychiatry S0006-3223(15)00359-5, 2015

I.F.= 12,095

3. Severi I. (*), Perugini J., Mondini E., Smorlesi A., Frontini A., Cinti S., Giordano A.

Opposite effect of a high-fat diet and calorie restriction on ciliary neurotrophic factor signaling in the mouse hypothalamus.

Frontiers in Neuroscience 7:263, 2013

(*) First Author

I.F.= 3,707

2. Giordano A., Murano I., Mondini E., Perugini J., Smorlesi A., **Severi I.**, Barazzoni R., Scherer P.E., Cinti S.

Obese adipocytes show ultrastructural features of stressed cells and die of pyroptosis. *Journal of Lipid Research* 54: 2423-2436, 2013

I.F.= 4,483

1. Severi I. (*), Carradori M.R., Lorenzi T., Amici A., Cinti S., Giordano A. Constitutive expression of ciliary neurotrophic factor in the mouse hypothalamus.

Journal of Anatomy 220:622-631, 2012

(*) First Author

I.F.= 2,013

Ilenia Severi co-authored the following abstract for oral presentations and poster:

Severi I., G. Colleluori, M. Fosca, A. Di Vincenzo, J. V. Rau, A. Giordano. High-fat diet impairs mouse median eminence: a study by transmission and scanning electron microscopy coupled with Raman spectroscopy. Società Italiana dell'Obesità. Livorno, Ottobre 2021.

Silvestrini L., Crevellini F., **Severi I.**, Ortore M.G., Mazzola F., Galeazzi R., Amici A., Raffaelli N., Cianci M. Recombinant Expression of Human Lipoprotein Lipase in Lower Eukaryotes: Preliminary Results. Conference: MISCA V - Naples 4-7 September 2019, (Poster).

Cinti F., Mezza T., Cefalo C., Sorice G.P., Moffa S., **Severi I.**, Cinti S., Giaccari A. β -Cell Glucose Sensitivity and Intrapancreatic Adipose Tissue as Predictors of Diabetes Onset. American Diabetes Association. Diabetes 2019 Jun; 68 (Supplement 1). (Poster). <https://doi.org/10.2337/db19-1756-P>.

Giordano A., **Severi I.**, Perugini J., Senzacqua M., Abbatelli S., Cinti S. The non-neuronal cholinergic system in the inflamed adipose tissue of obese mice. Italian Journal of Anatomy and Embryology. (oral presentation, Giordano A). 2018, Vol. 123, n. 1 (Supplement): 106.

Cinti F., Mezza T., **Severi I.**, Suleiman M., Cefalo C., Sorice G., Moffa S., Impronta F., Alfieri S., Pontecorvi A., Marselli L., Cinti S., Marchetti P., Giaccari A., Accili D. The increment of noradrenergic fibers correlates with the density of dedifferentiated beta cells and impairs beta cell function in humans. *Diabetologia*. (Poster). 2018, Vol. 61, S233-S234.

Colaiani G., Lippo L., Pignataro P., Sanesi L., Spiro G., **Severi I.**, Passeri G., Brunetti G., Tarantino U., Colucci S., Reseland J., Vettor R., Cinti S., Grano M. Unloaded Mice Treated with the Myokine Irisin Are Protected from Bone Loss and Muscle Atrophy. Annual Meeting of the American-Society-for-Bone-and-Mineral-Research (ASBMR), 8th September 2017 (Poster).

Giordano A., Senzacqua M., **Severi I.**, Perugini J., Cinti S. Action of the ciliary neurotrophic factor in mouse circumventricular organs. Italian Society of Obesity VIII National Congress, Rome, 29th September- 1st October 2016. *Eat Weight Disord* 21: 516. (oral presentation: Giordano A) doi:10.1007/s40519-016-0308-2.

Severi I., Tomskii M.I., Tikhonov D., Loskutova K.S., Isakov E.A., Giordano A., Gesuita R., Cinti S. The city of Yacutsk: a case of study for human brown adipose tissue in extremely cold conditions. 70° Meeting of Italian Society of Anatomy and Histology, Ferrara, 17th-19th September 2015 (Poster). *Italian Journal of Anatomy and Embriology*, Firenze University Press. Vol. 120, n°1 (Supplement): 65, 2015.

Giordano A., Senzacqua M., **Severi I.**, Cinti S. Action of the ciliary neurotrophic factor in mouse brainstem. 70° Meeting of Italian Society of Anatomy and Histology Ferrara, 17th-19th September 2015 (oral presentation: Giordano A). *Italian Journal of Anatomy and Embriology*, Firenze University Press. Vol. 120, n°1 (Supplement): 169, 2015.

Giordano A., **Severi I.**, Cinti S. The Ciliary Neurotrophic Factor in the mouse hypothalamus. A novel satiety factor? Meeting of Italian Society of Obesity VII National Congress, Milan 2nd-5th July 2014. *Eat Weight Disord* 19: 416. (oral presentation: Giordano A). doi:10.1007/s40519-014-0134-3.

