



Università
della
Svizzera
italiana

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UNIVERSITÄT
BERN

2025-2027

INTERNATIONAL MASTER OF ADVANCED STUDIES (MAS) IN SLEEP MEDICINE

A postgraduate master on sleep-wake-circadian physiology,
consciousness and related disorders

In collaboration with:

 **INSELSPITAL**
UNIVERSITÄTSSPITAL BERN
BERN UNIVERSITY HOSPITAL



Ente Ospedaliero Cantonale

 **ESF**
European Sleep Foundation
Fondazione Europea Sonno

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INTERNATIONAL MASTER IN SLEEP MEDICINE (MAS)

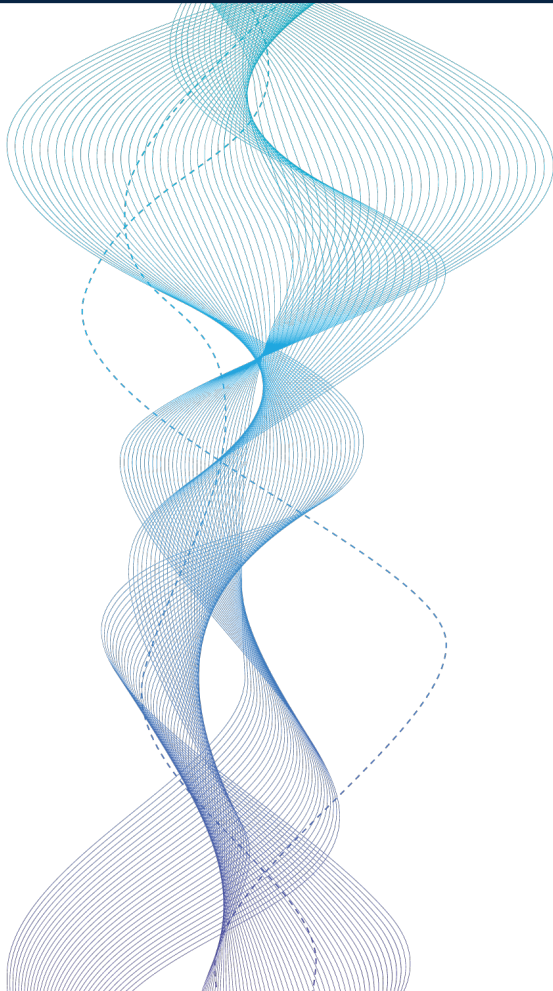
A postgraduate master on sleep-wake-circadian physiology, consciousness and related disorders

The International Master in Sleep Medicine - in collaboration with the University of Bern and the Università della Svizzera italiana as well as 14 international partner Universities - offers a unique postgraduate program, which provide advanced medical and scientific insights into sleep physiology, chronobiology and sleep medicine.

The program is under the patronage of the European Sleep Research Society (ESRS), the European Academy of Neurology (EAN), the Swiss Society for Sleep Research, Sleep Medicine and Chronobiology (SSSSC), the German Society of sleep Research and Medicine (DGSM) and the German Society of P).



For further information please visit: www.asc.unibe.ch
or contact info@asc.unibe.ch



Program Overview

BASIC KNOWLEDGE

The first part of the program provides basic tools, skills and competences to understand sleep physiology, diagnosis and treatments of sleep and consciousness disorders. The program covers a wide range of topics such as the regulation and function of sleep, sleep research methods as well as first looks at clinical topics like insomnia, hypersomnia, parasomnia and other disorders.

ADVANCED KNOWLEDGE

The second part of the program allows the students to deepen their knowledge while also offering a holistic look into further clinical topics as well as disorders of consciousness. The modules also provides in-depth theoretical and practical insights into sleep scoring in a self-study mode.

SPECIALIZATION

Building up on the previous programs, these modules of the MAS offer more specific learning contents based on the student's personal preferences. In addition each participant will be able to gain international working experience by completing a two to four weeks internship in one of our partner labs all around the world.

Fees and Highlights



Start
March 31st, 2025



Application Deadline
January 31st, 2025



Credits
MAS | **60 ECTS**



Duration
MAS | **30 months**



Language
English

Basic Knowledge 14 ECTS

Online modules

- Basics sleep medicine & interdisciplinary approach
- Sleep Summer School (hybrid)
- Sleep Winter School (hybrid)

Advanced Knowledge 15 ECTS

Online modules

- Basics sleep science
- Primary sleep disorders
- Objective sleep measures
- Sleep scoring

Specialization 31 ECTS

- Online modules
- Hands-on module
- Transferable skills
- MAS thesis

Who can apply

Eligible for the program are applicants with the following backgrounds:

- medical degree with or without specialization
- psychologists and neuropsychologists
- candidates with a bachelor degree in a biology and/or health related disciplines
- candidates with a Master degree in natural science or engineering

MAS Sleep Medicine

i 60 ECTS | 30 months

In all modules, interactive in-depth courses (such as journal club, webinar, case discussion, FAQ session etc.) are offered.

