

PERSONAL INFORMATION

Sophie Leclercq



📍 Avenue de Tervueren 204/10
1150 Woluwe-Saint-Pierre
Belgium

☎ +32 496 690118

✉ leclercq.so@gmail.com
sophie.leclercq@uclouvain.be

📅 Date of birth 26/02/1988 | 🇧🇪 Nationality Belgian

EDUCATION AND TRAINING

2016/03 – Now

FNRS Post-doctoral researcher

Université catholique de Louvain, Brussels, Belgium

Institute of Neuroscience, Clinical Neurosciences
Louvain Drug Research Institute, Metabolism and Nutrition Group
Laboratory for Experimental Psychopathology

2015/01 – 2016/03

Post-doctoral fellow

McMaster University, Hamilton, Ontario, Canada
Faculty of Health Sciences, Department of Pathology and Molecular Medicine
St. Joseph's Healthcare Hamilton, Brain-body Institute

- Supervisors: Prof John Bienenstock and Prof Paul Forsythe
- Project: Early-life antibiotic exposure induces long-term effect on gut microbiota, brain and behavior.
- Post-doctoral fellowship: from US Office for Naval Research (ONR)

2010-2014

PhD in biomedical and pharmaceutical sciences

Université Catholique de Louvain, Brussels, Belgium

Institute of Neuroscience, Neuropsychiatry Group
Louvain Drug Research Institute, Metabolism and Nutrition Group

- Supervisors: Prof Philippe de Timary and Prof Nathalie Delzenne
- Thesis: New targets in the management of alcohol dependence: which role for gut microbiota, gut barrier and immunity?

2012

Nutribrain summer school

Université de Bordeaux2, France

- Supervisors: Prof Sophie Layé and Dr Nathalie Castanon
- Project: Role of corticosterone in the behavioral alterations associated with metabolic syndrome

2008-2010

Master's degree in biomedical sciences

Suma Cum Laude

Specialisation in human nutrition
Université Catholique de Louvain, Brussels, Belgium

2005 - 2008

Bachelor's degree in biomedical sciences

Magna Cum Laude

Université de Mons, Mons, Belgium

PERSONAL SKILLS

Research interests Gut-brain axis, gut microbiota, antibiotics, probiotics, intestinal permeability, metabolomics, inflammatory pathways, lipopolysaccharides, peptidoglycans, vagus nerve, nutrition, metabolism, stress, depression, anxiety, alcohol-dependence, alcohol craving, cognitive deficits, social behaviour.

Laboratory skills RT-qPCR and Western blotting
 ELISA, Multiplex ImmunoAssay, TransAM
 RNA and DNA extraction
 Detection of endotoxins by Endosafe®-Multi-Cartridge System
 Isolation of peripheral blood mononuclear cells
 Cell culture
 Metabolomic analyses (Gas Chromatography/Mass Spectrometry)
 Analysis of 454 pyrosequencing gut microbiota data
 FACS analysis

Psychological scales and tests (clinical populations) Beck Depression Inventory (BDI-II)
 State-Trait Anxiety Inventory (STAI)
 Obsessive Compulsive Drinking Scale (OCDS)
 Self-consciousness (ERCS-22)
 Trait Emotional Intelligence Questionnaire (TEIQue-75)
 Description in Five Dimensions (D5D)
 Batterie d'attention de William Lenox (BAWL)
 Working memory (Brown Peterson task and Digit Span)
 Executive functions (Trail making test, Stroop, Iowa gambling task)

Behavioural tests (mice) Open field
 Light/Dark box
 Elevated-plus maze
 Social behaviour
 Preference for social novelty
 Social Avoidance
 Chronic social defeat and sub-threshold social defeat

Statistical skills Univariate and multivariate analyses
 Statistical programs: SPSS, JMP, NCSS, RCommander, G*Power
 Graphs editors: GraphPad Prism, YeD

Certificate Training in medicine of science of laboratory animals (UCL, Belgium)
 FELASA B (45h)
 FELASA C (90h) – Master of experiment

Mother tongue French

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Dutch	A2	A2	A2	A2	A2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
 Common European Framework of Reference for Languages

Hobbies ▪ Tennis player (best Belgian ranking: 86th, B-15/2)
 ▪ Marathon runner

Other skills ▪ Driving licence B
 ▪ First-aid certificate

ADDITIONAL INFORMATION

Publications

S. Leclercq, F. Mian, A. Stanisz, L. Bindels, E. Cambier, H. Ben-Amram O. Koren, P. Forsythe and J. Bienenstock (2017). Early life exposure to clinical dose penicillin induces long-term changes in gut microbiota, brain cytokines and behavior. **Nature Communications** 2017 Apr 4;8:15062.

