

Ongoing Network State Controls The Length Of Sleep Spindles Via Inhibitory Activity

[#sleep spindles](#) [#network state](#) [#inhibitory activity](#) [#sleep regulation](#) [#neural networks sleep](#)

The brain's ongoing network state plays a crucial role in controlling the length of sleep spindles. This regulation is specifically mediated through inhibitory activity, underscoring how dynamic neural network interactions profoundly influence key aspects of sleep architecture and function.

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Ongoing Network State Controls The Length Of Sleep Spindles Via Inhibitory Activity

2-Minute Neuroscience: Stages of Sleep - 2-Minute Neuroscience: Stages of Sleep by Neuroscientif-
ically Challenged 396,348 views 5 years ago 1 minute, 59 seconds - Sleep, stages are defined based
primarily on the measurement of electrical **activity**, in the brain **using**, an electroencephalogram, ...

Introduction

Definition

Stages of Sleep

Sleep Physiology, Animation - Sleep Physiology, Animation by Alila Medical Media 176,822 views

2 years ago 5 minutes, 22 seconds - Stages of **sleep**,, REM and NREM **sleep**,, mechanism of
regulation, **sleep**,- and wake-promoting regions (VLPO, TMN and ...

Sleep

Sleep Stages

Homeostatic Drive

Circadian Rhythm

Talk: Towards a large-scale model of sleeping brain: sleep spindles in network mass models -

Talk: Towards a large-scale model of sleeping brain: sleep spindles in network mass models by
Neuromatch Conference 404 views 3 years ago 15 minutes - Summary: The hierarchical nesting
of **sleep spindles**, and slow oscillations is considered a precursor of successful episodic ...

Intro

Motivation

Model

Connection

Time series

Discussion

Neuroscience - Sleep Cycle EEG - Neuroscience - Sleep Cycle EEG by DrawItKnowIt 65,419 views

7 years ago 3 minutes, 10 seconds - In this video, I will draw the EEG waveforms of our patient, Bob,
going, through the different stages of **sleep going**, chronologically ...

Intro

Stage 1 REM

Stage 2 NonREM

Stage 3 REM

Beyond the Spindle: Transient Oscillations in the Sleep EEG - Beyond the Spindle: Transient Oscillations in the Sleep EEG by Prerau Lab 666 views 1 year ago 38 minutes - The brain is highly active during **sleep**, which makes it an important, natural way to study neurological health and disease.

GENERAL PHILOSOPHY OF APPROACH

1935 - ORIGINS OF THE SPINDLE

ORIGINS OF THE SPINDLE-ANALYSIS TECHNIQUES

85 YEARS LATER-WHAT IS A SPINDLE?

WAVEFORMS VS. PHYSIOLOGICAL PHENOMENA

30MIN SEGMENTS: HAND SCORED TF-PEAKS VS. HAND SCORED SPINDLES

FULL NIGHT: HAND-SCORED TF-PEAKS VS. AUTO DETECTED SPINDLES

THE PROBLEM WITH AUTO-DETECTION OF SPINDLES

OPTIMIZED THRESHOLDS

OVERVIEW

IMPLICATIONS

MOVING BEYOND SIGMA

FULL NIGHT DETECTION

SLEEP DEPTH DYNAMICS

PEAK TEMPORAL DYNAMICS

PHASE COUPLING

MOVING FORWARD

ACKNOWLEDGEMENTS

UNC Science Short: Sleep Spindles - UNC Science Short: Sleep Spindles by UNC Health 11,670 views 7 years ago 2 minutes, 38 seconds - Flavio Frohlich, PhD, assistant professor of psychiatry, cell biology & physiology, and biomedical engineering at the UNC School ...

Sleep stages and circadian rhythms | Processing the Environment | MCAT | Khan Academy - Sleep stages and circadian rhythms | Processing the Environment | MCAT | Khan Academy by khanacademymedicine 683,357 views 10 years ago 7 minutes, 57 seconds - Created by Carole Yue. Watch the next lesson: ...

