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Sleep is a Global Priority: The One Health Perspective

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Sleep is a fundamental pillar of health, with a profound impact on mental health and well-being. Yet, the biological mechanisms underlying this universal need remain elusive. We are currently exposed to a wide range of physical (e.g., elevated temperatures, air/noise/light pollution, traffic), social (e.g., socioeconomic disparity, work-related stress, social jet lag and shift work, digital overload, screen exposure), and unhealthy lifestyle factors (e.g., poor diet, physical inactivity, smoking, alcohol, and late caffeine consumption). These exposures disrupt human sleep patterns, posing significant risks to brain and body health. Environmental changes (e.g., heat and air/noise/light pollution) adversely affect the circadian rhythms, feeding, reproduction, activity, and immune function of animals, thereby influencing human sleep during co-sleeping or cohabitating. To assess the impact of these exposome challenges on planet inhabitants' sleep, we advocate for an integrative "One Sleep Health" model that focuses on an integrated, transdisciplinary link between human and animal sleep with the environmental exposome. This approach incorporates the concept of sleep capital—the cumulative social, economic, and health benefits derived from high-quality sleep—into the global sleep health agenda. By adopting this transdisciplinary lens, which unites neuroscience, medicine, environmental science, and public health, we aim to bridge critical gaps in sleep research and diplomacy.

Keywords

Sleep health, One Health, Exposome, Environmental factors

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Professional Status of the Speaker

Senior Scientist

Junior Scientist Status

No, I am not a Junior Scientist.

Author: Dr TAHMASIAN, Masoud (Institute of Neuroscience and Medicine (INM-7: Brain and Behaviour), Juelich Research Centre)

Co-authors: Mr KUEPPERS, Vincent (Institute of Neuroscience and Medicine (INM-7: Brain and Behaviour), Juelich Research Centre); Prof. GENON, Sarah (Institute of Neuroscience and Medicine (INM-7: Brain and Behaviour), Juelich Research Centre); Prof. EICKHOFF, Simon B. (Institute of Neuroscience and Medicine (INM-7: Brain and Behaviour), Juelich Research Centre); Prof. GOLOMBEK, Diego A. (Laboratorio Interdisciplinario del Tiempo (LITERA), Universidad de San Andrés/CONICET); Prof. IBANEZ, Agustin (Global Brain Health Institute (GBHI), University of California)

Presenter: Dr TAHMASIAN, Masoud (Institute of Neuroscience and Medicine (INM-7: Brain and Behaviour), Juelich Research Centre)

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