

Curriculum Vitae

Michele Bellesi, MD, PhD

School of Bioscience and Veterinary Medicine
University of Camerino, Italy

Positions

- 2020 - Associate Professor, School of Bioscience and Veterinary Medicine
University of Camerino, Italy
- 2019 - 2020 Research Fellow, School of Physiology, Pharmacology, and Neuroscience, University
of Bristol, UK
- 2018 - 2019 Consultant for Philips Respironics, Inc. Murrysville, PA, USA
- 2016 - 2018 Fixed-term researcher (Senior post-doc equivalent), Dept. of Experimental and
Clinical Medicine, Università Politecnica delle Marche, Italy
- 2016 - 2017 Honorary Fellow, Dept. of Psychiatry, University of Wisconsin-Madison, USA
- 2011 - 2016 Research Associate, Dept. of Psychiatry, University of Wisconsin-Madison, USA
- 2010 - 2011 Research Scholar, Dept. of Psychiatry, University of Wisconsin-Madison, USA

Education and Training

- 2022 Italian Academic Habilitation for Full Professor (ASN2016 I fascia - 05/D1)
- 2017 Italian Academic Habilitation for Associate Professor (ASN2016 II fascia - 05/D1)
- 2016 Post-doctoral training in Sleep Neurophysiology, University of Wisconsin, WI USA
- 2011 PhD in Neuroscience, Università Politecnica delle Marche, Italy
- 2007 Residency in Neurology (50/50 and honors), University of Ancona, Italy
- 2002 Medical Doctor Degree (110/110 and honors), University of Ancona, Italy

Awards and Honours

- 2018 Travel Award sponsored by The R Foundation, Taiwan – 2.2K €
- 2017 FFABR 2017. Italian Ministry for University Research Award for basic research - 3K €
- 2016 Sleep Research Society DataBlitz Hypnos Cup (awarded best talk)
- 2006 Italian Society for Neuroscience Travel Award for the 2006 FENS forum, Geneva - 600€

Fellowships and Funding

- 2023-25 The Language Of DrEams: relationship between sleep mentation, neurophysiology and clinical
features of neurological disorders [LODE] (Head of Unit) – 250K €
- 2023-24 ApneaHunt: un'applicazione per smartphone per rilevare l'apnea ostruttiva del sonno (PI) 10K €
- 2021-24 Alzheimer Research UK foundation grant – “Enhancing sleep to delay tauopathy” (PI) – 50K £
- 2021-24 BIAL foundation grant – “Mentation report analysis across distinct states of consciousness: a
linguistic approach” (co-PI) – 33K €
- 2022-24 BrAMS charity - “Acoustic stimulation of sleep in relapsing-remitting multiple sclerosis – a
feasibility study” (co-PI) – 7.4K £
- 2022-24 Above & Beyond Charity – “Feasibility study of SmartSleep® technology to improve efficiency
and restorative quality of sleep in people with relapsing remitting multiple sclerosis” (co-PI) –
21K £
- 2021-22 Ormendes industrial grant – “SLAB51 in sleep deprivation” (co-PI) – 5K €

2020-21 ARUK Bristol & Bath Network – “Rocking to enhance sleep and delay the progression of tauopathy” (PI) – 5K £
 2019-22 Wellcome Trust Seed Award in Science – “Boosting sleep to promote myelination” (PI) – 100K £
 2018 Cariverona Foundation PhD grant – “Role of sleep in neurodevelopment” (PI) - 60K €
 2007-11 PhD Fellowship sponsored by MIUR, Italy – 50K €
 2002-07 5-year Resident Fellowship sponsored by University of Ancona, Italy – 150K €

Memberships in professional societies

2020- member of the Italian Sleep Medicine Society
 2019- member of the European Sleep Research Society
 2015- member of the Sleep Research Society
 2012- member of the Society for Neuroscience
 2007- member of the Italian Society for Neuroscience
 2002- member of the Italian Society for Neurology

University-Industry Collaboration

2022- present. Led a research project developing a complex wheel for rodents to test motor deficits in collaboration with Ugo Basile, a world leading manufacturer of instruments for Behavioral Research.

