

Sarah F. Schoch, PhD

POSTDOC

Baby Schlaflabor, Klinik für Pneumologie, UniversitätsSpital Zürich, Rämistr. 100, 8091 Zürich, Switzerland

☎ (+41) 79 484 26 75 | ✉ sarah.schoch@usz.ch

Education

PhD in Psychology and Neuroscience, *summa cum laude*

Zürich, Switzerland

UNIVERSITY OF ZÜRICH

2016 - 2020

- Thesis: "Sleeping like a baby: Sleep and Gut Bacteria in Infancy", Supervisor: Dr. sc. nat. Salome Kurth, Steering Committee: Prof. Dr. Moritz Daum, Prof. Dr. Oskar Jenni, Prof. Dr. Reto Huber

Master of Science in Psychology

Zürich, Switzerland

UNIVERSITY OF ZÜRICH

2014 - 2016

- Specialization in Cognitive and Neuropsychology
- Master Thesis: "To dream perchance to remember: On the relationship between sleep, dreams and memory"
Supervisor: Prof. Dr. Björn Rasch

Bachelor of Science in Psychology, Biology and Education

Zürich, Switzerland

UNIVERSITY OF ZÜRICH

2010 - 2014

- Bachelor Thesis: "The Effects of Sleep on Cognitive Functions in Healthy Older Adults: Could a Closer Look at Sleep Improve Cognitive Trainings?", Supervisor: M.Sc. Julia Binder

Experience: Research

Postdoc "Sleep and Gut Microbiota in Infancy"

University Hospital Zurich,
Switzerland

BABY SLEEP LABORATORY, CLINIC FOR PULMONOLOGY, PROF. DR. SALOME KURTH

Dec 2020 - present

- Writing research articles

Research Assistant and PhD student "Sleep and Gut Microbiota in Infancy"

University Hospital Zurich,
Switzerland

BABY SLEEP LABORATORY, CRPP SLEEP AND HEALTH & CLINIC FOR PULMONOLOGY, DR. SALOME KURTH

July 2016 - Nov 2020

- Analyzing sleep EEG data (Matlab)
- Analyzing actigraphy (Matlab and R)
- Analyzing gut microbiota data (R)
- Organizing and conducting longitudinal study with infants

Exchange PhD Student

Salk Institute, San Diego, USA

COMPUTATIONAL NEUROBIOLOGY LABORATORY, PROF. DR. TERRENCE J. SEJNOWSKI

June 2019 - November 2019

- Implementing machine learning algorithms (python& tensorflow)
- Downstate detection in brain oscillations (Matlab)

Internship "State Space Analysis in Narcolepsy"

University Hospital Zurich,
Switzerland

CRPP SLEEP AND HEALTH, CLINIC FOR NEUROLOGY, DR. MED. LUKAS IMBACH

02/16 - 06/16

- Spectral analysis of sleep EEG in Matlab
- State space analysis of Sleep EEG in Matlab

Student Assistant "Approach and Avoidance over the Lifespan"

University of Zurich, Switzerland

DEVELOPMENTAL PSYCHOLOGY: ADULTHOOD, PROF. DR. ALEXANDRA FREUND

09/14 - 01/16

- Preprocessing ECG Data
- Conducting studies with young, middle aged and senior participants
- Creating questionnaires on SoSci Survey

Student Assistant "Hotel Plastisse: iPad Training game for older adults" & "Lebensqualitäts-Barometer UZH"

University of Zurich, Switzerland

INTERNATIONAL AGING AND PLASTICITY CENTER & URPP DYNAMICS OF HEALTHY AGING,
M.SC. JULIA BINDER, PROF. DR. MIKE MARTIN & DR. CHRISTINA RÖCKE

05/12 - 01/16

- Conducting and organizing studies including participant contact and support
- Data verification and analysis
- Setting up and testing iPad application and writing a technical documentation
- Planning and implementing large online study on life quality

Student assistant "Neural correlates of trauma memory recall", "Hypnosis and sleep", "Modulation of the Sleep Effect" and others