P. de Timary, P. Stärkel, N.M Delzenne and **S. Leclercq** (2017) A role for the peripheral immune system in the development of alcohol use disorders? **Neuropharmacology**. 2017 Apr 8. pii: S0028-3908(17)30154-5

S. Leclercq, P. de Timary, N.M Delzenne and P. Stärkel (2017). The link between inflammation, bugs, the intestine and the brain in alcohol dependence. **Translational Psychiatry**. Feb 28;7(2):e1048.

G. Petit, O. Luminet, M. Cordovil de Sousa Uva, P. Monhovel, **S. Leclercq**, Q. Spilliaert, F. Zammit, P. Maurage and P. de Timary. (2017). Gender Differences in Affects and Craving in Alcohol Dependence: A Study During Alcohol Detoxification. **Alcohol Clin Exp Res**. Feb;41(2):421-431

S. Leclercq, P. Forsythe and J. Bienenstock (2016). Post-traumatic stress disorder: does the gut microbiota hold the key?. **The Canadian Journal of Psychiatry**. Apr;61(4):204-13.

P. de Timary, **S. Leclercq**, P. Stärkel and N. M. Delzenne (2015). A Dysbiotic Subpopulation of Alcohol-Dependent Subjects. **Gut microbes**. 6:6, 388-391.

S. Leclercq, S. Matamoros, P. D Cani, A. Neyrinck, F. Jamar, P. Stärkel, K. Windey, V. Tremaroli, F. Bäckhed, K. Verbeke, P. de Timary and N. M Delzenne (2014). Intestinal permeability, gut bacterial dysbiosis and behavioral markers of alcohol dependence severity. **Proceedings of the National Academy of Sciences (PNAS)**. Oct 21;111(42):E4485-93

S. Leclercq, C. Desaegeer, N. Delzenne, P. de Timary, P. Stärkel (2014). Role of inflammatory pathways, blood mononuclear cells, and gut-derived bacterial products in alcohol dependence. **Biological Psychiatry**. Nov 1;76(9):725-33

S. Leclercq, P.D. Cani, A.M. Neyrinck, P. Stärkel, F. Jamar, M. Mikolajczak, N.M. Delzenne and P. de Timary (2012). Role of intestinal permeability and inflammation in the biological and behavioral control of alcohol-dependent subjects. **Brain, Behavior and Immunity**, 26.911–918

P. de Timary, P. D. Cani, J. Duchemin, A. M. Neyrinck, D. Gihousse, P.F. Laterre, A. Badaoui, **S. Leclercq**, N. M. Delzenne, P. Starkel (2012). The loss of metabolic control on alcohol drinking in heavy drinking alcohol-dependent subjects. **PLoS ONE** 7(7), e38682

Book Chapter

P. Stärkel, **S. Leclercq**, N.M. Delzenne, P. de Timary
The Gut-Brain Axis : Dietary, Probiotic, and Prebiotic Interventions on the Microbiota.
Chapter 17 - Alcohol-Dependence and the Microbiota-Gut-Brain Axis, Pages 363-390. ISBN: 978-0-12-802304-4

Awards

Bourse du Patrimoine. Université catholique de Louvain (2014)

Prize Hugo d'Haenen, Belgian College Of Neuropsychopharmacology and Biological Psychiatry, Leuven, Belgium (2011)

Best oral presentation, Prize Institute of Neurosciences PhD Student day, Université Catholique de Louvain, Brussels, Belgium (2011)

Communications and posters

Invited speaker in congress and symposium

Mind, Mood & Microbes. 1st international congress on gut microbiota-brain axis. Amsterdam, The Netherlands, December 2016. *Applied researchs in the field of the gut-brain axis*

Chair : Prof.dr. John F. Cryan, Department of Anatomy and Neuroscience, University College Cork, UK

Joint Meeting of the American Physiological Society and The Physiological Society. Dublin, Ireland, July 2016. *The microbiota-gut-brain axis: A role for diet and host-microbe interactions.*

Organisers: Melanie Gareau, University of California Davis, USA and Kim Barrett, University of California, San Diego, USA

Oral communications in international congresses

S. Leclercq, S. Matamoros, P. D Cani, F.Jamar, P. Stärkel, K. Windey, V. Tremaroli, F. Backhed, K. Verbeke, P. de Timary ,N.M Delzenne. Increased Intestinal Permeability is Related to Gut Bacterial Dysbiosis and Behavioral Markers of Addiction Severity in Alcohol-dependent Subjects. **15th Congress of European Society for Biomedical Research on Alcoholism (ESBRA). 2015**, Valencia, Spain.