2020 - 2022. Led a research project testing the use of probiotics to reduce the cellular burden of sleep deprivation in collaboration with Swiss company Ormendes inc., specializing in the development and distribution of high quality microbionics.

2010 - 2020. Contributed to a research project in collaboration with Philips Research and Respiromics aimed at developing an innovative technology for brain stimulation to improve sleep quality. This collaboration has led to seven patents and the manufacturing of a commercialized product.

Editorial activity and peer review for international journals

Associate Editor for Brain Sciences, Guest Associate Editor for Sleep and Circadian Rhythms, Associate Editor for Frontiers in Psychiatry, Frontiers in Neurogenetics (Review Editor). Reviewer for PNAS, Molecular Psychiatry, Journal of Neuroscience, JOVE, Scientific Reports, Sleep Medicine, Neuroimage, Sleep, Molecular Neurobiology, PLoS One, BMC Psychiatry, Clinical Neurology and Neuropsychiatry, Acta Neurologica Scandinavica, etc.

Publications in peer-reviewed journals (H-index: 33; citations: 4090)

1. The impacts of sleep loss on wake-active neurons. **Bellesi M**, Semba K, Veasey S, Adamantidis A, Peever J. ***Sleep***. 2025 in press.
2. Sleep phenotyping in a rat model of susceptibility to substance use disorders. Ficiarà E, Fanyian OO, Simayi R, Del Gallo F, Roberto M, Ciccocioppo R, Bellesi M, de Vivo L. ***Plos One***. 2025 in press.
3. DREAM: A Dream EEG and Mentation database. Wong W, Andrade KC, Andrillon T, de Araujo DB, Arnulf I, Avvenuti G, Baird B, **Bellesi M**, Bergamo D, Bernardi G, Blagrove M, De Gennaro L, Decat N, Demirel Ç, Dresler M, Eichenlaub JB, Elce V, Gott J, Bjørn EJ, Konkoly KR, LaRocque JJ, Lacaux C, Lenggenhager B, Mota-Rolim SA, Mallett R, Noreika V, Oudiette D, Palhano-Fontes F, Paller KA, Perogamvros L, Revonsuo A, Scarpelli S, Nilsen AS, Siclari F, Sikka P, Storm JF, Valli K, Wamsley EJ, Windt JM, Zhang J, van Rijn E, Tsuchiya N. ***Nat Comm***, 2025 in press.