University of Zurich, Switzerland

BIOPSYCHOLOGY (SLEEP AND MEMORY), PROF. DR. BJÖRN RASCH

10/11 - 01/16

- Planning and conducting several different studies
- Sleep Scoring
- EEG and MRI acquisition
- Data analysis of behavioural tasks and questionnaires

Student Assistant "Language and Executive Function" & "Inhibition across the Lifespan"

University of Zurich, Switzerland

COGNITIVE PSYCHOLOGY, DR. MIRIAM GADE & DR. ALODIE REY-MERMET

10/12 - 11/15

- Conducting studies including administration of CERAD
- Creation of project websites
- Programming of Simon Task in Tootool with Java

Internship "Modeling of Approach and Avoidance behavior" & "fMRI Analysis of dualTask Paradigm"

University of Florida, USA

CENTER FOR THE STUDY OF EMOTION AND ATTENTION, PROF. DR. ANDREAS KEIL

06/15 - 09/15

- Analysis of Behavioural Data in Matlab
- fMRI Analysis with SPM

Student Assistant "Registered Replaction Report for Ego Depletion"

University of Zurich, Switzerland

APPLIED SOCIAL PSYCHOLOGY, DR. JOHANNES ULLRICH

01/15 - 06/15

- Translation of Study Material
- Organization and Conduction of Study

Student Assistant Project Ambizione "Willpower"

University of Zurich, Switzerland

MOTIVATIONAL PSYCHOLOGY, DR. VERONIKA JOB

03/11 - 01/15

- Recruitment and conduction of studies
- Coding of Picturesque Story Exercise (PSE)
- Creating Experiments in Qualtrics (Online Questionnaires) and Inquisit (Stimuli presentation program)

Student assistant "Prospective Memory in older adults"

University of Zurich, Switzerland

GERONTOLOGY, LIC.PHIL. FLORENTINA MATTLI

07/11 - 12/11

- Recruitment of participants
- EEG Acquisition
- Administration of cognitive tests

Experience: Teaching

Co-lecturer of course BME348: Using actigraphy in sleep research

University of Zurich, Switzerland

LECTURSHIP FOR BIOMEDICINE AT THE UNIVERSITY OF ZURICH

11/17

- Lectures on actigraphy in sleep research
- Supervising student research projects using actigraphy

- Assisting the students
- Managing OLAT (Online learning platform used by the UZH) and "Pearson Maylab and Mastering" (Platform provided by the editor of the book)

Peer-reviewed Publications

Schoch, S. F., Castro-Meija, J. L., Krych, L., Kot, W., Leng, B., Kohler, M., Huber, R., Rogler, G., Biedermann, L., Walser, J.-C., Nielsen, D. S., Kurth, S. From Alpha Diversity to ZZZ: Exploring associations among sleep, gut bacteria and behavioral development in infancy. *OSF Preprints*. doi: <https://doi.org/osf.io/3b58x>

Theiler*, M., **Schoch, S.F.***, Weibel, L., von der Heydt, S., Schwieger-Briel, A., Luchsinger, I., Smith, A., Kernland-Lang, K., Waelchli, R., Neuhaus, K., Kohler, M., Gnannt, R., Knoepfel, N.*, Kurth, S.* (2020) Sleep behavior of infants with infantile hemangioma treated with propranolol. *under review*

Schoch, S.F., Huber, R., Kohler, M., Kurth, S. (2020) Which are the central aspects of infant sleep? The dynamic of sleep composites across infancy. *Sensors*, 20(24), 7188, doi: <https://doi.org/10.3390/s20247188>

Gvozdanovic, G.A., **Schoch, S.F.**, Stämpfli, P., Seifritz, E., Rasch, B. (submitted) Neural correlates of sleep-induced benefits on traumatic memory processing

Schoch, S.F., Werner, H. and Kurth, S. (2020). Actigraphy in sleep research with infants and young children: current practices and future benefits of standardized reporting. *Journal of Sleep Research*, <https://doi.org/10.1111/jsr.13134>

Timofeev, I., **Schoch, S. F.**, LeBourgeois, M. K., Huber, R., Riedner, B. A., and Kurth, S. (2020). Spatio-temporal properties of sleep slow waves and implications for development. *Current Opinion in Physiology*, 15, 172-182, <https://doi.org/10.1016/j.cophys.2020.01.007>