Giordano A., **Severi I.**, Perugini J., Mondini E., Smorlesi A., Frontini A., Cinti S. Hypothalamic Ciliary Neurotrophic Factor and energy balance control. Federation of European Neuroscience Society (FENS), Milan, 5th-9th July 2014 (Poster).

Giordano A., **Severi I.**, Perugini J. Ciliary neurotrophic factor in the hypothalamus of obese mice. 68° Meeting of Italian Society of Anatomy and Histology, Brescia 20th-22nd September 2013 (oral presentation: Giordano A). *Italian Journal of Anatomy and Embriology*, Firenze University Press. Vol. 118, n°2 (Supplement): 101, 2013.

Cover in Scientific Journal:

- Volume 37, Issue 21, 02 November 2018, The Embo Journal. By Alpár A., Zahola P., Hanics J., Hevesi Z., Korchynska S., Benevento M., Pifl C., Zachar G., Perugini J., **Severi I.**, Leitgeb P., Bakker J., Miklosi A.G., Tretiakov E., Keimpema E., Arque G., Tasan R.O., Sperk G., Malenczyk K., Máté Z., Erdélyi F., Szabó G., Lubec G., Palkovits M., Giordano A., Hökfelt T.G., Romanov R.A., Horvath T.L., Harkany T.: Hypothalamic CNTF volume transmission shapes cortical noradrenergic excitability upon acute stress.
- Cover Image, Volume 232, Number 10, October 2017, Journal of Cellular Physiology. Maurizi G., Poloni A., Mattiucci D., Santi S., Maurizi A., Izzi V., Giuliani A., Mancini S., Zingaretti M.C., Perugini J., **Severi I.**, Falconi M., Vivarelli M., Rippo M.R., Corvera S., Giordano A., Leoni P., Cinti S. Human White Adipocytes Convert Into "Rainbow" Adipocytes In Vitro.
- Selected for "Atlas of Science publishes layman's summaries" on website (www.atlasofscience.org) for a communication in 2015 entitled "The unappreciated role of the median eminence in energy balance regulation". (<https://atlasofscience.org/the-unappreciated-role/>).

Ongoing National and International Collaboration:

Prof. Enzo Nisoli (University of Milan, Dipartimento di Biotecnologie Mediche e Medicina Traslazionale, Italy)

Prof. Ssa Maria Paola Cecchini (University of Verona, Dipartimento di Neuroscienze, Biomedicina e Movimento, Italy)

Prof. Ssa Rosaria Meli (University of Milan, Department of Pharmacology, Italy)

Prof. Giovanni Marsicano (University of Bordeaux, Neurocentre Magendie)

Prof. Luigi Bellocchio (University of Bordeaux, Neurocentre Magendie)

Master Degree Thesis:

Chiara Galli, Corso di Laurea Magistrale in Biologia Molecolare e Applicata, Anatomia Umana. AA 2020-2021 (Relatrice: **Severi I.**) Marche Polytechnic University

Marika Castagnola, Corso di Laurea Magistrale in Biologia Molecolare, Curriculum Scienze della Nutrizione. "Expression and distribution of the Lipoprotein Lipase in the mouse hypothalamus." AA 2018/2019. (Correlatrice: **Severi I.**) Marche Polytechnic University

PhD student Thesis:

Abbatelli Silvia: "Distribution of Butyrylcholinesterase in the mouse gastrointestinal tract: a morphological study". Marche Polytechnic University

Teaching Activity:

Teaching activity AA 2021-2022:

- Anatomia Umana, 3 CFU, CdL Infermieristica (Sede di Pesaro)
- Anatomia Umana, 3 CFU, CdL Igienisti Dentali (Ancona)

Teaching activity AA 2020-2021:

- Anatomia Umana, 3 CFU, CdL Infermieristica (Sede di Pesaro)

Teaching activity AA 2019-2020:

- Anatomia Umana, 3 CFU, CdL Infermieristica (Sede di Pesaro)

Teaching activity AA 2018-2019:

- Anatomia Umana, 3 CFU, CdL Infermieristica (Sede di Pesaro)
- Anatomia Umana (C. I. Scienze Mediche di Base I), 3 CFU, CdL Educazione Professionale (Ancona)

Teaching activity AA 2017/2018:

- Anatomia Umana, 4 CFU, CdL Dietistica (Ancona)
- Anatomia Umana (C. I. Scienze Mediche di Base I), 3 CFU, CdL Educazione Professionale (Ancona)

Teaching activity 2016/2017:

- Adjunct professor of Human Anatomy at the course of study of Dietistica (4 CFU). (Ancona)

Moreover, Dr. ssa Ilenia Severi has been volunteer tutor for the exercitations of the course “Human Anatomy” for the students of Medicine and Surgery, Università Politecnica delle Marche, during the Academic Years 2014/2015, 2015/2016, 2016/2017, 2018/2019, 2019/2020, 2020/2021, 2021/2022. Thus, she spent a total of about 30 hours/each A.Y. teaching students the main morphological techniques and tissue staining methods, and to discuss with them histological and gross anatomy preparations of human organs and tissues.

Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).

Ancona, 27/06/2022

Ilenia Severi