

Damien LEVARD

INSERM U1237 PhIND – Physiopathology & Imaging of Neurological Disorders
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CURRENT POSITION **PhD Student – Life and health sciences - Neuroimmunology**

EDUCATION

- Since September **2018** **PhD student “Life and health sciences”**
Research Project Role of brain perivascular macrophages in neuroinflammation.
Supervisors Dr. Marina Rubio
Laboratory INSERM U1237, Physiopathology and Imaging of Neurological Disorders unit (PhIND) / University of Caen Normandy (UCN)
Funding Norman Networks of Interest (RIN) – Normandy Region
- 2018** **Master’s degree in Biology, health – Neurosciences** – University Caen Normandy - 2nd year of master’s degree: Research in Neurosciences
Research Project Role of brain perivascular macrophages in neuroinflammation following stroke.
Supervisors Dr. Antoine Drieu and Dr. Marina Rubio
Laboratory INSERM U1237, PhIND / UCN
- 2017** 1st year of master’s degree: Research in Neurosciences
Research Project Characterization of brain perivascular macrophages depletion in stroke.
Supervisors Dr. Antoine Drieu and Dr. Marina Rubio
Laboratory INSERM U1237, PhIND / UCN
- 2016** **Bachelor’s degree in sciences, health – Neurosciences** - UCN
Voluntary internship in SP2U unit, UCN

PUBLICATIONS

Garnier E*, **Levard D***, Ali C, Hommet Y, Crepaldi T, Comoglio P, Rubio M, Vivien D, Martinez de Lizarrondo S, Docagne F. Coagulation Factor XII protects neurons from apoptosis by a crosstalk between proteolytic and growth factor activities. *J Thromb Haemost. Under Review.*

Levard D, Buendia I, Lanquetin A, Glavan M, Vivien D, Rubio M. Filling the gaps on stroke research: Focus on inflammation and immunity. *Brain Behav Immun.* 2020; S0889-1591(20)31483-5. Review.

Drieu A, Lanquetin A, **Levard D**, Glavan M, Campos F, Quenault A, Lemarchand E, Naveau M, Pitel AL, Castillo J, Vivien D, Rubio M. Alcohol exposure-induced neurovascular inflammatory priming impacts ischemic stroke and is linked with brain perivascular macrophages. *JCI Insight.* 2020; 5(4):e129226

Drieu A, Buendia I, **Levard D**, Hélie P, Brodin C, Vivien D, Rubio M. Immune Responses and Anti-inflammatory Strategies in a Clinically Relevant Model of Thromboembolic Ischemic Stroke with Reperfusion. *Transl Stroke Res.* 2020; 11(3):481-495

Drieu A, **Levard D**, Vivien D, Rubio M. Anti-inflammatory treatments for stroke: from bench to bedside. *Ther Adv Neurol Disord.* 2018; 11:1756286418789854. Review.

COLLABORATION

Research Project	Role of microglia and brain perivascular macrophages in neurotropic virus infection.
Laboratory	Institute of Experimental Medicine, Laboratory of Neuroimmunology, Budapest, Hungary
Supervisor	Dr. Ádám Dénes
Funding	Campus France

COMMUNICATIONS

ORAL

Role of perivascular macrophages in neuroinflammation. **Levard D**, Drieu A, Vivien D, Rubio M.
Doctoral School Day, Caen, France; 21-22 March 2019.

POSTER

Depletion of brain perivascular macrophages alters immune cell pathway following thromboembolic stroke in mice. **Levard D**, Drieu A, Vivien D, Rubio M.
International Stroke-Immunology Conference 2020 (Canceled, postponed to March 2021)

The thrombin-induced thromboembolic stroke model to better predict immunomodulatory therapies for stroke. **Levard D**, Drieu A, Buendia I, Hélie P, Brodin C, Vivien D, Rubio M.
International Stroke-Immunology Conference 2020 (Canceled, postponed to March 2021)

SKILLS

Molecular biology	Genotyping
Histological & Imaging	Immunohistochemistry and immunocytochemistry, widefield microscopy, confocal microscopy, spinning disk microscopy, STED microscopy, <i>in vivo</i> two-photon microscopy, MRI 7T (acquisition and analysis).
Physiology	Intraperitoneal injection, intravenous injection (through a catheter into the tail vein or retroorbital), stereotaxic injection, intracerebroventricular injection, intracisternal injection, intracardiac perfusion, tissue collection, blood sample collection
Flow cytometry	From brain tissue
Behavior assessment	Open field activity, Grip strength test
Software used	ImageJ, LAS X, Leica MM Fluor, Flow Jo, Metamorph, Prism8, GIMP, Office suite.

GRANTS

2020 Travel grant from Graduate School of University of Caen Normandy (EdNBISE)

Depletion of brain perivascular macrophages alters immune cell pathway following thromboembolic stroke in mice
International Stroke-Immunology Conference 2020 (Canceled, postponed to March 2021)

2018 Training grant from Graduate School of University of Caen Normandy (EdNBISE)

Training in animal experimentation applied to biomedical research: design of projects using rodents for scientific purposes.

2018 Norman Networks of Interest (RIN) – Normandy Region

PhD funding for 3 years

OTHERS

Event **Science awareness**
Purpose Promoting science toward the public & stimulating curiosity
Organization Ministry of National Education, Research and Technology
Location Science Campus, Caen, France
Editions 2017 - 2018 - 2019

Event **Festival de l'Excellence Normande (FÊNO)**
Purpose To highlight Norman talents and achievements in all sectors
Organization Cyceron Center
Location Exhibition Center, Caen, France
Edition 2019

REFERENCES

Dr. Marina Rubio

INSERM U1237 - Research Engineer
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Pr. Denis Vivien

Professor of Cell Biology Hospital practitioner (PhD, PU-PH)
Dir. Blood and Brain @ Caen-Normandie Institute (BB@C)
Dir INSERM UMRS U1237 PhIND
RESP CRB, InnovaBIO, Caen Normandie University Hospital (Caen-CHU)
Scientific Advisor guichet Innovations and Partnerships (Caen-CHU)
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