

CRIR Scientific Conference

Presented by: Jewish Rehabilitation Hospital (JRH),
Santé Québec Laval



Centre de recherche interdisciplinaire
en réadaptation du Montréal métropolitain

As part of the "Talking Research" series | Presentations by researchers or postdoctoral fellows on the findings of their research projects

Protecting episodic memory after sleep loss: Similar benefits of exercise and naps via distinct neural contributions



Madhura Lotlikar

Neuroscience PhD candidate (McGill University)

Bio: Madhura is a Neuroscience PhD candidate at McGill University working under the supervision of Dr. Marc Roig. For her PhD, she investigates various ways to protect against memory detriments after sleep loss. She is leading three research projects spanning from investigating individual-level interventions such as exercise and naps to identifying systems-level barriers preventing clinicians from implementing sleep evidence in their rehabilitation practice. Beyond her research, Madhura is passionate about science communication and outreach. She has written for popular science publications, participated in various science outreach initiatives and worked on a podcast. She is also a founder of Share Your Sleep Story, an initiative that connects with people living with sleep disorders and brings their experiences into conversations about sleep health and policy. In her past life, Madhura did her MS in Molecular Biology at the University of Southern California and worked at Harvard Medical School, where she investigated the molecular mechanisms underlying memory deficits in Alzheimer's and Parkinson's disease using cellular and animal models.

Conference abstract

Insufficient sleep is a public health concern experienced by one-third of the global population. It affects cognitive health, neuronal plasticity and robs global economies of billions of dollars annually. Sleep loss is commonly experienced by people in safety-critical occupations such as healthcare, shift work, mining, and transportation, where implementing sleep hygiene recommendations to counteract sleep loss is not effective or practical, but preserving brain and cognitive health is of global importance. In this talk, I will discuss whether 20 minutes of exercise and 90 minutes of naps can protect memory from the effects of sleep loss while diving into the brain mechanisms underlying this protection using electroencephalography (EEG). I will end by contextualizing sleep within its broader social and environmental context, highlighting how we can move from individual-level interventions to improving sleep health in clinical practice and society.

So, while you are counting sheep, which would you choose: 20 minutes of exercise or a 90-minute nap? (Hint: Read our paper - Lotlikar et al., 2026, PNAS.)

Date et heure : October 15, 2026
12:00 - 13:00

Contact : Mireia.Carrillo.cissslav@ssss.gouv.qc.ca

Langue : English

Modality : Hybride

■ **In person:** Jewish Rehabilitation Hospital, Room D 1004
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or

■ **Virtual:** On Zoom. Please register:

<https://us02web.zoom.us/join/zoom/register/diWbzrjSS8WpcoP7OpZiJw>