MODULE 1: Basics Sleep Medicine

4 ECTS (mandatory)

Sleep-Wake cycle, consciousness and their disorders: An Introduction *C. Bassetti*

How is vigilance assessed? *R. Khatami*

How is sleep assessed? *L. Ferini-Strambi*

Circadian rhythms and their assessment *C. Garbaza*

International classification of sleep disorders *M. Manconi*

Strategies in sleep research *A. Adamantidis*

Sleep and circadian rhythm *M. Schmidt*

Sleep regulation *P. Luppi*

Sleep and digitisation *A. Tzovara*

MODULE 2: Sleep Summer School

3 ECTS (mandatory)

Visit the official site: www.europeansleepfoundation.ch/schools-and-masters/sleep-medicine-summer-school/

MODULE 3: Interdisciplinary Approach

4 ECTS (mandatory)

Sleep & Athletic Performance *H. van Donge, A. Amidi*

Sleep and Electromagnetic Fields *P. Achermann*

Sleep in the first two decades of life *L. Tarokh*

Effects of COVID-19 on Human Sleep and Chronobiology *C. Blume*

Sleep & Aging *S. Ancoli-Israel*

Sleep and the Immune System *M.R. Irwin*

Sex Differences in Sleep *F.C. Baker*

MODULE 4: Sleep Winter School

3 ECTS (mandatory)

Visit the official site: <https://www.europeansleepfoundation.ch/schools-and-masters/sleep-science-winter-school/>

MODULE 5: Basics Science | 5 ECTS

Network neurophysiology	<i>F. Fröhlich</i>
Network physiology-pathology	<i>K. Schindler</i>
Network physiology of the sleep wake cycle	<i>A. Adamantidis</i>
Genetics of sleep and sleep disorders	<i>M. Tafti</i>
Circadian clocks: Mechanisms and functions	<i>S. Brown (t)</i>
Sleep across the life span and spieces	<i>M. Schmidt</i>
Neurobiology of the consciousness system	<i>S. Sarasso</i>
Sleep, epilepsy and chronobiology	<i>M. Baud</i>
Animal model of narcolepsy	<i>T. Scammell</i>
Animal model of RBD	<i>P.H. Luppi</i>

MODULE 6: Primary Sleep Disorders | 6 ECTS

Circadian rhythm sleep-wake disorders	<i>C. Garbazza</i>
Sleep-Related movement disorders	<i>A. Heidbreder</i>
RLS/PLMS: clinical aspects and treatment	<i>M. Manconi</i>
Parasomnias and state dissociations	<i>L. Nobili</i>
REM parasomnias and treatment	<i>P. Bargaïtas</i>
Treatment of insomnia: pharmacological and psychotherapeutic approach	<i>D. Riemann</i>

Pediatric sleep medicine	<i>O. Bruni</i>
Sleep apneas	<i>R. Heinzer</i>
OSA treatment: options and complications	<i>R. Heinzer</i>
Physiology and phenomenology of dreaming	<i>F. Siclari</i>
Pediatric narcolepsy	<i>G. Plazzi</i>
Primary central disorders of hypersomnolece I	<i>C. Bassetti</i>
Primary central disorders of hypersomnolece II	<i>C. Bassetti</i>

MODULE 7: Objective Sleep Measures | 4 ECTS

Imaging during sleep (fMRI, PET, NIRS)	<i>P. Maquet</i>
Electrical activity during sleep (EEG, HD-EEG, MEG, LFP, Unit recordings)	<i>R. Huber</i>
Objective measurements of sleep in the sleep laboratory	<i>F. Pizza</i>
Introduction of sleep scoring	<i>A. Castelnuovo</i>
Introduction of RemLogic and sleep scoring with RemLogic	<i>A. Roussac</i>
Practical study with remote access to RemLogic	<i>Self-study</i>

