

Giovanna Zoccoli – Curriculum Vitae

Born: July 29, 1962

Qualifications: ASSOCIATE PROFESSOR, Department of Biomedical and Neuromotor Sciences (DIBINEM), Alma Mater Studiorum - University of Bologna

Scientific sector: BIO / 09 Physiology

Visiting Professor at Laboratoire PériTox Université de Picardie Jules Verne, Amiens, Francia (2015-2019).

2018: National Scientific Qualification as Full Professor - Sector 05 / D1 Physiology

Education

1987 MD (University of Bologna) (cum laude)

1991 Board certified in Neurology (University of Bologna) (cum laude)

1995 PhD in "Experimental and Clinical Pathophysiology" (University of Bologna).

Scholarships and awards

1987 Bologna University, Prof. Angelo Piazza Award and Luigi Concato Award: best student of the year - School of Medicine;

1988 Lions Club Bologna, Malpighi d'oro Award: best thesis in a biological field;

1989-90 Accademia Nazionale dei Lincei, Roma, Giuseppe Levi Foundation for Neurobiological Research Fellowship: "Blood-brain barrier regulation during sleep"

2002 Award "Schwarz Pharma" for Sleep Medicine, from Italian Association for Sleep Medicine.

Academic career

1995 Assistant Professor, Department of Human and General Physiology, University of Bologna.

2004 Associate Professor, Department of Human and General Physiology, University of Bologna now Department of Biomedical and Neuromotor Sciences (DIBINEM).

Academic duties at Bologna University

- Board of the Department of Human Physiology and General (2004-2006).
- Commission of Lab Managers, DIBINEM, Physiology Unit
- Member of the Commission for the recognition of academic credits (2005-2008) and of the Commission Scholarships for Dissertations Abroad, School of Psychology and Education Sciences, University of Bologna.
- Member of Overseas Commission
- Member of the Scientific Committee of the Master in Sleep Medicine
- Member of the Scientific Council, Lecturer and Tutor of the Collegio Superiore
- Representative of the Collegio Superiore at the Council of the Institute of Higher Studies of UNIBO (2020-)
- Member of Committee for the institution of Bologna Medical School (BOMS)
- Director of the Laboratory PRISM (Physiological Regulation in Sleeping Mice) of DIBINEM (2008-present). Website:
http://www.esrs.eu/membership-services/european-sleep-research-laboratories.html?tx_mnmesrslab_pi1%5Buid%5D=5938

Present teaching activity at Bologna University

APPARATUSES PHYSIOLOGY 8 cfu (64 hours), Single cycle degree programmes (LMCU) in Medicine and Surgery School of Medicine

CELLULAR PHYSIOLOGY 3 cfu (24 hours), Single cycle degree programmes (LMCU) in Medicine and Surgery School of Medicine

COGNITIVE NEUROSCIENCES – 3,5 cfu (28 hours), Second cycle degree programmes (LM) in Applied cognitive psychology, School of Psychology and Education – Campus of Cesena

PLASTICITA' NEURONALE: OLTRE IL PERIODO CRITICO - 1 cfu (8 hours) - Module of: IL

CERVELLO PLASTICO: CONSEGUENZE DELLA MODIFICAZIONE E DELL'EVENTUALE RIPRISTINO

DEI CIRCUITI NERVOSI C.I.- Single cycle degree programmes (LMCU) in Medicine and Surgery
School of Medicine

FRONTIERS IN THE PHYSIOLOGY OF TORPOR AND HIBERNATION - 1 cfu (8 hours) – Module
of: MAPPING THE INTERACTIONS AMONG SLEEP, TORPOR/HIBERNATION AND ENERGY

METABOLISM: AN INTERNATIONAL TEACHING WORKSHOP C.I.- Single cycle degree
programmes (LMCU) in Medicine and Surgery School of Medicine (a.a. 2019-20)

Since 2015 Teaching at MASTER in: "SLEEP MEDICINE", University of Bologna

Since 2018 Teaching at MASTER in: "SLEEP DENTISTRY", University of Bologna

A.A. 2018/2019 – Teaching at MASTER in TRANSLATIONAL RESEARCH IN MEDICINE AND
SURGERY (Physiology and Experimental Pathophysiology, 15 hours), University of Bologna

Grants and Fundings

1997 PRIN Project "Study of the cerebral microcirculation in rats during sleep" (Participant)

1998 European Sleep Research Society (ESRS) - Sanofi Aventis Research Grant, "Blood-brain
barrier permeability during sleep" (Principal Investigator) (50.000 FF).

