

SCHMIDIG FLAVIO

PhD in Cognitive Neuroscience, Dr. Phil Hum

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📍 Tel Aviv University, Israel
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EDUCATION

PhD in Cognitive Neuroscience

Cognitive Neuroscience of Memory and Consciousness

📅 07/2017 – 07/2022 📍 University of Bern

- Advisor: Katharina Henke, Björn Rasch
- Thesis: Episodic Memories, Unconsciously Encoded

SVEB certificate "Ausbildner"

Schweizerischer Verband für Erwachsenenbildung

📅 09/2012 – 04/2018 📍 Sportzentrum Magglingen

- Didactic and pedagogic education for (adult) teaching

Master in Psychology

Institute of Psychology

📅 09/2015 – 09/2017 📍 University of Bern

- Focus: Neuropsychology and Social Neuroscience
- Advisor: Katharina Henke

Bachelor in Psychology

Institute of Psychology

📅 09/2011 – 09/2014 📍 University of Bern

- Major Psychology / Minor Biology

RESEARCH POSITIONS

Post-Doc

Sagol School of Neuroscience, Faculty of Medicine

📅 10/2022 – present 📍 Tel Aviv University

- Advisor: Yuval Nir

Visiting Research Fellow

Universitätsklinikum Bonn

📅 08/2023 📍 University of Bonn

- Advisor: Florian Mormann

Lecturer

Institute of Psychology

📅 02/2018 – 07/2022 📍 University of Bern

STRENGTHS

Fast Learning Adaptability

Empathy Curiosity

Study Design Data Interpretation

Statistical Analysis

LANGUAGES

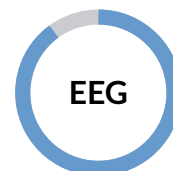
English ● ● ● ● ●
full professional
work proficiency

German ● ● ● ● ●
native

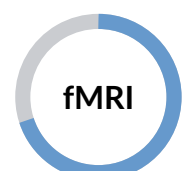
French ● ● ● ● ●
limited work proficiency

Spanish ● ● ● ● ●
intermediate proficiency

NEURO-METHODS



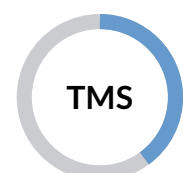
scalp EEG



functional MRI



intra-cranial
EEG



brain
stimulation

- giving 6 courses in Master Program of Psychology

Teaching assistant

Microscopic Anatomy and Structural Biology

📅 07/2017 – 07/2019 📍 Inselspital Bern

- TA for Neuroanatomy, with Kati Hänssgen

PhD Candidate

Cognitive Neuroscience of Memory and Consciousness

📅 07/2017 – 07/2022 📍 University of Bern

- Advisor: Katharina Henke

Research Fellow

Social Neuroscience and Social Psychology

📅 04/2016 – 03/2016 📍 University of Bern

- Advisor: Daria Knoch, Lorena Gianotti

Undergraduate Research Assistant

Institute of Psychology

📅 08/2016 – 05/2017 📍 University of Bern

- Advisor: Katharina Henke

MAIN PROJECTS

Sleep-formed Episodic Memories, unconsciously encoded

- We demonstrate that episodic memory formation during deep sleep is possible.
- To this aim we created TOPOSO a new phase-locked auditory stimulation technique to play sounds dependent on ongoing EEG recordings.
- Including two EEG, an fMRI and an iEEG study.

Capturing episodic memories, non-verbally

- Episodic memory are mainly probed by explicit retrieval, a major limitation. To remove the verbal dependency we developed to new memory tasks:
- A) the vPAL, in which pictures are associated with each other
- B) a no-report paradigm for collecting memory retrieval via eye movements
- Including three EEG, an fMRI and an iEEG study.