4. Rocking during sleep reduces motor deficits and beta-amyloid levels in an Alzheimer's mouse model. Zhang L, Santoni L, Ngo NA, Simayi R, Ficiará E, de Vivo L, **Bellesi M**. *iScience*. 2025 Feb 15;28(3):112036.
5. The individual determinants of morning dream recall. Elce V, Bergamo D, Bontempi G, Pedreschi B, **Bellesi M**, Handjaras G, Bernardi G. *Commun Psychol*. 2025 Feb 18;3(1):25.
6. Effects of Chronic Sleep Restriction on Transcriptional Sirtuin 1 Signaling Regulation in Male Mice White Adipose Tissue. Rendine M, Cocci P, de Vivo L, **Bellesi M**, Palermo FA. *Curr Issues Mol Biol*. 2024 Mar 7;46(3):2144-2154.
7. Auditory stimulation during REM sleep modulates REM electrophysiology and cognitive performance. Navarrete M, Greco V, Rakowska M, **Bellesi M**, Lewis PA. *Commun Biol*. 2024 Feb 16;7(1):193.
8. Probiotics Supplementation Attenuates Inflammation and Oxidative Stress Induced by Chronic Sleep Restriction. Zheng Y, Zhang L, Bonfili L, de Vivo L, Eleuteri AM, **Bellesi M**. *Nutrients*. 2023 Mar 21;15(6):1518.
9. Increased interaction between endoplasmic reticulum and mitochondria following sleep deprivation. Aboufares El Alaoui A, Buhl E, Galizia S, Hodge JLL, de Vivo L and **Bellesi M**. *BMC Biology*. 2022 2023 Jan 4;21(1):1.
10. Ultrastructural effects of sleep and wake on the parallel fiber synapses of the cerebellum. Loschky SS, Spano GM, Marshall W, Schroeder A, Nemec KM, Schiereck SS, de Vivo L, **Bellesi M**, Banningsh SW, Tononi G, Cirelli C. *eLife*. 2022 Dec 28;11:e84199.
11. Role of corpus callosum in sleep spindle synchronization and coupling with slow waves. Bernardi G, Avvenuti, Cataldi J, Lattanzi S, Ricciardi E, Polonara G, Silvestrini M, Siclari F, Fabri M, **Bellesi M**. *Brain Comm* 2021 May 25;3(2):fcab108.
12. Characterization of subcellular organelles in perisynaptic cortical astrocytes. Aboufares El Alaoui A, Jackson M, Fabri M, de Vivo L and **Bellesi M**. *Front Cell Neurosci* 2021 Jan 28;14:573944.
13. Toschi N, Passamonti L, **Bellesi M**. Sleep quality relates to emotional reactivity via intra-cortical myelination. *Sleep*. 2020;zsaa146. doi:10.1093/sleep/zsaa146
14. Avvenuti, G, Handjaras, G, Betta, M, Cataldi, J, Imperatori, LS, Lattanzi, S, Riedner, BA, Pietrini, P, Ricciardi, E, Tononi, G, Siclari, F, Polonara, G, Fabri, M, Silvestrini, M, **Bellesi, M***, & Bernardi, G*. Integrity of Corpus Callosum Is Essential for the Cross-Hemispheric Propagation of Sleep Slow Waves: A High-Density EEG Study in Split-Brain Patients. *J Neurosci*. 2020;40(29):5589-5603. *Co-last and corresponding authors
15. **Bellesi M**, de Vivo L. Structural synaptic plasticity across sleep and wake. *Curr Op Physiol* 2020 June, 15;74-81
16. Bernardi G, Siclari F, **Bellesi M**. Editorial: Local Aspects of Sleep and Wakefulness. *Front Neurosci*. 2020 Feb 7;14:58.
17. de Vivo L, Nagai H, De Wispelaere N, Spano GM, Marshall W, **Bellesi M**, Nemec KM, Schiereck SS, Nagai M, Tononi G, Cirelli C. Evidence for sleep-dependent synaptic renormalization in mouse pups. *Sleep*. 2019 Oct 21;42(11).
18. Maria Spano G, Weyn Banningsh S, Marshall W, de Vivo L, **Bellesi M**, Loschky SS, Tononi G, Cirelli C. Sleep deprivation by exposure to novel objects increases synapse density and axon-spine interface in the hippocampal CA1 region of adolescent mice. *J Neurosci*. 2019 Jul 1.
19. de Vivo L, **Bellesi M**. The role of sleep and wakefulness in myelin plasticity. *Glia*. 2019