MODULE 8: Specialization I | 5 ECTS

Latest approaches to automated sleep scoring	<i>F. Faraci</i>
Oscillatory analysis for comatose patient outcome prediction	<i>M. De Lucia</i>
Unobtrusive telemonitoring of sleep and daily activities	<i>T. Nef</i>
Sleep clock and society	<i>T. Roenneberg</i>
Sleep and electromagnetic fields	<i>P. Achermann</i>
A history of sleep and sleep research	<i>H. Ahlheim</i>
	<i>T. Roenneberg,</i> <i>C. Robles,</i> <i>M. Schmidt,</i> <i>M. Blumberg,</i> <i>C. Cirelli, S. Aton</i>
Functions of sleep and clocks	
Sleep and brain plasticity	<i>A. Adamantidis</i>
Circadian clocks, timing metabolism	<i>S. Brown (†)</i>

MODULE 9: Specialization II | 4 ECTS

(choose 3 topics)

TOPIC 1 | Disorders of Consciousness

Coma: definition, anatomy, pathophysiology	<i>A. Rossetti</i>
The neurology of consciousness: lessons from neuro-imaging in coma & related states, sleep anesthesia and epilepsy	<i>S. Laureys</i>

TOPIC 2 | Sleep and Pulmonology

New pathophysiological concepts, phenotyping and clinical implications in obstructive sleep apnea	<i>W. Randerath</i>
Definition, epidemiology, clinical presentation & outcome of obesity-related hyperventilation	<i>W. Randerath</i>

TOPIC 3 | Sleep and Psychiatry

Insomnia and mental health	<i>D. Riemann</i>
Sleep in patients with mental disorders	<i>T. Paunio</i>

TOPIC 4 | Sleep and Pediatrics

Treatment of chronic insomnia in children and adolescents with neurodevelopmental disabilities	<i>O. Bruni</i>
Sleep and circadian rhythmicity in ADHD	<i>M. Lecendreux</i>

TOPIC 5 | Sleep and Neurology

Sleep and stroke	<i>C. Bassetti</i>
Effect of sleep on CSF Amyloid-Beta	<i>B. Lucey</i>
Local sleep and Alzheimer's disease	<i>B. Mander</i>
Risk and predictors of dementia and parkinsonism in idiopathic REM sleep behaviour disorder	<i>A. Iranzo</i>
Treatment approaches for sleep disturbances in Parkinson disease	<i>A. Videnovic</i>

TOPIC 6 | Advanced Sleep Scoring

Sleep scoring of motor events	<i>M. Manconi</i>
Sleep scoring of respiratory events	<i>M. Schmidt</i>

TOPIC 7 | Epilepsy

Seizure Cycles	<i>M. Baud</i>
Sleep-related hypermotor epilepsy (SHE)	<i>L. Nobili</i>
Sleep, oscillations, interictal discharges, and seizures in human focal epilepsy	<i>B. Frauscher</i>
High-frequency oscillations in epilepsy and sleep	<i>J. Jacobs</i>
Epilepsy, potassium and electric fields	<i>F. Fröhlich</i>
Single neuron activity in the human brain	<i>P. Mégevand</i>

TOPIC 8 | Insomnia

Insomnia: definitions, diagnosis and epidemiology	<i>D. Riemann</i>
Insomnia: etiology and pathophysiology: from psychological models to psychobiological concepts	<i>D. Riemann</i>
Insomnia and emotion regulation – pathways to psychopathology	<i>C. Baglioni</i>
Insomnia treatment – pharmacological options	<i>L. Perogamvros</i>
Insomnia treatment – CBT-I first step: Psychoeducation, sleep hygiene, relaxation methods and cognitive therapy	<i>K. Spiegelhalder</i>
Insomnia treatment – CBT-I second step: Stimulus control and sleep restriction	<i>A. Johann</i>
Beyond CBT-I – acceptance commitment approaches and beyond	<i>E. Hertenstein</i>
Using CBT-I in psychiatric conditions	<i>C. Nissen</i>
New ways to disseminate CBT-I : eHealth approaches – pro and con	<i>T. Berger</i>
Insomnia in general practice	<i>S. Duss</i>

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TOPIC 9 | Consumer Sleep Technology

Wearable sleep EEG

M. Dressler

Public health applications using consumer sleep technology

J. Lynn Ong

Wearables and nearables to monitor sleep: from the lab to real-world application

O. Gnarra

TOPIC 10 | Narcolepsy

(details tba)

