

# Neil Scheidwasser-Clow

☎: +33647628722 | ✉: [neilclow24@gmail.com](mailto:neilclow24@gmail.com) | 🔗: [linkedin.com/neil-scheidwasser](https://www.linkedin.com/in/neil-scheidwasser) | 🌐: <https://neclow.github.io/>

## EDUCATION

---

### University of Copenhagen

Copenhagen, Denmark

*PhD Fellow, Department of Public Health, Section of Epidemiology*

2022 –

- **Project title:** *Beyond genetic sequences: protein structure based and multimodal approaches for phylogenetic inference*
- **Supervisor:** Samir Bhatt
- Member of the Steering Group of the Public Health and Epidemiology Graduate Programme

### EPFL

Lausanne, Switzerland

*MSc in Life Sciences Engineering (Distinction), Minor: Computational neurosciences*

2019 – 2022

- **Relevant coursework:** Machine learning, Deep learning, Applied data analysis  
Controlling behavior in animals and robots, In silico neuroscience
- **Master's thesis:** *Analytical approaches to data from human virtual reality (VR) and neuro-physiology studies*
- **Supervisor:** Carmen Sandi

### KTH Royal Institute of Technology

Stockholm, Sweden

*Swiss European Mobility Programme – 3rd year Bachelor exchange*

2018 – 2019

### EPFL

Lausanne, Switzerland

*BSc in Life Sciences Engineering*

2016 – 2019

## EXPERIENCE

---

### Logitech

Lausanne, Switzerland

*Scientific advisor*

Sep. 2021 – Feb. 2023

- Assisting interns for projects on deep-learning based speech representations

*Engineering intern, CTO office*

Feb. 2021 – Aug. 2021

- **Project:** Paralinguistic analysis of speech and non-speech audio signals
- Prepared software and submissions for INTERSPEECH and ICASSP
- Designed experiments to record speech under cognitive and physical load conditions

### EPFL

Lausanne, Switzerland

*Research engineer*

Feb. 2022 – Sep. 2022

- Master enhancement internship at the Behavioral Genetics lab: extending the analysis of my Master's thesis for a publication
- Design of a GUI to facilitate post-processing of data from DeepLabCut (kinematics) and fiber photometry for behavioral tests in rodents.
- Audio feature extraction from video recordings from Trier Social Stress Test experiments

*Student research assistant*

2019 – 2021

- 2020-2021: Neuroengineering lab – Comparison of deep learning algorithms for 2D pose estimation of tethered flies
- 2019-2020: Psychophysics lab – Modelling the Sequential Metacontrast Paradigm with recurrent neural networks

*Student teaching assistant*

2019 – 2022

- 2021-2022: Information, Computation, Communication (CS-119)
- 2021-2022: Applied data analysis (CS-401)
- 2019-2021: Analysis III (MATH-203)
- 2019-2021: Projects in Informatics (for SV) (CS-116)

### ETH Zürich

Zürich, Switzerland

*Student research assistant*

Jun. 2019 – Jul. 2019

- Neural Control of Movement lab – Event-Related Desynchronization (ERD) estimation algorithms for offline and online EEG data.

## TECHNICAL SKILLS

---

**Operating systems:** Windows, Linux  
**Office automation:** Microsoft Office, L<sup>A</sup>T<sub>E</sub>X  
**Programming languages:** Python, C++, MATLAB, basic knowledge of R, Julia, SQL, and Ruby  
**Machine learning frameworks:** PyTorch, Jax, Tensorflow, Keras, scikit-learn  
**Audio processing:** Audacity  
**Image processing:** ImageJ  
**GUI design:** Tkinter

## LANGUAGES

---

**French, English:** Native speaker  
**German:** Limited working proficiency  
**Danish, Swedish, Mandarin Chinese:** Elementary knowledge

## PUBLICATIONS

---

[Efficient Speech Quality Assessment using Self-supervised Framewise Embeddings](#),  
Hajal, K. E., Wu, Z., **Scheidwasser-Clow, N.**, Elbanna, G., & Cernak, M.  
*International Conference on Acoustics, Speech and Signal Processing ICASSP*, 2023.

[BYOL-S: Learning Self-supervised Speech Representations by Bootstrapping](#),  
Elbanna, G., **Scheidwasser-Clow, N.**, Kegler, M., Beckmann, P., & Cernak, M.  
HEAR: Holistic Evaluation of Audio Representations (NeurIPS 2021 Competition) **PMLR**, 2022.

[Hybrid Handcrafted and Learnable Audio Representation for Analysis of Speech Under Cognitive and Physical Load](#),  
Elbanna, G., Biryukov, A., **Scheidwasser-Clow, N.**, Orlandic, L., Mainar, P., Kegler, M., Beckmann, P. & Cernak, M.  
*Proceedings of the 23rd Interspeech conference Interspeech*, 2022

[SERAB: A multi-lingual benchmark for speech emotion recognition](#),  
**Scheidwasser-Clow, N.**, Kegler, M., Beckmann, P., & Cernak, M.  
*International Conference on Acoustics, Speech and Signal Processing ICASSP*, 2022.

- Code: <https://github.com/Neclow/SERAB>
- Featured as one of the strongest submissions of the [HEAR 2021 NeurIPS challenge](#).

[Commentary: The Risky Closed Economy: A Holistic, Longitudinal Approach to Studying Fear and Anxiety in Rodents](#),  
**Scheidwasser-Clow, N.**, Faggella, M., Kozlova, E., & Sandi, C.  
*Frontiers in Behavioral Neuroscience*, 2021

## PREPRINTS & UPCOMING PUBLICATIONS

---

[Speaker Embeddings as Individuality Proxy for Voice Stress Detection](#),  
Wu, Z., **Scheidwasser-Clow, N.**, El Hajal, K., & Cernak, M  
Accepted at **Interspeech 2023**

[Leaping through tree space: continuous phylogenetic inference for rooted and unrooted trees](#),  
**Scheidwasser-Clow, N.\***, Penn, M. J.\*, Penn, J., Donnelly, C. A., Duchêne, D. A., & Bhatt, S.  
arXiv preprint arXiv:2306.05739, 2023  
\*Equal contribution

[Phylo2Vec: a vector representation for binary trees](#),  
**Scheidwasser-Clow, N.\***, Penn, M. J.\*, Khurana, M. P., Duchêne, D. A., Donnelly, C. A., & Bhatt, S.  
arXiv preprint arXiv:2304.12693, 2023  
\*Equal contribution

## PRESENTATIONS

---

[Phylo2Vec: A vector representation of binary trees](#),  
**Scheidwasser-Clow, N.\***, Penn, M. J.\*, Khurana, M., Donnelly, C. A., & Bhatt, S.  
**2023 ICLR First Workshop on Machine Learning & Global Health**.  
\*Equal contribution

## OTHER INTERESTS

---

### **Student organizations:**

- [Data Analytics Group \(DAG\) at EPFL](#): co-founder
  - \* Goal: build a strong community of students who share a passion for data science and artificial intelligence
  - \* 2022: Head of Communications
  - \* 2021: Head of Event Management
  - \* 2021-2022: designed 20+ coding challenges in Python (data science and basic algorithms)
- [Erasmus Student Network \(ESN\)](#):
  - \* Copenhagen: committee member (2022-2023), Head of Event Management and Treasurer (2023-)
  - \* Lausanne: committee member (2020-2022)

**Scrabble:** Under-18 French World Scrabble Champion (2015), in world top-100 for 5 years

**Sports:** Football, running, bouldering, skiing, tennis, squash, padel, hiking...

**Other:** Chess, guitar, cooking