20. Tai CH, **Bellesi M**, Chen AC, Lin CL, Li HH, Lin PJ, Liao WC, Hung CS, Schwarting RK, Ho YJ. A new avenue for treating neuronal diseases: Ceftriaxone, an old antibiotic demonstrating behavioral neuronal effects. ***Behav Brain Res***. 2019 May 17;364:149-156.
21. **Bellesi M**, de Vivo L, Koebe S, Tononi G, Cirelli C. Sleep and Wake Affect Glycogen Content and Turnover at Perisynaptic Astrocytic Processes. ***Front. Cell. Neurosci*** 2018 12:308.
22. Bourdon AK, Spano G, Marshall W, **Bellesi M**, Tononi G, Serra PA, Baghdoyan HA, Lydic R, Campagna SR, Cirelli C. Sleep/wake Changes in the Metabolome of Mouse Cortex as Revealed by Ultra-performance Liquid Chromatography Coupled with High-Resolution Mass Spectrometry. ***Sci Rep*** 2018 Jul 25;8(1):11225.
23. **Bellesi M**, Haswell D, de Vivo L, Marshall W, Roseboom PH, Tononi G, Cirelli C. Myelin modifications after chronic sleep loss in adolescent mice. ***Sleep*** 2018 May 1;41(5). doi: 10.1093/sleep/zsy034.
24. Funk CM, Peelman K, **Bellesi M**, Marshall W, Cirelli C, Tononi G. Role of somatostatin-positive cortical interneurons in the generation of sleep slow waves. ***J Neurosci*** 2017 September 2017, 37 (38) 9132-9148.
25. **Bellesi M**, de Vivo L, Chini M, Gilli F, Tononi G, Cirelli C. Sleep loss promotes astrocytic phagocytosis and microglial activation in mouse cerebral cortex. ***J Neurosci*** 2017 May 24;37(21):5263-5273. *This paper is the #1 output from J Neurosci and is in the top 5% of all research outputs ever tracked by Altmetric, the attention research meter.*
26. de Vivo L, **Bellesi M**, Marshall W, Bushong EA, Ellisman MH, Tononi G, Cirelli C. Ultrastructural Evidence for Synaptic Scaling Across the Wake/sleep Cycle. ***Science*** 03 Feb 2017: Vol. 355, Issue 6324, pp. 507-510
27. Nagai H, de Vivo L, **Bellesi M**, Ghilardi MF, Tononi G, Cirelli C. Sleep consolidates motor learning of complex movement sequences in mice. ***Sleep*** 2016; 40 (2): zsw059. doi: 10.1093/sleep/zsw059.
28. **Bellesi M**, Bushey D, Chini M, Tononi G, Cirelli C. Contribution of sleep to the repair of neuronal DNA double-strand breaks: evidence from flies and mice. ***Sci Rep***. 2016 Nov 10;6:36804.
29. Billeh Y*, Rodriguez A*, **Bellesi M**, Bernard A, de Vivo L, Funk C, Harris J, Honjoh S, Mihalas S, Ng L, Koch C, Cirelli C, Tononi G. Effects of chronic sleep restriction during early adolescence on the adult pattern of connectivity of mouse secondary motor cortex. ***eNeuro***. 2016 Jun 20;3(2). * first co-authors.
30. Bernardi G, Cecchetti L, Siclari F, Buchmann A, Yu X, Handjaras G, **Bellesi M**, Ricciardi E, Kecskemeti SR, Riedner BA, Alexander AL, Benca RM, Ghilardi MF, Pietrini P, Cirelli C, Tononi G. Sleep reverts changes in human grey and white matter caused by wake-dependent training. ***Neuroimage***. 2016 Jan 23. pii: S1053-8119(16)00026-4.
31. Santostasi G, Malkani R, Riedner B, **Bellesi M**, Tononi G, Paller KA, Zee PC. Phase-locked loop for precisely timed acoustic stimulation during sleep. ***J Neurosci Methods***. 2016 Feb 1;259:101-14.
32. **Bellesi M**, Tononi G, Cirelli C, Serra PA. Region-Specific Dissociation between Cortical Noradrenaline Levels and the Sleep/Wake Cycle. ***Sleep***. 2016 Jan1;39(1):143-54.
33. de Vivo L, Nelson AB, **Bellesi M**, Noguti J, Tononi G, Cirelli C. Loss of sleep affects the ultrastructure of pyramidal neurons in the adolescent mouse frontal cortex. ***Sleep***. 2015 Dec 22. pii: sp-00267-15.
34. **Bellesi M**, de Vivo L, Tononi G, Cirelli C. Transcriptome profiling of sleeping, waking, and sleep deprived adult heterozygous Aldh1L1 - eGFP-L10a mice. ***Genom Data***. 2015 Dec;6:114-117.
35. **Bellesi M**, de Vivo L, Tononi G, Cirelli C. Effects of sleep and wake on astrocytes: clues from molecular and ultrastructural studies. ***BMC Biol***. 2015 Aug 25;13:66. *This study has been recommended by F1000.*

