

# Yohann THENAISIE

Rue de la barre 6

1005 Lausanne

Switzerland

[yohann.thenaisie@chuv.ch](mailto:yohann.thenaisie@chuv.ch)

(+33)6 45 74 45 51

<https://orcid.org/0000-0002-9936-5821>

---

## EDUCATION

---

2018-current

**phD in neuroscience**

Lausanne University

- Directed by Eduardo Martin Moraud, Jocelyne Bloch and Grégoire Courtine at .Neurorestore
- “Towards adaptive deep brain stimulation targeting gait deficits in Parkinson’s disease”

2017-2018

**Predoctoral year in neuroprosthetics**

Swiss Federal Institute of Technology (EPFL)

- Swiss-European Mobility Program

2014-2017

**Bachelor’s Degree and Master’s Degree in Biosciences**

École Normale Supérieure de Lyon

- Rank: 3/36

2011-2014

**Classe préparatoire BCPST**

Lycée Camille Guérin (Poitiers)

- Certificate with highest honors

2011

**Baccalauréat scientifique SVT**

Lycée Grandmont (Tours)

- High School Diploma with honors

---

## RESEARCH INTERNSHIPS

---

**Importance of the noradrenergic system in olfactory discrimination**

CRNL, Neuropop team – Cornell University, CPL – May to August 2015 (10 weeks)

*Performed optogenetics, behavioural tests on mice, brain slicing and histoimmunostaining, confocal microscopy and pharmacological brain injections.*

*Results were published in (Linster et al., 2020)*

**Perceiving invisible light through a visuocortical neuroprosthetics**

Duke University, Nicolelis Lab – February to May 2016 (14 weeks)

*Performed close-loop intra-cortical microstimulation, spike-sorting of microwire recordings, behavioural tests on rats, implantation surgeries, MATLAB, data analysis.*

*Results were published in (Thomson et al., 2017)*

**Microfabrication of soft electrodes for biocompatible implants**

EPFL, LBSI – January to July 2017 (26 weeks)

*Performed clean room microfabrication (spin-coating, sputtering, interferometer, plasma etching, Scanning Electron Microscopy), electromechanical characterisation*

*Results were published in (Vachicouras et al., 2019)*

## PUBLICATIONS

---

- Thenaisie, Y., Lee, K., Moerman, C., Scafa, S., Gálvez, A., Pirondini, E., Burri, M., Ravier, J., Puiatti, A., Accolla, E., et al. (2022). Principles of gait encoding in the subthalamic nucleus of people with Parkinson's disease. 2022.02.08.22270370. <https://doi.org/10.1101/2022.02.08.22270370>. (accepted in Science Translational Medicine)
- Thenaisie, Y., Palmisano, C., Canessa, A., Keulen, B.J., Capetian, P., Jiménez, M.C., Bally, J.F., Manferlotti, E., Beccaria, L., Zutt, R., et al. (2021). Towards adaptive deep brain stimulation: clinical and technical notes on a novel commercial device for chronic brain sensing. J. Neural Eng. 18. <https://doi.org/10.1088/1741-2552/ac1d5b>.
- Linster, C., Midroit, M., Forest, J., Thenaisie, Y., Cho, C., Richard, M., Didier, A., and Mandairon, N. (2020). Noradrenergic Activity in the Olfactory Bulb Is a Key Element for the Stability of Olfactory Memory. J. Neurosci. Off. J. Soc. Neurosci. 40, 9260–9271.
- Vachicouras, N., Tarabichi, O., Kanumuri, V.V., Tringides, C.M., Macron, J., Fallegger, F., Thenaisie, Y., Epprecht, L., McInturff, S., Qureshi, A.A., et al. (2019). Microstructured thin-film electrode technology enables proof of concept of scalable, soft auditory brainstem implants. Sci. Transl. Med. 11.
- Thomson, E.E., Zea, I., Windham, W., Thenaisie, Y., Walker, C., Pedowitz, J., França, W., Graneiro, A.L., and Nicoletis, M.A.L. (2017). Cortical Neuroprosthesis Merges Visible and Invisible Light Without Impairing Native Sensory Function. ENeuro 4.