1999 PRIN Project n. 9905031935_006: "Cerebral microcirculation and transport mechanisms
of the blood-brain barrier during the wake-sleep cycle" (Participant).

2001: PRIN Project n. 2001054935_006, "Neural and metabolic processes that characterize
sleep and wakefulness" (Participant) (Research Unit: € 28.922).

2002: FIRB Project n. RBAU01KCNZ, "Effects of the overall level of brain activation on the
permeability of the blood-brain barrier to glucose" (Participant) (Total amount: € 150.000).

2004: PRIN Project n. 2004050080_001, "Sleep disturbances and cardiovascular regulation
hypertensive rats " (Participant) (Total amount: € 152.000, Research Unit: € 35.000).

2008: PRIN Project n. 2008FY7K9S, "The role of the hypocretin system in cardiovascular
thermoregulatory control during wakefulness and sleep" (Principal Investigator) (Total amount:
€ 143.000, Research Unit: € 27913).

2010: Grant of the Fondazione Cassa di Risparmio di Bologna, "Role of hypothalamic
neurogenesis in the development of obesity and its hypnic and cardiovascular morbidities"
(Participant) (Total amount: € 57000, Research Unit: € 28500).

2013: FARB Project, line 1 (UNIBO), n. FFBO120705, "The ecological study of the emotional
response through wireless'biosignals " (Participant) (Total amount: € 25.000)

2018: Grant of the Fondazione Cassa di Risparmio di Bologna: "IASBO: Inquinamento
Atmosferico e disordini del Sonno infantile a Bologna (Air Pollution and Infant Sleep Disorders
in Bologna)" (Participant) (Total amount: € 12.000).

2021: Project n°2021/2 RF/010 EXSOCAR « Etude des effets d'une EXposition de type 5G sur
le SOMmeil, la thermorégulation et la fonction CARdiovasculaire, ANSES ; Francia (Head of
Research Unit)

2023: Project PRIN2022-PNRR, cod. P2022RTCCA, "ESTROSA: Energy-autonomous System
for TRreatment of Obstructive Sleep Apnea". Total amount: € 244.004. (Participant)

2023: Project PRIN2022, cod. J53D23010940001, "Chemogenetic and Optgenetic Rescue of
Sleep Apnea (CORSA) in mice". Total amount: € 219.437 (Participant)

2023: Project PRIN2022, cod. C53D23004250008, "Poor sleep during pregnancy as risk factor
for post-partum stress and mental health: A translational, longitudinal and clinical study.

Maternal Outcome after THERapy for Sleep (MOTHERS)". Total amount: € 211.364
(Participant)

Holder of provisions from the University of Bologna (ex 60%) since 2001.

Patents

2022: Patent application no. 102022000013894 filed on June 30, "Artificial protein and
its uses", percentage of inventive contribution: 10%.

Bibliographic indices

Source: Scopus

Query Giovanna Zoccoli: all Papers 86 Citations 1536

h_index 24

<http://orcid.org/0000-0002-9670-9959>

Source: [Google Scholar](#)

	All	Since 2019
Citations	2132	1136
H index	29	18
i10-index	58	35

Editorial Activities

"Frontiers in Vascular Physiology" and "Frontiers in Integrative Physiology", member of the Editorial Board; Frontiers in Neuroscience (section: Sleep and Circadian Rhythms), Review Editor

Reviewer for: Bioelectromagnetics, Biological Research, Canadian Journal of Physiology and Pharmacology, Circulation, Experimental Brain Research, Frontiers, Journal of Molecular Medicine, the Journal of Applied Physiology, the Journal of Sleep Research, Neuroscience Letters, Pediatric Research, PlosOne, PNAS, Psicologia Sociale, Science Translational Medicine, SLEEP

Reviewer for PhD thesis from:

Université Claude Bernard, Lyon, France (2004)

Monash University, Victoria, Australia (2005)

University of Padua (2012)

University of Milano-Bicocca (2018)

University of Naples "Federico II" (2018)

Université de Picardie Jules Verne, Amiens, Francia (2020)

Membership in Scientific Societies

Italian Association for Sleep Medicine (AIMS); Italian Physiological Society (SIF); Italian Neuroscience Society (SINS); European Sleep Research Society (ESRS); Federation of European Neuroscience Societies (FENS); American Physiological Society (APS), World Sleep Society (WSS).