Sleep architecture on the EEG - Sleep architecture on the EEG by Neurophysiology 1,509 views 2 years ago 12 minutes, 39 seconds - In this video, I'll describe the key features of **sleep**, architecture on the EEG. Apologies, at 2.24 I misspoke and meant to say NREM ...

Introduction

Sleep stages

Hypnograms

sleep spindles

REM sleep

Sleep cycles

Outro

EEG Sleep Spindles and Vertex Waves - EEG Sleep Spindles and Vertex Waves by Jared Beckwith, R. EEG T. 536 views 9 months ago 7 minutes, 25 seconds - My name is Jared Beckwith, I'm a registered EEG technologist. In this video I will look at an EEG with **sleep spindles**, and vertex ...

Sensorimotor Network Development During Early Postnatal Life in the Awake and Sleeping Brain - Sensorimotor Network Development During Early Postnatal Life in the Awake and Sleeping Brain by InsideScientific 95 views 2 years ago 54 minutes - In the last decades, electrophysiological and imaging-based approaches provided significant new insights into the mechanisms of ...

Introduction

Background

Central Hypothesis

Methods

Results

Conclusion

Sensory Motor Delays

Internal Models

Data Collection

Thank you

Audience Poll

QA Session

06) Differential Roles of Sleep Spindles and Sleep Slow Oscillations in Memory Consolidation - 06) Differential Roles of Sleep Spindles and Sleep Slow Oscillations in Memory Consolidation by HRL Laboratories, LLC 2,520 views 5 years ago 49 minutes - Presented by: Maxim Bazhenov, USCD Center for Human Machine Collaboration Workshop on Memory Consolidation, ...

Sleep stages are characterized by specific characteristic patterns of EEG activity

Two-stage model of memory formation

Memory consolidation is believed to depend on replay, during slow-wave sleep, of firing sequences stored in the hippocampus

What are sleep-related mechanisms of memory consolidation? Why precise coordination of different sleep rhythms is critical?

Effect of sleep on motor sequence learning in humans

The model implemented STDP on synapses between cortical neurons. It was trained in awake to produce a sequence of cell firing to mimic motor sequence learning in humans

Summary of performance improvement in the models experiencing different vigilance states between training and testing

Isabelle Lambert, MD: Spike, Spindle Frequency in Hippocampus During NREM Affect Long-Term Memory - Isabelle Lambert, MD: Spike, Spindle Frequency in Hippocampus During NREM Affect Long-Term Memory by NeurologyLive 994 views 5 years ago 3 minutes, 59 seconds - At the 24th Congress of the European **Sleep**, Research Society, NeurologyLive spoke with Isabelle Lambert, MD, **Sleep**, Unit, ...

Christopher Gonzalez: Sleep spindle variability across the human cortex - Christopher Gonzalez: Sleep spindle variability across the human cortex by Institute for Neural Computation 505 views 2 years ago 4 minutes, 48 seconds - 2021 INC Spring Retreat on Cognitive Neuroscience Saturday, July 10, 2021.

The best sleep strategy you never heard of - Optimizing Sleep Part 15 - The best sleep strategy you never heard of - Optimizing Sleep Part 15 by Friesen Performance with Dr. Chris Friesen 660 views 1 year ago 6 minutes, 20 seconds - In this video, I review one of the best neurological strategies to improve your **sleep**,. If you've tried all the other strategies I've ...

Intro

What are sleep spindles

What is neurofeedback

My experience

Lecture 9. Sleep Mechanisms - Lecture 9. Sleep Mechanisms by Icahn School of Medicine 71,209 views 7 years ago 46 minutes - Objectives To gain an understanding of: • What is **sleep**,? • Stages of **sleep**, • NREM (non-REM) and REM (rapid eye movements) ...