36. Bernardi G, Siclari F, Yu X, Zenning C, **Bellesi M**, Ricciardi E, Cirelli C, Ghilardi MF, Pietrini P, Tononi G. Neuronal and behavioral correlates of extended training during sleep deprivation in humans: evidence for local, task-specific effects. *J Neurosci* 2015 35(11):4487-4500.
37. **Bellesi M**. Sleep and oligodendrocyte functions. *Curr Sleep Med Rep*. 2015, Mar;1(1): 20-26. (*Invited Review*)
38. **Bellesi M**, Riedner BA, Garcia-Molina GN. Cirelli C, Tononi G. Enhancement of sleep slow waves: underlying mechanisms and practical consequences. *Front Sys Neurosci*. 2014 doi: 10.3389/fnsys.2014.00208.
39. **Bellesi M**, Pfister-Genskow M, Maret S, Keles S, Tononi G, Cirelli C. Effects of sleep and wake on oligodendrocytes and their precursors. *J Neurosci*. 2013 Sep;33(36):14288-142300. *This paper has been featured in Nature (vol 503 7 Nov, 2013) as the most viewed paper in science.*
40. Dash MB, **Bellesi M**, Tononi G, Cirelli C. Sleep/wake dependent changes in cortical glucose concentrations. *J Neurochem*. 2013 Jan;124(1):79-89.
41. **Bellesi M**, Vyazovskiy VV, Tononi G, Cirelli C, Conti F. Reduction of EEG theta power and changes in motor activity in rats treated with ceftriaxone. *PLoS One*. 2012;7(3):e34139.
42. Ferrarelli F, Sarasso S, Guller Y, Riedner BA, Peterson MJ, **Bellesi M**, Massimini M, Postle BR, Tononi G. Reduced Natural Oscillatory Frequency of Frontal Thalamocortical Circuits in Schizophrenia. *Arch Gen Psychiatry*. 2012 Aug;69(8):766-74.
43. Ciszak M, **Bellesi M**. Synaptic plasticity modulates autonomous transitions between waking and sleep states: insights from a Morris-Lecar model. *Chaos*. 2011 21(4):043119.
44. Melone M, **Bellesi M**, Ducati A, Iacoangeli M, Conti F. Cellular and synaptic localization of EAAT2 in human cerebral cortex. *Front Neuroanat*. 2011 14;4:151. doi:10.3389/fnana.2010.00151.
45. **Bellesi M**, Di Bella P, Provinciali L. Diagnostic difficulties with central nervous system actinomycosis. *Neurol Sci*. 2011 32:945:947.
46. **Bellesi M**, Conti F. The mGluR2/3 agonist LY379268 blocks the effects of GLT-1 upregulation on prepulse inhibition of the startle reflex in adult rats. *Neuropsychopharmacology*. 2010 May;35:1253-1260.
47. Omrani A*, Melone M*, **Bellesi M**, Safiulina V, Aida T, Tanaka K, Cherubini E, Conti F. Up-regulation of GLT-1 severely impairs LTD at mossy fibre-CA3 synapses. *J Physiol*. 2009 Oct 1;587:4575-88. * first co-authors.
48. **Bellesi M**, Melone M, Gubbini A, Battistacci S, Conti F. GLT-1 upregulation impairs prepulse inhibition of the startle reflex in adult rats. *Glia*. 2009 May; 57(7): 703-713.
49. Melone M, **Bellesi M**, Gubbini A, Conti F. GLT-1 up-regulation enhances the effect of PCP on prepulse inhibition of the startle reflex in adult rats. *Schizophr Res*. 2009. Apr 109:196-197.
50. Melone M, **Bellesi M**, Conti F. Synaptic localization of GLT-1a in the rat somatic sensory cortex. *Glia*. 2009 Jan; 57(1):108-17.
51. Muglia M, Magariello A, Citrigno L, Passamonti L, Sprovieri T, Conforti FL, Mazzei R, Patitucci A, Gabriele AL, Ungaro C, **Bellesi M**, Quattrone A. A novel locus for dHMN with pyramidal features maps to chromosome 4q34.3-q35.2. *Clin Genet*. 2008 May;73(5):486-91.
52. **Bellesi M**, Logullo F, Di Bella P, Provinciali L. CNS demyelination during anti-TNF alpha therapy. *J Neurol*. 2006 May; 253(5):668-9.
53. **Bellesi M**, Passamonti L, Silvestrini M, Bartolini M, Provinciali L. Non-convulsive status epilepticus during lithium treatment at therapeutic doses. *Neurol Sci*. 2006 Feb;26(6):444-6.