Duties in Scientific Societies

Board of Italian Society of Sleep Research (2004-2008).

2013-2022 Member of the Committee for scientific research of the Italian Sleep Medicine Association (AIMS)

2016-2018: Scientific Committee European Sleep Research Society

2018-2020: Co-Chair of Scientific Committee European Sleep Research Society

2018- Member of Research Network Committee (RNC), European Sleep Research Society

2019-present: Animal Experimentation Committee, Italian Physiological Society

2022- present: Dissemination Committee of the Italian Sleep Medicine Association

Organization of scientific meetings

2009: Member of the organizing committee of the XIV Annual Meeting of the Italian Sleep Research Society (SIRS), Bologna, 14-15 November.

2012: Member of the organizing committee of the XVII Annual Meeting of the Italian Sleep Research Society (SIRS), Bologna, March 17-18.

2014: Member of the organizing committee of the 23rd Meeting of the European Sleep Research Society (ESRS), Bologna 15-18 September 2016.

2018: Member of the organizing committee of the Meeting of the Federation of European Physiological Societies (FEPS), Bologna, 10-13 September 2019

2020-21: Member of the organizing committee of the 14th Annual Meeting of Young Researchers in Physiology, The Italian Physiological Society, Centro Residenziale Universitario di Bertinoro, July 29-31, 2021

2021-22: Member of the organizing committee of the 15th Annual Meeting of Young Researchers in Physiology, The Italian Physiological Society, Centro Residenziale Universitario di Bertinoro, June 13-15, 2022

2022-23: Member of the organizing committee of the 16th Annual Meeting of Young Researchers in Physiology, Società Italiana di Fisiologia, Centro Residenziale Universitario di Bertinoro, June 21-23 2023

Invited talks (symposia and seminars):

Italy: 31; Australia: 4; Switzerland: 3; France: 6; Canada: 1; Spain: 1; Iceland: 1; India: 1.

Research experiences abroad

1995 September 1-30, Visiting Scholar, Department of Neurology, Rigshospitalet, Copenhagen (Prof. OB Paulson).

1997 March 1st - August 31st, Visiting Scholar at Institute of Reproduction and Development, Monash University, Clayton, Victoria, Australia (Prof. Adrian Walker), sponsored by Consiglio Nazionale delle Ricerche (CNR).

2001 August 1st - September 30th, Visiting Scholar, Institute of Reproduction and Development, Monash University, Melbourne, Victoria, (Prof. Adrian Walker).

2001 April 1-15, Visiting Scholar, Laboratoire de Dysrégulations Métaboliques Acquises et Génétiques, Université de Picardie Jules Verne, Amiens, Francia (Prof. Jean Pierre Libert)

2007 August 15th - September 15th, Visiting Professor at Monash Institute of Medical Research (MIMR), Monash University, Melbourne, Australia, (Prof. Adrian Walker)

2015 1-30 September, Visiting Professor at Laboratoire PériTox Université de Picardie Jules Verne, Amiens, Francia (Prof. Véronique Bach, Prof. Amandine Pelletier)

2016 15-30 September, Visiting Professor at Laboratoire PériTox Université de Picardie Jules Verne, Amiens, Francia (Prof. Véronique Bach, Prof. Amandine Pelletier)

2017 7-15 September, 12-22 December, Visiting Professor at Laboratoire PériTox Université de Picardie Jules Verne, Amiens, Francia (Prof. Véronique Bach, Prof. Amandine Pelletier)

2018 January 29 - February 5 and 1-15 September, Visiting Professor at Laboratoire PériTox Université de Picardie Jules Verne, Amiens, Francia (Prof. Véronique Bach, Prof. Amandine Pelletier)

2019 15-21 June, Visiting Professor at Laboratoire PériTox Université de Picardie Jules Verne, Amiens, Francia (Prof. Véronique Bach, Prof. Amandine Pelletier)

International partnerships

Prof. V. Bach and A. Pelletier, URAPC, Faculté de Médecine Université de Picardie Jules Verne, Amiens, France

Dr. G. Cohen, Sleep Investigation Laboratory, Centre for Sleep Health and Research, Royal North Shore Hospital, Sydney, Australia.