Introduction

Objectives

Sleep

Stages of Sleep

Physiological Basis

Wakefulness vs Sleep

Sleep Wave Cycle

Review

Dr. Gina Poe: Use Sleep to Enhance Learning, Memory & Emotional State | Huberman Lab Podcast - Dr. Gina Poe: Use Sleep to Enhance Learning, Memory & Emotional State | Huberman Lab Podcast by Andrew Huberman 746,375 views 1 year ago 2 hours, 5 minutes - My guest this episode is Gina Poe, PhD, a professor in the department of integrative biology & physiology at the University of ...

Dr. Gina Poe

LMNT, Helix Sleep, Eight Sleep, Momentous

Sleep Phases, Perfect Night's Sleep

Can You Oversleep?

Sleep Cycles, Sleep Spindles, "Falling" Asleep, Dreams & Memories

Tool: Growth Hormone Release & Sleep

Adolescence; Early Sleep, Alcohol & Sleep Spindles

Middle Sleep States & REM, Schema, Waking at Night

Deep Sleep, Dreams & Senses

AG1 (Athletic Greens)

Later Sleep, Paralysis, Sleepwalking, Sleep Talking

Alarm Clock & Grogginess; Sleep Trackers, Brain & Sleep
Early Slow Wave Sleep & "Washout", Normal Sleep Cycle & Night Owls
Locus Coeruleus, Learning & REM Sleep
Post-Traumatic Stress Disorder (PTSD), Locus Coeruleus & Sleep
InsideTracker
Locus Coeruleus, Trauma & Sleep, Antidepressants, Norepinephrine
Locus Coeruleus, Bedtime & Novelty, Estrogen & Trauma
Sex Differences & Sleep
Tool: Non-Sleep Deep Rest (NSDR), Insomnia, Meditation, Prayer
Sleep Spindles, Learning & Creativity, P Waves & Dreaming
Lucid Dreams, Reoccurring Dreams, Trauma
Trauma Recovery, Locus Coeruleus & Norepinephrine, REM Sleep
Opiates, Addiction, Relapse & Sleep
Zero-Cost Support, Spotify & Apple Reviews, YouTube Feedback, Sponsors, Momentous, Neural
Network Newsletter, Social Media
Talk: Local coupling between sleep spindles and slow oscillations supports consolidation of visuo-
mo... - Talk: Local coupling between sleep spindles and slow oscillations supports consolidation
of visuo... by Neuromatch Conference 233 views 3 years ago 15 minutes - Presented during
Neuromatch Conference 3.0, Oct 26-30, 2020. Summary: The last decade has seen remarkable
progress in the ...
Motor Learning in the Lab
Memory Consolidation
Sleep-dependent Consolidation of Motor Memory
Does Sleep benefit VMA memories?
Does VMA influence the density of Sleep Spindles?
Does VMA influence the coupling between Fast Spindles and Oscillations?
Does VMA influence the Phase Relationship between SOs and Spindles?
Stage 2 Sleep - Stage 2 Sleep by EEGucation 13,909 views 12 years ago 4 minutes, 6 seconds -
Review of the EEG features of Stage 2 **Sleep**,
Eeg
Stage 2 Sleep
Features of Stage 2 Sleep
Sleep Spindles
K Complexes
Psychology Shorts: Sleep Spindles - Psychology Shorts: Sleep Spindles by Binge Thinker 111 views
1 year ago 3 minutes, 30 seconds - Welcome to the (very delayed) 4th episode in our Psychology
Shorts series. In this episode, we introduce another **sleep**, ...
ElectroEncephaloGraphy (EEG)
Systems Consolidation Theory
Targeted Memory Reactivation (TMR)
The brain benefits of deep sleep -- and how to get more of it | Dan Gartenberg - The brain benefits
of deep sleep -- and how to get more of it | Dan Gartenberg by TED 1,961,030 views 6 years ago 6
minutes, 38 seconds - There's nothing quite like a good night's **sleep**,. What if technology could help
us get more out of it? Dan Gartenberg is working on ...
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