54. Passamonti L, Muglia M, Magariello A, **Bellesi M**, Conforti FL, Mazzei R, Patitucci A, Gabriele AL, Sprovieri T, Peluso G, Caracciolo M, Medici E, Logullo F, Provinciali L, Quattrone A. Further evidence of genetic heterogeneity in autosomal dominant distal motor neuronopathy. *Neuromuscul Disord*. 2004 Nov;14(11):705-10.
55. Capecchi M, Passamonti L, Annesi F, Annesi G, **Bellesi M**, Candiano IC, Ricciuti R, Iacoangeli M, Scerrati M, Zappia M, Tarantino P, De Marco EV, Civitelli D, Carrideo S, Provinciali L, Ceravolo MG, Quattrone A. Chronic bilateral subthalamic deep brain stimulation in a patient with homozygous deletion in the Parkin gene. *Mov Disord*. 2004. Dec;19(12):1450-2.

Pre-prints

- *Sleep loss impairs myelin function by altering cholesterol metabolism in oligodendroglia*. Reyila Simayi, Eleonora Ficiarà, Oluwatomisin Faniyan, Antonio Cerdán Cerdá, Amina Aboufares El Alaoui, Rosamaria Fiorini, Adele Cutignano, Fabiana Piscitelli, Pablo Andújar, Alexandra Santos, Federico Del Gallo, Luisa de Vivo, Silvia De Santis, **Michele Bellesi**. BioRxiv, 7 Nov 2023.
- *Adolescent chronic sleep restriction promotes alcohol drinking in adulthood: evidence from epidemiological and preclinical data*. Oluwatomisin O. Faniyan, Daniele Marcotulli, Reyila Simayi, Federico Del Gallo, Sara De Carlo, Eleonora Ficiarà, Doretta Caramaschi, Rebecca Richmond, Daniela Franchini, **Michele Bellesi**, Roberto Ciccocioppo, Luisa de Vivo. BioRxiv, 15 Oct 2023.

Conference Proceedings

Quadrini M, Abdullah E, Francioni N, Quadrini M, Scoccia M, **Bellesi M**, Loreti M. Sleep Apnea Detection using Mel-spectrograms Snoring and Convolutional Neural Networks. 2024 *IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, Lisbon, Portugal, 2024, pp. 6506-6512,

Garcia-Molina G, Vissapragada S, Mahadevan A, Goodpaster R, Riedner B, **Bellesi M**, Tononi G. Probabilistic Characterization of Sleep Architecture: Home Based Study on Healthy Volunteers. *Conf Proc IEEE Eng Med Biol Soc*. 2016 Aug;2016:2834-2838.

Garcia-Molina GN, **Bellesi M**, Riedner BA, Pastoor S, Pfundtner S, Tononi G. Automatic Characterization of Sleep Need Dissipation Dynamics Using a Single EEG Signal. *Conf Proc IEEE Eng Med Biol Soc*. 2015;2015:5993-7.

Book chapters

Garcia-Molina G, **Bellesi M**, Pastoor S, Pfundtner S, Riedner B, Tononi G. Online Single EEG Channel Based Automatic Sleep Staging. In book: *Engineering Psychology and Cognitive Ergonomics. Applications and Services*. Springer Berlin Heidelberg, Editors: Don Harris, pp.333-342. 2013.

Bellesi M. The effects of sleep loss on brain functioning. *Handbook of Sleep Research*. Elsevier, Editors: Hans Dringenberg.