Prof. J.S. Lin, INSERM U628 Physiologie intégrée du système d'éveil, Université Claude Bernard, Lione, Francia

Dr. M. Manconi, Neurocentro della Svizzera Italiana, Lugano, Switzerland

Prof. H. Ohtsu, Applied Quantum Medical Engineering, Tohoku University, Sendai, Japan

Prof. S Swoap, Department of Biology, Williams College, Williamstown, Massachusetts, USA

Internationalization

- Person in charge of the Convention between the University of Bologna and the Monash University (Melbourne, Australia) (2006-present).
- Evaluator of Research Projects for the Regional Council of Picardie (France) (2013-2017)
- Evaluator Swiss National Science Foundation (SNSF) (2020)
- Evaluator of Research Projects for the program Human Research on Concordia, Antarctica (AO-2021-Concordia), ESA - European Space Agency (2021)
- Evaluator Programmes ATIP-Avenir et CSS6-Santé publique Inserm (France) (2022)
- Evaluator of Research Projects for Canadian Institutes of Health Research / Government of Canada (2023)

Scientific activity

Aim of the research activity currently conducted by the group that operates in the laboratory "PRISM: Physiological Regulation in Sleeping Mice" of DIBINEM, Physiology Unit, is the study of

physiologic regulation during the different stages of the wake-sleep cycle, in genetically engineered mice.

The current research activity is carried out in the field of functional genomics, where physiological studies of phenotypical characterization are conducted on animal models (especially mice), with a known genetic background. Genetically engineered mice are studied for the association between the gene mutation and changes in cardiovascular, respiratory and thermoregulatory control during different stages of the wake-sleep cycle.

Another line of research is aimed at studying the effects of different types of perinatal stress on adult health.

Peer-reviewed journal articles - last 5 years

- I. Bastianini S, Alvente S, Berteotti C, Bosi M, Lo Martire V, Silvani A, Valli A, Zoccoli G. Post-sigh sleep apneas in mice: systematic review and data-driven definition. *J Sleep Res.* 2019 Mar 28:e12845. doi: 10.1111/jsr.12845.
- II. Allocca G, Ma S, Martelli D, Cerri M, Del Vecchio F, Bastianini S, Zoccoli G, Amici R, Morairty SR, Aulsebrook AE, Blackburn S, Lesku JA, Rattenborg NC, Wams E, Porcheret K, Wulff K, Foster R, Chan JKM, Nicholas CL, Freestone DR, Johnston LA, Gundlach AL Validation of 'Somnivore', a machine learning algorithm for automated scoring and analysis of polysomnography data. *Frontiers Neuroscience*, 13:207. doi: 10.3389/fnins.2019.00207.
- III. Hitrec T, Luppi M, Bastianini S, Squarcio F, Berteotti C, Lo Martire V, Martelli D, Occhinegro A, Tupone D, Zoccoli G, Amici R, Cerri M. Neural control of fasting-induced torpor in mice. *Sci Rep.* 2019 Oct 29;9(1):15462. doi: 10.1038/s41598-019-51841-2.
- IV. Lo Martire V, Caruso D, Palagini L, Zoccoli G, Bastianini S. Stress & sleep: A relationship lasting a lifetime. *Neurosci Biobehav Rev.* 2019 Sep 3. pii: S0149-7634(19)30149-6. doi: 10.1016/j.neubiorev.2019.08.024.
- V. Zoccoli G, Amici R. Sleep and autonomic nervous system. *Curr. Op. Physiol.* 15: 128-133, 2020 doi.org/10.1016/j.cophys.2020.01.002
- VI. Lo Martire V, Berteotti C, Bastianini S, Alvente S, Valli A, Cerri M, Amici R, Silvani A, Swoap SJ, Zoccoli G. The Physiological Signature of Daily Torpor Is Not Orexin-dependent. *J. Comp. Physiol. B* 2020, DOI 10.1007/s00360-020-01281-6
- VII. Pace M, Falappa M, Freschi A, Balzani E, Berteotti C, Lo Martire V, Kaveh F, Hovig E, Zoccoli G, Amici R, Cerri M, Urbanucci A, Tucci V. Loss of Snord116 impairs sleep and food-related activities in lateral hypothalamus. *J. Clin. Invest., JCI Insight.* 2020 Apr 30. pii: 137495. doi: 10.1172/jci.insight.137495
- VIII. Berteotti C, Lo Martire V, Alvente S, Bastianini S, Matteoli G, Silvani A, Zoccoli G. Effect of ambient temperature on sleep breathing phenotype in mice: the role of orexins. *J Exp Biol.* 2020 May 26;jeb.219485. doi: 10.1242/jeb.219485.
- IX. Berteotti C, Lo Martire V, Alvente S, Bastianini S, Matteoli G, Ohtsu H, Lin JS, Silvani A, Zoccoli G. Tibialis anterior electromyographic bursts during sleep in histamine-deficient mice. *J Sleep Res.* 2021, 30(4), e13255. doi: 10.1111/jsr.13255.
- X. Alvente S, Berteotti C, Bastianini S, Lo Martire V, Matteoli G, Silvani A, Zoccoli G. Autonomic mechanisms of blood pressure alterations during sleep in orexin/hypocretin-deficient narcoleptic mice. *Sleep*, 2021, 44(7). doi: 10.1093/sleep/zsab022.
- XI. Gennaccaro L, Fuchs C, Loi M, Pizzo R, Alvente S, Berteotti C, Lupori L, Sagona G, Galvani G, Gurgone A, Raspanti A, Medici G, Tassinari M, Trazzi S, Ren E, Rimondini R, Pizzorusso T, Zoccoli G, Giustetto M, Ciani E. Age-related cognitive and motor decline in a mouse model of CDKL5 deficiency disorder is associated with increased neuronal senescence and death. *Aging and Disease*, 2021, 12(3), pp. 764–785. DOI: 10.14336/AD.2020.0827.
- XII. Berteotti C, Lo Martire V, Alvente S, Bastianini S, Bombardi C, Matteoli G, Ohtsu H, Lin J.-S, Silvani A, Zoccoli G. Orexin/Hypocretin and Histamine Cross-Talk on Hypothalamic Neuron Counts in Mice. *Frontiers in Neuroscience*, 2021, 15, 660518. doi: 10.3389/fnins.2021.660518
- XIII. Bartolucci ML, Berteotti C, Alvente S, Bastianini S, Guidi S, Lo Martire V, Matteoli G, Silvani A, Stagni F, Bosi M, Alessandri-Bonetti G, Bartesaghi R, Zoccoli G. Obstructive sleep apneas naturally occur in mice during REM sleep and are highly prevalent in a mouse model of Down