AWARDS, FELLOWSHIPS AND GRANTS

CCLM-Fellowship:

Center for Cognition and Learning

@ <https://www.bbs.unibe.ch/>

- ✉ One of five Fellowship for a 5-year PhD period (2017-2021)

Research Assistant Grant University of Bern

@ <https://www.psy.unibe.ch>

- ✉ Three research assistant grants of the university of Bern, main PI (2020-2022)

Postdoctoral Fellowship of

Tel Aviv University

@ <https://international.tau.ac.il/>

- ✉ A scholarship for a postdoc position that covers 75% of the minimum salary (extended by the PI).

Sagol School of Neuroscience

Postdoctoral Fellowship

@ <https://sagol.tau.ac.il/>

- ✉ I was granted a scholarship for a postdoc position twice from the Sagol School of Neuroscience at the University of Tel Aviv.



Excellent output of the IRC

My publication Schmidig et al. (2024) was selected as an excellent output of the inter-faculty research cooperation. 15 out of 141 publications were selected.



Travel grants

I am grateful to have been awarded a multitude of travel grants for example for conferences like SFN, ISFN, SSSC and EBBS.

PUBLICATIONS

* indicates shared first-authorship

Peer-Reviewed Article:

Schmidig*, F. J., Yamin*, D., Sharon*, O., Nadu, Y., Nir, J., Ranganath, C., & Nir, Y. (2025). Seeing the Future: Anticipatory Eye Gaze as a Marker of Memory. *Nature Communication Psychology*. <https://doi.org/10.1101/2024.08.14.607869>

Falach, R., Belonosov, G., **Schmidig, F. J.**, Aderka, M., Zhelezniakov, V., Shani-HersHKovich, R., ... & Nir, Y. (2025). SleepEEGpy: a Python-based software integration package to organize preprocessing, analysis, and visualization of sleep EEG data. *Computers in Biology and Medicine*, 192, 110232. <https://doi.org/10.1016/j.combiomed.2025.110232>

Schmidig, F. J., Geva-Sagiv, M., Falach, R., Yakim, S., Gat, Y., Sharon, O., Fried, I., & Nir, Y. (2024). A visual paired associate learning (vPAL) paradigm to study memory consolidation during sleep. *Journal of Sleep Research*, e14151. <https://doi.org/10.1111/jsr.14151>

Schmidig, F. J., Ruch, S., & Henke, K. (2024). Episodic long-term memory formation during slow-wave sleep. *Elife*, 12, RP89601. <https://doi.org/10.7554/eLife.89601.3>

Fehér, K. D., Omlin, X., Tarokh, L., Schneider, C. L., ... **Schmidig, F. J.**, & Nissen, C. (2023). Feasibility, efficacy, and functional relevance of automated auditory closed-loop suppression of slow-wave sleep in humans. *Journal of sleep research*, 32(4), e13846. <https://doi.org/10.1111/jsr.13846>

Ruch, S.*, **Schmidig, F. J.***, Knüsel, L., & Henke, K. (2022). Closed-loop modulation of local slow oscillations in human NREM sleep. *NeuroImage*, 264, 119682. <https://doi.org/10.1016/j.neuroimage.2022.119682>

Schneider, E., Züst, M. A., Wuethrich, S., **Schmidig, F. J.**, Klöppel, S., Wiest, R., Ruch S., & Henke, K. (2021). Larger capacity for unconscious versus conscious episodic memory. *Current Biology*, 31(16), 3551-3563. <https://doi.org/10.1016/j.cub.2021.06.012>

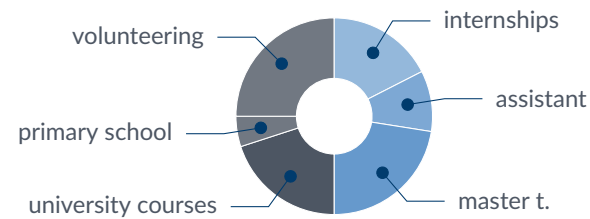
In Preparation:

Schmidig, F. J., Ruch, S., Ulrich, O., & Henke, K. (2025). Co-rippling of neocortex and hippocampus modulates learning. *In Preparation*.

Schmidig, F. J., Yamin, D., Nadu, Y., & Yuval Nir. (2025). Non-verbal report of episodic memory indicates hippocampus activity. *In Preparation*.