Schoch, S.F., Jenni, O.G., Kohler, M. and Kurth, S. (2019). Actimetry in infant sleep research: an approach to facilitate comparability. *SLEEP*, 42(7), <https://doi.org/10.1093/sleep/zsz083>

Schoch, S.F., Cordi, M.J., Schredl, M., and Rasch, B. (2019). The effect of dream report collection and dream incorporation on memory consolidation during sleep. *Journal of sleep research*, 28(1), <https://doi.org/10.1111/jsr.12754>

Schoch, S.F., Riedner, B., Deoni, S.C., Huber, R., LeBourgeois, M.K., and Kurth, S. (2018). Across-night dynamics in traveling sleep slow waves throughout childhood. *SLEEP*, 41(11), <https://doi.org/10.1093/sleep/zsy165>

Schoch, S.F., Werth, E., Poryazova, R., Scammell, T., Baumann, C.R. and Imbach, L.L. (2017). Dysregulation of Sleep Behavioral States in Narcolepsy. *SLEEP*, 40 (12), <https://doi.org/10.1093/sleep/zsx170>

Schoch, S. F., Cordi, M. J., and Rasch, B. (2017). Modulating influences of memory strength and sensitivity of the retrieval test on the detectability of the sleep consolidation effect. *Neurobiology of Learning and Memory*, 145, 181-189, <https://doi.org/10.1016/j.nlm.2017.10.009>

Hagger, M. S., Chatzisarantis, N. L., [et al. including **Schoch, S.F.**] (2016). A multilab preregistered replication of the ego-depletion effect. *Perspectives on Psychological Science*, 11, 546–573. <https://doi.org/10.1177/1745691616652873>

Binder J.C., Zöllig J., Eschen A., Mérellat S., Röcke C., **Schoch S.F.**, Jäncke L. and Martin M. (2015). Multi-domain training in healthy old age: Hotel Plastisse as an iPad-based serious game to systematically compare multi-domain and single-domain training. *Front. Aging. Neurosci.* 7:137. doi: 10.3389/fnagi.2015.00137

Presentations

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Kohler, M., Huber, R., Biedermann, L., Rogler, G., Nielsen D.S., and Kurth S. (2021, January). *Daytime Sleep in Infants - A Marker of Brain Maturation?* Poster presented at SfN Global Connectome (Online Conference)

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Nielsen D.S., and Kurth S. (2020, October). *From Alpha Diversity to ZZZ: Sleep and the gutmicrobiome in the first year of life* Talk at the Day of Cognition, University of Fribourg, CH

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Nielsen D.S., and Kurth S. (2020, February). *Developmental associations between sleep and gut microbiome in human infants* Invited talk at the Neuro Meetups in Bern, CH

Schoch S.F. (2020, January). *The role of dreams in memory consolidation during sleep* Invited talk at the Donders CNS lunch meeting, Nijmegen, NL

Schoch S.F., Verzhbivsky, I.A., Kim, R., Sejnowski, T.J., and Kurth S. (2019, September). *Improved automatic classification of sleep stages in infants using high-density EEG recordings* Presentation at the World Sleep Congress, Vancouver, CA and at the Salk at Seaside Retreat, La Jolla, US

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Nielsen D.S., and Kurth S. (2019, June). *Developmental associations between sleep and gut microbiome in human infants* Presentation at the SLEEP Congress, San Antonio, US

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Nielsen D.S., and Kurth S. (2018, October and 2019, April). *Interplay between sleep, behavioral maturational status and gut bacteria in infant development* Presentation at the International Society for Developmental Psychobiology Congress, San Diego, US, at the Computational Neuroscience Laboratory, Salk Institute, La Jolla, US and at the Swiss Young Sleep Wake Chronobiology Network annual workshop in Gurten, CH

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Nielsen D.S., and Kurth S. (2018, September). *Tracking infant development: Links between sleep-wake behavior and gut bacteria beta diversity* Presentation at the European Sleep Research Society Congress, Basel, CH and Dataflash at the Annual Meeting of the Swiss Society for Sleep Research, Sleep Medicine and Chronobiology, Basel, CH and as a poster at the annual Neuroscience Center Zurich Symposium in Zurich, CH