- syndrome. *Neurobiol Dis.* 2021 Nov;159:105508. doi: 10.1016/j.nbd.2021.105508. Epub 2021 Sep 10.
- XIV. Bastianini S, Lo Martire V, Alvente S, Berteotti C, Matteoli G, Rullo L, Stamatakos S, Silvani A, Candeletti S, Romualdi P, Cohen G, Zoccoli G. Early-life nicotine or cotinine exposure produces long-lasting sleep alterations and downregulation of hippocampal corticosteroid receptors in adult mice. *Sci Rep.* 2021 Dec 13;11(1):23897. doi: 10.1038/s41598-021-03468-5.
- XV. Alvente S, Matteoli G, Molina-Porcel L, Landa J, Alba M, Bastianini S, Berteotti C, Graus F, Lo Martire V, Sabater L, Zoccoli G, Silvani A. Pilot Study of the Effects of Chronic Intracerebroventricular Infusion of Human Anti-IgLON5 Disease Antibodies in Mice. *Cells.* 2022 Mar 17;11(6):1024. doi: 10.3390/cells11061024. PMID: 35326477; PMCID: PMC8947551.
- XVI. Medici G, Tassinari M, Galvani G, Bastianini S, Gennaccaro L, Loi M, Mottolese N, Alvente S, Berteotti C, Sagona G, Lupori L, Candini G, Baggett HR, Zoccoli G, Giustetto M, Muotri A, Pizzorusso T, Nakai H, Trazzi S, Ciani E. Expression of a Secretable, Cell-Penetrating CDKL5 Protein Enhances the Efficacy of Gene Therapy for CDKL5 Deficiency Disorder. *Neurotherapeutics.* 2022 Sep 15. doi: 10.1007/s13311-022-01295-8.
- XVII. Loi M, Bastianini S, Candini G, Rizzardi N, Medici G, Papa V, Gennaccaro L, Mottolese N, Tassinari M, Uguagliati B, Berteotti C, Lo Martire V, Zoccoli G, Cenacchi G, Trazzi S, Bergamini C, Ciani E. Cardiac functional and structural abnormalities in a mouse model of CDKL5 deficiency disorder. *Int J Mol Sci.* 2023, 24, 5552. <https://doi.org/10.3390/ijms24065552>
- XVIII. Alvente S, Matteoli G, Miglioranza E, Zoccoli G, Bastianini S. How to study sleep apneas in mouse models of human pathology. *J Neurosci Methods.* 2023 Jul 15;395:109923. doi: 10.1016/j.jneumeth.2023.109923.
- XIX. Augello E, Battistini G, Paolini G, Bastianini S, Zoccoli G, Costanzo A. Conformal Wireless Power System for Battery-Free Implantable Optogenetic Treatment of Obstructive Sleep Apnea. 2023 IEEE MTT-S International Microwave Biomedical Conference (IMBioC) eCF Paper Id: 1570915690
- XX. Lo Martire V, Berteotti C, Zoccoli G, Bastianini S Improving sleep to improve stress resilience. *Curr Sleep Medicine Rep* 10, 23–33 (2024). <https://doi.org/10.1007/s40675-024-00274-z>
- XXI. Perger E, Silvestri R, Bonanni E, Di Perri C, Fernandes M, Provini F, Zoccoli G, Lombardi C. Gender medicine and sleep disorders: from basic science to clinical research. *Frontiers of Medicine*, submitted
- XXII. Ravaioli F, Stagni F, Guidi S, Pirazzini C, Garagnani P, Silvani A, Zoccoli G, Bartesaghi R, Bacalini MG. Increased hippocampal epigenetic age in the Ts65Dn Mouse Model of Down Syndrome. *Frontiers in Aging Neuroscience*, Volume 16 - 2024 <https://doi.org/10.3389/fnagi.2024.1401109>
- XXIII. Bastianini S, Alvente S, Berteotti C, Lo Martire V, Matteoli G, Miglioranza E, Silvani A, Zoccoli G. Aging-related modification of sleep and breathing in orexin-knockout narcoleptic mice. *J Sleep Res*, submitted
- XXIV. Matteoli G, Alvente S, Bastianini S, Berteotti C, Ciani E, Cinelli E, Lo Martire V, Medici G, Mello T, Miglioranza E, Silvani A, Mutolo D*, Zoccoli G*. Characterization of sleep apneas and respiratory circuitry in mice lacking CDKL5. *J Sleep Res*, submitted

