

## SALOME KURTH, PD, Dr. sc.

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in LinkedIn Profile

**8** Google Scholar ID

## **PROFILE**

I am a seasoned biologist and sleep expert with a PhD in neuroscience and over 15 years of expertise in human life sciences. My career has focused on leading pioneering research projects, primarily on sleep regulation, cognitive development, and the impact of environmental factors such as stress, nutrition and the gut microbiome. I have contributed significantly to understanding the role of sleep in neuronal network dynamics from infancy to adulthood, utilizing advanced methodologies like high-density electroencephalography and wearables.

As the head of the Baby Sleep Laboratory at the University of Fribourg, I lead interdisciplinary research initiatives involving national, international, and clinical collaborations, ensuring the highest ethical and scientific standards are upheld. I am deeply committed to mentorship, having guided numerous trainees throughout my career.

I also educate academic and public audiences on sleep health. I deliver university lectures, speak at international conferences and public events, and I lead workshops integrating sleep science with mindfulness. Additionally, I teach continuing education programs and provide consultancy in Corporate Health Management, helping organisations implement sustainable sleep-related strategies by translating research into practical, actionable solutions.

### **WORK EXPERIENCE**

#### ASST. PROFESSOR | GROUP LEADER • UNIVERSITY OF FRIBOURG, CH • SINCE AUG 2019

- Developing, leading, and managing innovative, interdisciplinary projects on sleep regulation and family dynamics, nutrition, gut microbiome, and their influence on brain development
- Mentoring postdocs, PhD students and junior team members on content and collaborations, leading personnel development in scientific practice, data analysis, and science outreach
- ❖ High-level strategic planning demonstrated in successful resource management of own acquired funding (>CHF 1.8 Mio) to set-up independent research laboratory
- ❖ Initiation and management of interdisciplinary collaborations in cutting-edge clinical trials, to promote brain and body health by incorporating the pediatric gut-brain axis (>CHF 2.4 Mio)
- Science communication, outreach, and teaching of neuroscience and psychology curricula

#### RESEARCH GROUP LEADER | LECTURER • UNIVERSITY HOSPITAL ZURICH, CH • SINCE FEB 2016

- Pioneering research on the maturation of sleep regulation in human infancy, focusing on brain connectivity and the gut microbiome
- Managing interdisciplinary collaborations for infant sleep characterization from behavioral to neurophysiological to environmental levels
- ❖ Acquisition of financial resources and management of grant finances (>CHF 0.75 Mio)
- Strategic management of new research initiatives and projects

#### DEVELOPMENTAL SLEEP SPECIALIST | POSTDOCTORAL FELLOW • CU BOULDER, USA • 2012-2016

Pioneered first physiological brain maps of preschool children's sleep, for determining the spatial relationship with brain plasticity and myelin anatomy in childhood

- ❖ Initiated and led research projects within the Department of Integrative Physiology, establishing the link between brain maps in sleep and cognitive development in early life
- Acquired over CHF 120,000 in funding for position support and research initiatives.
- ❖ Managed research studies involving sleep monitoring, data collection, and analysis, aimed at understanding the role of sleep in health outcomes in early childhood
- ❖ Co-supervised and trained junior researchers, on experimental design, data coding and analysis

# PROJECT MANAGER | POSTDOCTORAL RESEARCH ASSOCIATE • CHILDREN'S UNIVERSITY HOSPITAL ZURICH, CH • 2011-2012

- ❖ Signal processing, analysis, and graphical illustration of biosignals recorded during sleep in relation to adolescent's caffeine consumption
- ❖ Trained and strengthened information management skills of junior team members

# SLEEP RESEARCH ASSOCIATE | DOCTORAL CANDIDATE • CHILDREN'S UNIVERSITY HOSPITAL ZURICH, CH • 2007-2011

- Led and managed interdisciplinary research projects focused on sleep regulation, brain maps and learning plasticity across the first 2 decades of human development
- Developed study designs, authored research protocols, and managed all aspects of data collection and analysis, ensuring the integrity and accuracy of research outcomes
- Science dissemination in academic publications and educational outreach in schools and public
- Communication of research results to international collaborators and collaborating families

### PROFESSIONAL ACTIVTIES (SELECTED)

#### **BOOK AUTHOR • OCT 2024 • SLEEP GUIDEBOOK**

Title: "Dieses Buch ist zum Einschlafen" with Beobachter Verlag, ISBN 978-3-03875-573-9