Schoch S.F., and Kurth S. (2018, September). *Actimetry in infant sleep research: an approach to streamline algorithms and facilitate comparability* Presentation at the CRPP Sleep and Health Seminar, Zurich, CH

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Nielsen D.S., and Kurth S. (2018, March). *Relationship between infant sleep behavior and gut bacteria beta diversity* Presentation at the Gordon Research Seminar "Sleep Regulation and Function", Galveston, US

Schoch S.F., Castro-Mejia J.L., Leng B., Kot W., Krych L., Nielsen D.S., and Kurth S. (2018, February). *Relationship between infant sleep behavior and gut microbiome composition* Poster presented at the International Symposium Sleep and Health, Zurich, CH

Schoch S.F., Jenni O.G., Huber R., and Kurth S. (2017, October). *Longitudinal development of macrostructural infant sleep behaviors and relationship with feeding mode and gut microbiota* Presentation at the Child Research Center Retreat, Horgen, Switzerland and ESRS Sleep Science School in Frejus, FR

Schoch S.F., Jenni O.G., Huber R., and Kurth S. (2017, September and October). *Concerns about your baby's sleep: maternal cognitions and infant sleep at 3 and 6 months of age* Poster presented at the World Sleep Congress 2017, Prague, CZ and at the annual Neuroscience Center Zurich Symposium in Zurich, CH

Schoch S.F., Boschert-Hennrich S., Jenni O.G., Huber R., and Kurth S. (2017, August). *Sleep, development and maternal cognition in 3-month-old infants* Poster presented at the Lancaster Conference on Infant and Early Child Development, University of Lancaster, UK

Schoch S.F., Boschert-Hennrich S., Jenni O.G., Huber R., and Kurth S. (2017, May). *Relationship between infant sleep, infant development and maternal cognition in 3-month-olds*. Poster presented at the annual Swiss Society for Sleep Research, Sleep Medicine and Chronobiology meeting in Lugano, Switzerland and at the annual Madoko Congress of the Psychological Institute, University of Zurich, CH

Schoch S.F., and Kurth, S. (2017, April). *The development of sleep and gut microbiota: An Update*. Presentation at the Clinical Research Priority Program "Sleep and Health" Seminar in Zurich, CH

Schoch S.F., and Kurth S. (2017, April). *Quantifying sleep behavior in 3 month old infants*. Presentation at the Swiss Young Sleep Wake Chronobiology Network annual workshop in Kandersteg, CH

Schoch S.F., Riedner B., Dean D.C., O'Muircheartaigh J., Deoni S.C., Huber R., LeBourgeois M.K., and Kurth S. (2016, September). *Maturation changes in the overnight dynamics of the slow oscillations in the sleep electroencephalogram (EEG)*. Poster presented at the annual Neuroscience Center Zurich Symposium in Zurich, CH

Schoch S.F., Schredl M. & Rasch B. (2016, March). *Sleep, Dreams and Memory*. Presentation at the 4th Bern Network Epilepsy Sleep Consciousness Winter Research Meeting in Wengen, CH

Schoch S.F., Schredl M., & Rasch B. (2014, May). *The relationship between dreaming, sleep and memory consolidation*. Poster presented at the LiMaDoKo Congress of the Psychological Institute, University of Zurich, CH