Book Chapters - last 5 years

- a) Zoccoli G. (2018) Neuroni e cellule associate. In: *Fondamenti Anatomofisiologici della Attività Psicica*, Poletto Editore, 2nd ed, pp 2-12.
- b) Zoccoli G. (2018) Anatomia funzionale del sistema nervoso. In: *Fondamenti Anatomofisiologici della Attività Psicica*, Poletto Editore, 2nd ed, pp 32-60.
- c) Zoccoli G. (2018) Circolazione cerebrale, meningi encefaliche e liquido cerebrospinale. In: *Fondamenti Anatomofisiologici della Attività Psicica*, Poletto Editore, 2^{ed}, pp 61-70.
- d) Zoccoli G. (2020) Circolazione cerebrale e metabolismo energetico del cervello. In: *Fisiologia Medica*, a cura di F. Conti, 3rd ed, edi-ermes.
- e) Amici R., Cerri M., Hitrec T., Zoccoli G. Overview of physiological processes during sleep, in: *Neuroscience and Biobehavioral Psychology*, Amsterdam, Elsevier, 2021, pp 1-10

- f) Amici R, Zoccoli G. (2021) Physiological basis of sleep: Adaptation of bodily functions to sleep. In: ESRS European Sleep Medicine Textbook. Bassetti C.L., Dogas Z. and Peigneux P. (Eds) European Sleep Research Society, 2nd ed, Regensburg, Germany. pp 27-39.
- g) Amici R., Zoccoli G. (2021) Physiological Changes in the Autonomic Nervous System During Sleep. In: Chokroverty S., Cortelli P. (eds) Autonomic Nervous System and Sleep. Springer Nature Switzerland AG, 2021, pp 43-50, Cham. https://doi.org/10.1007/978-3-030-62263-3_5
- h) Silvani, A., Zoccoli, G. (2023) Sleep and the peripheral vascular system. In: Encyclopedia of Sleep and Circadian Rhythms: Second Edition, Volume 2, pp. 266–273 <https://doi.org/10.1016/B978-0-12-822963-7.00233-4>
- i) Amici, R., Cerri, M., Hitrec, T., Zoccoli, G. (2023) Overview of physiological processes during sleep. In: Encyclopedia of Sleep and Circadian Rhythms: Second Edition, Volume 2, pp. 1-10 <https://doi.org/10.1016/B978-0-12-822963-7.00178-X>

Bologna, May 15, 2024