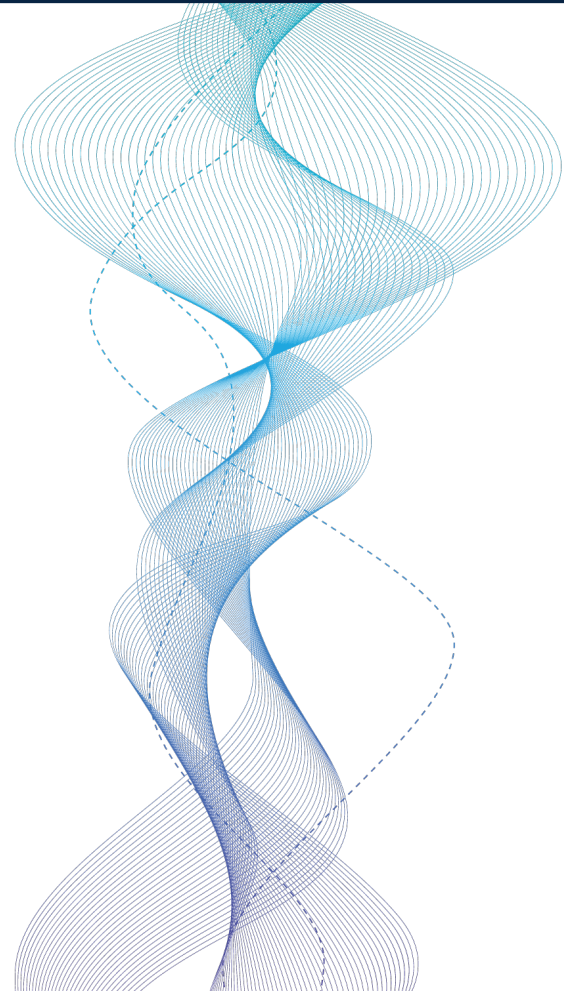
MODULE 10: Internship Sleep Laboratory | 4 ECTS

Practical internship for 2 - 4 weeks

MODULE 11: MAS-Thesis | 15 ECTS

MODULE 12: Transferable Skills | 3 ECTS

Healthcare leadership training



International Faculty

- Antoine Adamantidis (Switzerland)
- Panagiotis Bargiotas (Cyprus)
- Claudio Bassetti (Switzerland), **Chair**
- Thomas Berger (Switzerland)
- Jan Born (Germany)
- Steven Brown (Switzerland) (†)
- Michael Chee (Singapore)
- Alexandre Datta (Switzerland)
- Leja Dolenc-Groselj (Slovenia)
- Francesco Fanfulla (Italy)
- Luigi Ferini-Strambi (Italy)
- Russell Foster (UK)
- Flavio Fröhlich (USA)
- Martin Hatzinger (Switzerland)
- Jan Hedner (Sweden)
- Raphaël Heinzer (Switzerland)
- Reto Huber (Switzerland)
- Alex Iranzo (Spain)
- Ulf Kallweit (Germany)
- Ramin Khatami (Switzerland)
- Lyudmila Korostovzeva (Russia)
- Gert-Jan Lammers (Netherlands)
- Steven Laureys (Belgium)
- Claudio Liguori (Italy)
- Pierre-Hervé Luppi (France)
- Mauro Manconi (Switzerland)
- Pierre Maquet (Belgium)
- Marcello Massimini (Italy)
- Dafin Muresanu (Romania)
- Christoph Nissen (Switzerland)
- Allan Pack (USA)
- Teresa Paiva (Portugal)
- Tiina Paunio (Finland)
- Dirk Pevernagie (Belgium)
- Fabio Pizza (Italy)
- Jean-Louis Pépin (France)
- Giuseppe Plazzi (Italy)
- Thomas Pollmächer (Germany)
- Mikhail Poluektov (Russia)
- Winfried Randerath (Switzerland)
- Dieter Riemann (Germany)
- Armelle Roussac (Switzerland)
- Kaspar Schindler (Switzerland)
- Markus Schmidt (Switzerland)
- Alessandro Silvani (Italy)
- Ambra Stefani (Austria)
- Naoko Tachibana (Japan)
- Renaud Tamisier (France)
- Athina Tzovara (Switzerland)
- Giulio Tononi (USA)
- Sergio Tufik (Brazil)
- Vladislav Vyazovskiy (UK)
- Frédéric Zubler (Switzerland)

Partner Universities

- Almazov National Medical Research Center, Russia
- FUCS University, Colombia
- National University of Singapore
- Università Vita-Salute San Raffaele, Italy
- Université Grenoble Alpes, France
- University Hospital of Liège, Belgium
- University of Cyprus
- University of Freiburg, Germany
- University of Ghent, Belgium
- University of Ljubljana, Slovenia
- University of Medicine and Pharmacy “Carol Davila”, Romania
- University of Medicine and Pharmacy “Iuliu Hațieganu”, Romania
- University of Tübingen, Germany
- University of Witten/Herdecke, Germany



Yong Loo Lin
School of Medicine



Università Vita-Salute
San Raffaele



Université
Grenoble Alpes



✉ For further information please contact info@asc.unibe.ch