S. Leclercq, S. Matamoros, P. D Cani, F.Jamar, P. Stärkel, K. Windey, V. Tremaroli, F. Backhed, K. Verbeke, P. de Timary ,N.M Delzenne. Increased Intestinal Permeability is Related to Gut Bacterial Dysbiosis and Behavioral Markers of Addiction Severity in Alcohol-dependent Subjects. **International Twined Congress, Psychiatry beyond DSM-5, 2014**, Iseo, Italy.

S. Leclercq, S. Matamoros, P. D Cani, F.Jamar, P. Stärkel, K. Windey, V. Tremaroli, F. Backhed, K. Verbeke, P. de Timary ,N.M Delzenne. Increased Intestinal Permeability is Related to Gut Bacterial Dysbiosis and Behavioral Markers of Addiction Severity in Alcohol-dependent Subjects. **16th International Society for Addiction Medicine Meeting (ISAM), 2014**, Yokohama, Japan.

S. Leclercq, N. Delzenne, P. Cani, S. Matamoros, P. Stärkel, F. Bäckhed, V. Tremaroli, K. P. de Timary. Role of gut microbiota in the behavioral control of alcohol-dependent subjects. **14th Congress of European Society for Biomedical Research on Alcoholism (ESBRA). 2013**, Warsaw, Poland

S. Leclercq, C. Desaegeer, N. Delzenne, P. de Timary, P. Stärkel. Stimulation of specific pathways for systemic inflammation in alcohol dependent subjects and relation with psychological symptoms. **International Society of Addictive Medicine (ISAM), 2012**, Geneva, Switzerland.

S. Leclercq, P.D. Cani, A.M. Neyrinck P. Stärkel, F. Jamar, P. de Timary and N.M. Delzenne. Role of intestinal permeability and inflammation on the biological and behavioral control of alcohol-dependent subjects. **13th Congress of European Society for Biomedical Research on Alcoholism (ESBRA), 2011**, Vienna, Austria.

S. Leclercq, P.D. Cani, A.M. Neyrinck P. Stärkel, F. Jamar, P. de Timary and N.M. Delzenne. Role of intestinal permeability and inflammation on the biological and behavioral control of alcohol-dependent subjects. **Belgian College of Neuropsychopharmacology and biological psychiatry, 2011**, Leuven, Belgium

Communications and posters
(con'd)Posters

S. Leclercq, F. Mian, A. Stanisz, L. Bindels, O. Koren, P. Forsythe and J. Bienenstock. Early life exposure to clinical dose penicillin induces long-term changes in gut microbiota, brain cytokines and behaviour. **Society for Neurosciences (SfN), 2016**, San Diego, CA, USA

S. Leclercq, S. Matamoros, P. D Cani, F. Jamar, P. Stärkel, K. Windey, V. Tremaroli, F. Backhed, K. Verbeke, P. de Timary, N.M. Delzenne. A Possible Role of gut microbiota in the behavioral control of alcohol-dependent subjects. **International Society for Biomedical Research on Alcoholism and Research Society of Alcoholism (ISBRA/RSA), 2014**, Bellevue, WA, USA.

S. Leclercq, P. de Timary, A. Neyrinck, P. Cani, N. Delzenne. Role of gut microbiota in the biological and behavioral control of alcohol-dependence. **Joint conference in sustainable diet and food security, 2013**, Lille, France.

S. Leclercq, C. Desaegeer, N. Delzenne, P. de Timary, P. Stärkel. Etude des voies inflammatoires dans les cellules sanguines mononucléées et relation avec les symptômes psychologiques et cognitifs développés par les sujets alcoolodépendants. **Journée de printemps de la Société de Neurophysiologie de Langue Française (SNLF), 2013**, Caen, France.

S. Leclercq, P.D. Cani, A.M. Neyrinck, P. Stärkel, F. Jamar, P. de Timary and N.M. Delzenne. Role of intestinal permeability and inflammation in the biological and behavioral control of alcohol-dependent subjects. **Belgian Nutrition Society, 2011**, Brussels, Belgium