

# Maëlle Guyoton

Born the 16<sup>th</sup> of July 1995

Nationality: French

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## RESEARCH EXPERIENCE

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### M2 Internship – Lighting the brain in rats

*University of Bordeaux, INSERM, France – with Dr. V. Deroche-Gamonet*

**01.2019 –07.2019**

*(6 months)*

**Project:** Using an opsin-dependent stimulation of the cortical prelimbic projections to the nucleus accumbens in freely moving rats that self-administered cocaine for a short period, our questioning is about a possible shift towards inhibition of the drug-seeking behavior when the PL projections are activated.

### M1 Internship – Cellular mechanisms of trilaminar interneurons in mice hippocampus

*University of Laval, CHUL, Canada– with Dr. L. Topolnik*

**04.2018 –08.2018**

*(4 months)*

**Project:** Development of a protocol to retrogradely label the subiculum-projecting inhibitory interneurons in VIP-eGFP transgenic mice for whole-cell patch clamp recordings. Combined with two-photon Ca<sup>2+</sup> imaging, the goal was to determine the morphological and physiological properties of trilaminar cells.

### Bachelor Internship – The role of Tau and APC proteins in Alzheimer’s disease

*Grenoble Institute of Neuroscience, INSERM, France – with Dr. V. Stoppin-Mellet*

**01.2017**

*(1 month)*

**Project:** Analysis of tau-dependent polymerization of actin filaments and their structural organization along microtubules on images acquired under TIRF microscopy.

## SCHOLARSHIPS

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- **Student fellowship**, Université Laval (M1 internship) **2018**
- **Explo’ra Sup**, Région Rhône-Alpes (M1 internship) **2018**
- **Explo’ra Sup**, Région Rhône-Alpes (Bachelor Erasmus Program) **2017**

## EDUCATION

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### Graduate Program - International Master of Neuroscience of Bordeaux

*Diploma With Honours*

**2018- 19**

*2<sup>nd</sup> year of Master, University of Bordeaux, France*

### Graduate Program – International Master of Molecular & Cellular Biology

*1<sup>st</sup> year of Master, University Grenoble Alpes, France*

**2017- 18**

### Undergraduate Program - Sciences, Technologies and Health Bachelor, Speciality Life Sciences

*Diploma With Honours*

**2013- 17**  
*July 2017*

*3<sup>rd</sup> year S6 at the University of Sussex, Brighton, UK*

*2<sup>nd</sup> year in the International course (BioInter) and Magistère, University Grenoble Alpes, France*

### Scientific high school, Sports section, Mathematics speciality

*Diploma with Distinctions*

**2012**

*Lycée Vaugelas, Chambéry, France*

## TECHNICAL SKILLS IN NEUROSCIENCE

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### Targeting strategy

Retrograde labelling: fluorescent beads injected in mice subiculum for retrograde tracing to the CA2

Streptavidin-biotin system: detection of patch-clamp recorded neurons

*In vivo* optogenetics: CamKIIa-dependent viral vectors injections coupled to optic fibers implants in PL and dPAG for specific stimulation of glutamatergic neurons

### Animals

French and Canadian agreements for working on laboratory animals

### Behavioral studies

Cocaine self-administration training and fear conditioning on rats, video tracking for freezing and leaking behaviors

### Neuroanatomy

Stereotaxic injections, catheterizations, s.c. and i.p. injections, PFA preparation, intracardiac perfusions for brain extraction, coronal slices using a vibratome (50 microns), slice mounting

### Immunohistochemistry

Double immunohistochemistry for C-Fos

### Data analysis

#### Imaging

Epifluorescence: mCherry and EGFP transduced neurons, neurons infected with fluorescent beads

Training in TIRF microscopy and Ca<sup>2+</sup> bi-photon imaging

Indirect STORM technology (one-week training under the supervision of J. Ferreira, Broca Center, Bordeaux)

#### Softwares

ImageJ, NeuroExplorer, Neurolucida, Clampfit, Statistica, IgorPro

#### Programming

Coursera formation in C++, basic knowledge in Python and R

Use of POLY for the programming of polymodal cages

#### Graphical design

Adobe Illustrator, PhotoShop, Pack Office

## OTHER RELEVANT INFORMATION

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### Languages

French: native, English: fluent, Spanish: intermediate

### Work

Microbiologist

Thermes Nationaux, Valvital group, Aix-les-Bains, France (summer 2017)

Pole Health & Environment Technician

Agence Régionale de Santé, Chambéry, France (summer 2015)

### Scientific Interests

- Member of Bordeaux Neuroscience Association
- Participant of Cajal School, Bordeaux Neurocampus (September 2018)
- Neuroscience Symposium of Masters, Bordeaux (June 2019)

## REFERENCES

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**Dr Véronique Deroche-Gamonet, INSERM 1215, France**

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Lab website: <https://neurocentre-magendie.fr/recherche/Deroche>

**Dr Lisa Topolnik, University Laval, Canada**

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Lab website: <http://neurowire.ca>