## CONFERENCES

---

- Yohann Thenaisie, Elvira Pirondini, Kyuhwa Lee, Charlotte Moerman, Mayte Castro, Jimenez, Gregoire Courtine, Eduardo Martin Moraud, and Jocelyne Bloch, "*Neural correlates of leg force modulation in the Subthalamic nucleus of patients with Parkinson's disease.*" OptoDBS **2019** (poster)
- Yohann Thenaisie, Elvira Pirondini, Kyuhwa Lee, Charlotte Moerman, Mayte Castro, Jimenez, Gregoire Courtine, Eduardo Martin Moraud, and Jocelyne Bloch, "*Neural correlates of leg force modulation in the subthalamic nucleus of patients with Parkinson's*", CHUV Neuroscience research center annual symposium **2019** (presentation and poster)
- Yohann Thenaisie, Kyuhwa Lee, Charlotte Moerman, Mayte Castro, Jimenez, Gregoire Courtine, Eduardo Martin Moraud, and Jocelyne Bloch "*Subthalamic nucleus dynamics enable real-time decoding of normal and pathological walking in Parkinson's disease*", Lemanic neuroscience annual meeting **2021** (oral presentation)
- Yohann Thenaisie, Chiara Palmisano, Andrea Canessa, Bart Keulen, Eduardo Martin Moraud, Ioannis U. Isaias and M. Fiorella Contarino, "*Clinical and technical notes on the Percept<sup>TM</sup> PC*", International IEEE EMBS Conference on Neural Engineering **NER21** (oral presentation)
- Thenaisie, Y., Palmisano, C., Canessa, A., Martin Moraud, E., Isaias, I., Contarino, F., "*First clinical and technical observations on a novel DBS implant capable of simultaneous chronic sensing and stimulation*" International Association of Parkinsonism and Related Disorders **2021** (poster)
- Thenaisie, Y., Palmisano, C., Canessa, A., Martin Moraud, E., Isaias, I., Contarino, F. "*Chronic sensing of the subthalamic nucleus in Parkinson's disease patients: preliminary observations*", Movement Disorder Society **2021** (poster)
- Yohann Thenaisie, Andrea Galvez, Kyuhwa Lee, Charlotte Moerman, Mayte Castro Jimenez, Elvira Pirondini, Gregoire Courtine, Jocelyne Bloch, and Eduardo Martin Moraud, "*Subthalamic nucleus and EEG signatures underlying leg force modulation in patients with Parkinson's disease*", ESSFN congress **2021** (oral presentation)
- Yohann Thenaisie, Charlotte Moerman, Kyuhwa Lee, Flavio Raschellà, Andrea Galvez, Mayte Castro Jimenez, Elvira Pirondini, Gregoire Courtine, Jocelyne Bloch, and Eduardo Martin Moraud, "*Subthalamic nucleus activity patterns correlate with modulations in leg muscle synergies during locomotion in Parkinson's patients*", ESSFN congress **2021** (oral presentation)

- Yohann Thenaisie, Kyuhwa Lee, Charlotte Moerman, Mayte Castro, Jimenez, Gregoire Courtine, Eduardo Martin Moraud, and Jocelyne Bloch “*Subthalamic nucleus dynamics enable real-time decoding of normal and pathological walking in Parkinson’s disease*”, Society for neuroscience **2021** (presentation and poster)
- Yohann Thenaisie, Kyuhwa Lee, Charlotte Moerman, Mayte Castro Jimenez, Julien Bally, Grégoire Courtine, Jocelyne Bloch, and Eduardo Martin Moraud, “*Subthalamic nucleus dynamics enable real-time decoding of natural and pathological walking in Parkinson’s disease*”, Neuromodulation Québec **2021** (invited speaker)
- Yohann Thenaisie, Kyuhwa Lee, Charlotte Moerman, Mayte Castro Jimenez, Julien Bally, Grégoire Courtine, Jocelyne Bloch, and Eduardo Martin Moraud, “*Decoding states and transitions from the subthalamic nucleus*”, aDBS meeting **2022** (poster and oral presentation)
- Yohann Thenaisie, Loic Comelieu, Camille Varescon, Léonie Asboth, Grégoire Courtine, Jocelyne Bloch, Eduardo Martin Moraud, “*Dynamical modulations of low frequency deep brain stimulation on axial symptoms in Parkinson’s disease*”, International Congress of Parkinson’s Disease and Movement Disorders **2022** (accepted abstract)
- Yohann Thenaisie, Kyuhwa Lee, Charlotte Moerman, Mayte Castro Jimenez, Julien Bally, Grégoire Courtine, Jocelyne Bloch, and Eduardo Martin Moraud, “*Principles of gait encoding in the subthalamic nucleus of people with Parkinson’s disease*”, Society for neuroscience **2022** (accepted abstract)

---

## SCIENCE OUTREACH

---

- First prize of *Ma thèse en 180 secondes* 2021, Université de Lausanne finals
- First prize of *Ma thèse en 180 secondes* 2021, Swiss finals
- First prize of *Ma thèse en 180 secondes* 2021, international finals
- Science and You 2021 (workshop)
- Gait Lab Open days 2021 (talk)
- Dies Academicus Unil 2022 (talk)
- “*Pourquoi et comment connecter une intelligence artificielle au cerveau ?*”, Time Wold Event Montreal 2022
- “*Qui veut devenir un cyborg ?*”, assemblée générale de l’Union des Communes Vaudoises 2021
- “*Le long voyage des marcheurs lents*” Dubochet Center
- Café-Zoom Uni3 Genève
- Speed-dating scientifique, SVSN 2021
- “*Pirater le cerveau pour le soigner... et plus si affinité ?*”, Connaissance 3 (in preparation)
- Numerik Games Festival inaugural conference (talk, in preparation)
- TEDx Martigny 2022 (invited speaker, in preparation)