Funding & Grants

2021-2022	the cogito Foundation Research Fellowship Awarded by the cogito Foundation	76'501 CHF
2021-2022	Early Postdoc Mobility Grant Awarded by the Swiss National Science Foundation	94'550 CHF
2021	Research Grant Awarded by the International Association for the Study of Dreams and the DreamScience Foundation	4700 USD
2018-2020	Doc.CH Grant Awarded by the Swiss National Science Foundation	168'861 CHF
2019	Grant for additional travel funds as part of the Doc.CH Grant Awarded by the Swiss National Science Foundation	16'610 CHF
2018	Grant for Peer-Mentoring Group "Methods and Statistics" (co-applicant) Awarded by the GRC University of Zurich	9'980 CHF
2018	Travel Grant to attend the ISDP Congress in Sand Diego US Awarded by the ISDP	900 USD
2018	Travel Grant for a short research stay at the University of Copenhagen, DK laboratory of Prof. Dr. Dennis Nielsen Awarded by the GRC University of Zurich	1'000 CHF
2017	Grant for the project "Monitoring infant sleep by actigraphy - State of the arte and future" (co-applicant) Awarded by the Center of Competence Sleep & Health Zurich	4'000 CHF
2017	Grant for Peer-Mentoring Group "Methods and Statistics" (co-applicant) Awarded by the GRC University of Zurich	8'990 CHF
2017	Travel Grant for the World Sleep Congress in Prague, CZ Awarded by the SAGW Switzerland	500 CHF
2017	Travel Grant for the 2nd Lancaster Conference on Infant and Early Child Development Awarded by the Conference organizing committee	331 CHF
2017	Travel Grant to attend the ESRS Sleep Science School in Frejus, FR Awarded by the Swiss Society of Sleep Research, Sleep Medicine and Chronobiology	700 CHF

Awards

2019	People's choice award Minute-To-Win-It Presentation Science at the Seaside Salk Congress	La Jolla, USA
2017	Best grant proposal award Awarded by the ESRS Sleep Science School	Frejus, France
2017	Best presentation award Awarded by the ESRS Sleep Science School	Frejus, France
2017	1st Place Poster Award Madoko Congress of the Psychological Institute, University of Zurich	Zurich, Switzerland

Professional Service

Ad-hoc Reviewer for

<i>Behavioral Sleep Medicine</i>	<i>since 2020</i>
<i>Scientific Reports</i>	<i>since 2019</i>
<i>SLEEP</i>	<i>since 2019</i>
<i>Journal of Child Psychology and Psychiatry</i>	<i>since 2019</i>

Organization

CO-ORGANIZER OF "METHODS AND STATISTICS" PEER MENTORING GROUP OF THE PSYCHOLOGICAL INSTITUTE OF THE UNIVERSITY OF ZÜRICH, SWITZERLAND	2017 - 2019
CO-ORGANIZER OF WOMEN IN SCIENCE, AN OPEN DISCUSSION ROUND FOR JUNIOR FEMALE SCIENTISTS CENTERED AROUND ZÜRICH, SWITZERLAND	2016 - 2018

Outreach

"100 WAYS OF THINKING" PUBLIC EVENT OF THE UNIVERSITY OF ZÜRICH PARTICIPATION AT ZNZ DAY	2018
PRESENTATION FOR SCHOOLS "MEHR ALS EIN BAUCHGEFÜHL: DIE DARM-HIRN ACHSE" AT THE BRAINFair OF THE UNIVERSITY OF ZÜRICH	2018
POSTER "DIE AKTIGRAPHIE" PRESENTED AT THE BRAINFair OF THE UNIVERSITY OF ZÜRICH	2017
PARTICIPATION AT "PUBLIC DAY" OF THE CRPP "SLEEP AND HEALTH"	2015
WRITING BLOG ENTRIES FOR THE GERMAN THE INQUISITIVE MIND BLOG HTTP://DE.IN-MIND.ORG/USERS/SARAH-SCHOCH	Since 2014

Mentoring

CO-MENTORING OF ILYA VERZHBINSKY, MD-PHD STUDENT	<i>PhD Students</i> 2019
CO-MENTORING OF LARA BARBLAN, MASTER STUDENT PSYCHOLOGY	<i>Masterstudents</i> 2018-2019
CO-MENTORING OF VIKTORIA GASTENS, MASTER STUDENT PHARMACOLOGY	2018
CO-MENTORING OF RITA GROLIMUND, MASTER STUDENT PSYCHOLOGY	2017 - 2018
CO-MENTORING OF SINA BOSCHERT-HENNRICH, MASTER STUDENT PSYCHOLOGY	2016 - 2018
CO-MENTORING OF HUIJIE LIU, BACHELOR STUDENT BIOLOGY	<i>Interns</i> 2019
MENTORING OF JULIANE BERGER, INTERN PSYCHOLOGY	2018
MENTORING OF MONIKA STOLLER, INTERN PSYCHOLOGY	2017-2018
MENTORING OF MELANIE AUER, INTERN PSYCHOLOGY	2017