## SCIENTIFIC BOARD MEMBER NETZWERK SCHLAF • SINCE 2024 • GESUNDHEITSFÖRDERUNG SCHWEIZ

Providing scientific advice and strategic input for sleep-related health initiatives on a national level

#### FREELANCE CONSULTANT • SINCE 2023 • SOMNAVITA

Consultant, science dissemination, book author, event producer, speaker

#### CO-FOUNDER WORKSHOPS • SINCE 2022 • TWO WORKSHOP SERIES

A Mindful Way to Sleep combines sleep science with mindfulness to sustainably manage health. Sleep Better Again? - a continuing education program for professionals and clients, University of Fribourg

#### **BOARD MEMBER • SINCE 2020 • ACADEMIC SERVICE**

INSERM CNRS, ATIP-AVENIR Neuroscience Board, Paris; Committee Service for departmental hiring, dissertation and habilitations; Ethics Board Member, University of Fribourg, overseeing research ethics

### STEERING BOARD • 2018-2023 • COMPETENCE CENTER • UNIVERSITY OF ZURICH, CH

Develop and execute management strategies of the competence center Sleep & Health Zurich, including annual conferences and montly seminars

#### MENTORING EXPERIENCE • SINCE 2012 ONGOING

Supervised over 50 trainees, including 5 postdocs, 5 PhD students, and over 40 MA/BA students or interns across Psychology, Neurobiology, Ethology, Pharmacology, Integrative Physiology, etc.

## TEACHING AND OUTREACH (SELECTED)

#### LECTURER AT UNIVERSITY OF FRIBOURG • SINCE 2020

Designing and teaching Bachelor, Master, and PhD courses. Focus areas: (1) developmental psychology, cognitive neuroscience, methods for measuring sleep; (2) applied research principles for sleep studies

#### PUBLIC PRESENTATIONS AND OUTREACH EVENTS • SINCE 2019

Presented at key public national events, including *Pint of Science*, focusing on hot topics like *A Dream Team: Sleep and Bacteria of the Digestive Tract*; Education Programs like *Brain Fair, Scientifica, Nacht der Forschung*, Parcours des Wissens

#### ACADEMIC OR PUBLIC PANEL DISCUSSIONS • 2018-2020

Led and participated in public discussions, including moderating *Sleep & Health Zurich* at the University of Zurich, and contributing to the *BrainStorm Symposium* at University Children's Hospital Zurich

#### LECTURER AT UNIVERSITY OF BERN & UNIVERSITY OF ZURICH • SINCE 2017

Developing and delivering interdisciplinary courses, for example on the neurophysiology of sleep, brain plasticity, advanced brain imaging techniques, wearable technology

#### SPEAKER AT PROFESSIONAL SYMPOSIA • SINCE 2017

Expert talks on the gut-brain-sleep connection at *Congress Pädiatrie Schweiz, 1001 Kindernacht, Obstetrics Symposium,* or at *Schweizerischer Fachverband für Neurophysiologische Diagnostik* 

### GRANTS, FELLOWSHIPS, AND AWARDS (SELECTED)

#### NAPBIOME PROJECT GRANT SNF • 2025-2028 • CO-PI • CHF 2.4 MIO

A large-scale, multicenter, translational pediatric project *Targeting gut microbiota and sleep rhythm to improve developmental and behavioral outcomes in early childhood* 

#### **DEUTSCHER SCHLAFPREIS • 2024 • SHORTLISTED**

Nominated for the German Sleep Prize by Deutsche Stiftung Schlaf for contributions to sleep science and research

#### ECCELLENZA PROFESSORSHIP GRANT OF THE SNF • 2019-2025 • PI • CHF 1.8 MIO

Prestigious professorial grant to start independent research group *Development of sleep regulation as a window of opportunity for fostering healthy cognitive development* 

#### JUNIOR GROUP START-UP AND ADVANCED FELLOWSHIPS • 2012-2020 • PI • CHF >0.7 MIO

Clinical Research Priority Program, and Forschungskredit, University of Zurich for investigating sleep function in relation to infant brain develoment and gut microbiota; Multiple postdoctoral fellowships awarded by the Swiss National Science Foundation for advancing sleep and brain development research

#### CAREER DEVELOPMENT GRANTS • 2016-2018 • CO-FOUNDER

Multiple initiatives like *The Next Sleep Research Generation, Women in Science*, and *Facilitated networking and support for junior researchers* 

#### FOUNDATION AWARDS • SINCE 2017 • PI OR CO-PI

Towards understanding the Development of Sleep Regulation and Gut Microbiota in Infants with Colic