Schmidig, F. J., Sharon, O., Yamin, D., & Nir, Y. (2026). Episodic memory indicated by anticipatory gaze exceeds where verbal report fails, findings from iEEG. *In Preparation*.

TEACHING / MENTORING



Teaching:

- **6 master** and 1 bachelor course
- **invited lecture** on neuroscience of sleep, undergraduate course
- **primary school** teaching
- 1000h+ as **volunteering teacher** (J+S instructor, level expert)

Mentoring:

- **7 research internships:** L. Schmid, E. Grebenarov, N. Skiersz, O. Goldberg, L. Klein S. Aglamatz, T. Grundman
- 4 research assistants: R. Imlig, L. Knüsel, E. Brill, Y. Nadu
- **10 master thesis:** B. Ambühl, S. Glatt, L. Schmid, S. Ankner, L. Knüsel, D. Yamin, Y. Mendelboim, M. Eliyahu, R. Fallach, M. Kuper

MEMBERSHIPS

Society for Neuroscience: SFN

@ www.sfn.org

✉ info@sfn.org

Israeli Society for Neuroscience: ISFN

@ www.isfn.org.il

✉ Shahaf.edut@isfn.org.il

Interfaculty Research Cooperation, IRC "decoding sleep"

@ www.sleep.unibe.ch

✉ jan.warncke@insel.ch

Clinical Neuroscience Bern (CNB)

@ www.neuroscience.unibe.ch

✉ noemi.allet@unibe.ch

Exemplary Outreach Activities:

Sharing my results with a greater public:

Schmidig, F.J.; Ruch, S.; Henke, K. (2019). *Der Traum vom Lernen im Schlaf*. UniPress, page 20.

<https://boris.unibe.ch/>

Last access: 29.01.2022

Journalistic report about my study:

Schneider, Reto (26 October 2018). *Kann ich das noch lernen?* In: NZZ Folio, Neue Zürcher Zeitung.

<https://www.nzz.ch/folio>

Last access: 29.01.2022

Keynote lecture / workshop lead:

Schmidig, F. & Ruch, S. (21 January 2019). *EEG closed-loop auditory stimulation during sleep: A novel microstate-based approach*. Graduate Course: Closing Loops in Cognitive Neuroscience. Bern. 21.01.-22.01.2019. <https://boris.unibe.ch/>

REFERENCES

Prof. Katharina Henke

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Pr. Yuval Nir

@ Sagol Brain Institute Tel Aviv Medical Center

✉ yuvalnir.tau@gmail.com

Tel Aviv University, Tel Aviv 69978, Israel

Dr. Simon Ruch

@ Institute of Psychology

✉ simon.ruch@fernuni.ch

FernUni Schweiz, Schinerstrasse 18, 3900 Brig, CH

VOLUNTARY WORK

youth organization: Jungwacht und Blauring

- **Over 1,000 hours** as a certified J+S instructor (*expert level*).
- Member of the **national steering board** for the organization; lead of its **largest section**.
- **Designed and implemented** an educational program that has trained **1,000+ teenagers annually** for over **10 years**.
- **Extensive event management experience**: organized **50+ events** with up to **10,000 participants**.
- Organized and facilitated **10+ week-long leadership training workshops**.

sportclub: Handball Emmen

- active club member
- children trainer
- J+S Coach

NETWORK OF COLLABORATORS

- Katharina Henke (University of Bern)
- Yuval Nir (University of Tel Aviv)
- Reto Huber (Children's Hospital Zurich)
- Simon Ruch (Uni Distance, Switzerland)
- Charan Ranganath (UC Davis)
- Omer Sharon (UCLA)
- Maya Geva-Sagiv (UC David)
- Ido Strauss (Sieratzky Medical Center Tel Aviv)
- Marc Züst (UPD, Bern)
- Florian Morman (University of Bonn)
- Amir Tal (Tel Aviv University)
- Gennela Morris (Sieratzky Medical Center)
- Daniel Yamin (Industry)