Patents

- ❖ System and method for enhancing REM sleep with sensory stimulation. Garcia-Molina GN, Papas N, Salazar J, Biring BS, **Bellesi M**, White DP. Publication number: US 20200197656

- ❖ System and method for adjusting the volume of auditory stimulation during sleep based on sleep depth latencies **Bellesi M**, Riedner B, Tononi G, Garcia-Molina G. Publication Number: [2016P00607US](#) Joint Philips & UW
- ❖ System and method for adjusting the intensity of sensory stimulation during sleep based on sleep spindles. **Bellesi M**, Riedner B, Tononi G, Garcia-Molina G. Publication Number: [WO2016005870 A1](#). Joint Philips & UW
- ❖ System and method for sleep session management based on slow wave sleep activity in a subject. Tononi G, Riedner B, **Bellesi M**, Garcia-Molina G, Pfundtner S, Pastoor S. Publication Numbers: [US20160058970 A1](#), [CN105324077A](#), [EP2986208A1](#), [WO2014170881A1](#). Joint Philips & UW
- ❖ Adjustment of sensory stimulation intensity to enhance sleep slow wave activity. **Bellesi M**, Riedner B, Tononi G, Garcia-Molina G. Publication Numbers: [US20160082222 A1](#), [CN105377129A](#), [EP2986209A1](#), [WO2014170781A1](#). Joint Philips & UW
- ❖ System and method for determining timing of sensory stimulation delivered to a subject during a sleep session. **Bellesi M**, Garcia-Molina G, Benzo J, Riedner B, Tononi G. Publication Numbers: [US20170000970 A1](#), [CN105960195A](#), [EP3102094A1](#), [WO2015118415A1](#). Joint Philips & UW
- ❖ System and method for enhanced knowledge consolidation by sleep slow wave induction and sensory context re-creation. Tononi G, Westerink J, Garcia-Molina G, **Bellesi M**. Publication Numbers: [WO2014118650 A1](#), [US20150374951](#), [CN104955513A](#), [EP2950868A1](#). Joint Philips & UW
- ❖ Sensory stimuli to increase accuracy of automated real-time sleep staging. Garcia-Molina G, Tononi G, Riedner B, **Bellesi M**, Pfundtner S, Pastoor S. Publication Numbers: [US20150359482 A1](#), [CN104955385A](#), [EP2950707A1](#), [WO2014118693A1](#). Joint Philips & UW.

Impact of the research on the media (selected list)

Sleep deprivation can lead to the brain 'eating itself', study says. **Independent** 25/05/2017
 The brain starts to eat itself after chronic sleep deprivation. **New Scientist** 23/05/2017
 Sleep deprivation can cause brain to start 'eating' itself. **The Telegraph** 26/05/2017
 Your Brain Will Start To Eat Itself After Chronic Sleep Deprivation. **Huffingtonpost** 24/05/2017
 The Purpose of Sleep? To Forget, Scientists Say. **The New York Times**. 3/02/2017
 The Brain's Connections Shrink During Sleep. **The Atlantic** 3/02/2017
 Sleep is about forgetting some memories and keeping others, studies suggest. **Independent** 3/02/2017
 Sleep may help us to forget by rebalancing brain synapses. **The Guardian** 3/02/2017
 Sleep Affects Formation Of Myelin, Vital To Brain Growth And Repair: Study. **HuffPost** 04/09/2013
 What's the point of sleep? **The Guardian**. 05/09/2013
 Beauty sleep or brains sleep? Switching off 'helps regrow brain cells'. **Independent** 04/09/2013
 How Sleep Protects the Brain over Time. **Scientific American**. 01/01/2014
 Sleep 'boosts brain cell numbers'. **BBC**. 04/09/2013

Outreach Activities

Passaggi Festival (Fano). Lay Seminar. 2023

Public engagement (Talks, Stands, Sleep Questionnaires, etc) at Sharper 2018 and 2020 - MSCAnight – September 2018 and 2020

Participated in Memex “Galileo”, a scientific format for popular science of Rai Cultura. Registered on May 9th, 2018

Participated in a popular radio podcast on Deutsche Welle, a Germany's international broadcaster. Topic: glial phagocytosis and sleep loss. June, 2017

Il Sonno e le Sinapsi. Lettere dalla Facoltà. Popular Scientific Bulletin of Università Politecnica delle Marche. Anno XX n.2, 2017.

TG3-Leonardo RAI 3: “La forma del sonno”, Popular Scientific Newscast 02.09.2017