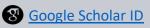
#### YOUNG SCIENTIST AWARDS • 2011, 2014 • EUROPEAN AND SWISS SLEEP RESEARCH SOCIETIES

Prestigious Young Scientist Award by EUROPEAN SLEEP RESEARCH SOCIETY (ESRS); Sponsors Award for Outstanding Basic Sleep Research at the Annual Meeting of the Swiss Society for Sleep Research, Sleep Medicine and Chronobiology (SSSSC)

### PUBLICATIONS (5 SELECTED, COMPLETE LIST)

- Mühlematter, C., Beaugrand, M., Markovic, A., **Kurth, S**. (2024). Associations between social contact, sleep, and dietary patterns among children: A cross-sectional study. *Foods*
- Schoch, S., Castro-Mejía, J.L., Krych, L., Kot, W., Leng, B., Kohler, M., Huber, R., Rogler, G., Biedermann, L., Walser, J.C., Nielsen, D., **Kurth, S**. (2022). From alpha diversity to ZZZ: Exploring associations among sleep, gut bacteria, and behavioral development in infancy. *Progress in Neurobiology*
- Markovic, A., Muehlematter, C., Beaugrand, M., Camos, V., **Kurth, S**. (2021). Severe effects of the COVID-19 confinement on young children's sleep: A longitudinal study identifying risk factors and protective arrangements. *Journal of Sleep Research*
- LeBourgeois, M., Dean, D., Deoni, S., Kohler, M., **Kurth, S**. (2019). A simple sleep EEG marker in childhood predicts brain myelin 3.5 years later. *NeuroImage*
- **Kurth, S.**, Riedner, B., Dean, D.C., O'Muircheartaigh, J., Huber, R., Jenni, O.G., Deoni, S.C., LeBourgeois, M.K. (2017). Travelling slow oscillations during sleep a marker of brain connectivity in childhood. *Sleep*





### **SKILLS**

#### PROJECT MANAGEMENT & LEADERSHIP

Conceptualized, led, and managed biopsychological and medical research in interdisciplinary team environments. Oversaw all operational aspects, including protocol development, regulatory compliance, grant financial management, and dissemination of results. Developed synergies with stakeholders, mentored postdoctoral fellows and PhD/MA students, fostering effective team dynamics.

#### STRATEGIC AND ANALYTICAL PLANNING

Broad expertise in managing innovative large-scale longitudinal research, with solution-oriented decision-making. Proficient in data analysis, statistical methodologies, and centralized data management. Strong understanding of scientific methods and the ability to identify emerging data trends to inform strategic direction. Skilled in developing long-term plans that align with organizational goals.

#### SCIENCE COMMUNICATION

Highly skilled science communicator with peer-reviewed publications and textbooks. Extensive experience presenting at academic and professional conferences, workshops, and public outreach events. Engaging lectures to diverse audiences, including researchers, medical professionals, students, and the general public. Proficient in scientific writing, regularly contributing to a public

### **EDUCATION**

#### VENIA LEGENDI • 2019 • UNIVERSITY OF ZURICH, CH

Habilitation in the Department of Medicine, in the field of Neuroscience (Focus: Neurobiology and Neurophysiology)

<u>Title:</u> Sleep Neurophysiology in Healthy Children: Neurodevelopment and Sleep-Related Risk Factors

# DOCTOR OF SCIENCE • 2007-2011 • UNIVERSITY CHILDREN'S HOSPITAL ZURICH, CH

International PhD Program in Neuroscience. Date of defense: 12/2011

PhD Thesis: Plasticity and Sleep during Development

MSC BIOLOGY • 2007 • UNIVERSITY OF BERNE, CH

Classical training in Biology with specialisation in Zoology

### ADDITIONAL QUALIFICATIONS

# CERTIFICATION • 2022 • INNOSUISSE BUSINESS CONCEPT TRAINING

Swiss Agency for Innovation Promotion Training Program for Start-up Founders, University of Fribourg, CH

## CERTIFICATE OF ADVANCED STUDIES (CAS) IN LEADERSHIP PSYCHOLOGY • 2021

Leadership and organizational psychology specialization for managing teams and projects, Kalaidos FH, CH

# CERTIFICATE OF ADVANCED STUDIES (CAS) IN TEACHING & LEARNING IN HIGHER EDUCATION • 2018

Specialization in pedagogical strategies and methods for teaching in higher education, University of Teacher Education Zurich, CH

#### MODERN YOGA COACH DEGREE • 2024

Certified Modern Yoga Coach with training in Yoga Teacher Training, ve'motion, CH

Mother tongue Swiss German, proficient in German and English, fluent in French.