

# Laure-Alix CLERBAUX

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Scientific Researcher - Biomedical Sciences, Hepatology, Toxicology.

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2019 - ... **Post-doctoral fellow** – Cancer Research Centre Zurich  
*Main projects:* Replication stress and DNA damage driving cancer in liver chronic diseases.  
Zürich University (UZH) and Hospital (USZ) – Zürich, Switzerland

2017 - 2018 **Traineeship at EURL ECVAM** – European Commission  
*Project:* Membrane transporters in chemical risk assessment using *in vitro-in silico* methods.  
Joint Research Centre (JRC), F3 Unit, Ispra, Italy

2015 - 2019 **Post-doctoral fellow - Scientific collaborator** - Institute of Experimental and Clinical Research  
*Main projects:* Molecular and cellular mechanisms in liver regeneration and diseases.  
Laboratory of Hepato-gastroenterology, UCL - Saint Luc Hospital, Brussels, Belgium

2009 - 2014 **Ph.D. in Biomedical and Pharmaceutical Sciences** – de Duve Institute  
UCL, Brussels, Belgium - Vassar College, New York State, USA  
*Thesis title:* Role of microRNA-33 in lipid metabolism in mammals and in flies.

2006- 2008 **Master degree in Bio-engineering** - Chemistry and Bioindustry  
UCL, Brussels, Belgium - Ludwig institute - Clemson University, South Carolina, USA

2003 - 2006 Bachelor degree in Bio-engineering - UCL - Belgium

## PREVIOUS RESEARCH PROJECTS

2015 - 2019 Role of the liver progenitor cells in mouse models of chronically injured livers: cellular and molecular signals at play and functional implication in parenchymal restoration, bile drainage or hepatocarcinogenesis. Working with cell biology methods, dietary and genetic mouse models of hepatic damage with lineage tracing tools, and human samples.

2017 - 2018 Scientific and regulatory perspectives of integrating drug transporters data in risk assessment.

2009 – 2014 Identification of miR33 targets and inhibitors in lipid and cholesterol metabolism.

## TECHNICAL SKILLS

**cellular:** lentiviral/retroviral transduction, transfection, cell isolation, differentiation, immortalization cell lines and primary cells (hepatocytes, (pre)-adipocytes, bone marrow-derived macrophages)

**molecular:** luciferase reporter assays, cloning, plasmid preparation, sequencing, RT-qPCR, Western Blot, Northern Blot, ELISA, microbiology, metabolic assays, immunofluo (IF), immunohisto (IHC)...

**animal:** mice (breeding, diet, transgenic, lineage tracing, surgery, ..) - Drosophila fly

**equipment:** flow cytometry/sorting, fluorescence and spinning disk confocal microscopy, radioactivity, luminescence-fluorescence readers...

**computing:** GraphPad Prism, Visiopharm, ImageJ, AxioVision, Zen, - R, Berkeley Madonna, KNIME

## PERSONAL SKILLS

Excellent abilities in **oral and written communication** of scientific results. **Teaching** skills: scientific courses and animations, **supervision** and **guidance** of young researchers. **Creative** and **rigorous**. Hard-worker, autonomous, well-organized, multitasker and **enthusiastic** in undertaking new **challenging** projects.

## LANGUAGES

**French:** Mother tongue

**English:** Fluent (C1)

**Dutch-Italian:** Good skills (B2)

## PEER-REVIEWED PUBLICATIONS

**Clerbaux LA**, Manco R, Van Hul N, Bouzin C, Sempoux C, Theise N, Leclercq IA. Invasive ductular reaction operates hepatobiliary junctions upon hepatocellular injury in rodents and humans. *American Journal of Pathology*, in press (April 2019).

Manco R, **Clerbaux LA**, Bou-Nader M, Sempoux C, Desdouts C, Hormans Y, Leclercq IA. Reactive cholangiocytes differentiate into proliferative hepatocytes with efficient DNA repair in mice with chronic liver injury. *Journal of Hepatology* (Feb 2019).

Manco R, Leclercq IA, **Clerbaux LA**. Liver regeneration: Different sub-populations of parenchymal cells at play choreographed by an injury-specific microenvironment. *Intern. Journal of Molec. Sciences* 18;19(12) (2018).

**Clerbaux LA**, Paini A, Lumen A, Osman-Ponchet H, Worth A, Fardel O. Membrane transporter data to support kinetically-informed chemical risk assessment using non-animal methods: Scientific and regulatory perspectives. *Environmental International*,126: 659-671 (2019).

**Clerbaux LA**, Coecke S, Lumen A, Kliment T, Worth A, Paini A. Capturing the applicability of *in vitro-in silico* transporter data in chemical risk assessment and biomedical research. *Sciences of the Total Environment* 645: 97-108 (2018).

**Clerbaux LA**, Van Hul N, Manco R, Español-Suñer R, Leclercq IA. Relevance of the CDE and DDC mouse models to study ductular reaction in chronic human liver diseases. Book chapter. *In Tech Manuscript* (2018).

**Clerbaux LA**, Manco R, Leclercq IA. Upstream regulators of hepatic Wnt/ $\beta$ -catenin activity control **liver** metabolic zonation, development, and regeneration. *Hepatology* 64(4):1361-3 (2016).

Pachikian BD, Essaghir A, Demoulin JB, Catry E, Neyrinck AM, Dewulf EM, Sohet FM, Portois L, **Clerbaux LA**, Carpentier YA, Possemiers S, Bommer GT, Cani PD, Delzenne NM. Prebiotic approach alleviates hepatic steatosis: implications of fatty acid oxidation and cholesterol synthesis pathways. *Mol. Nutr. Food Res.* 57(2):347-59 (2013).

**Clerbaux LA\***, Gerin I\*, Haumont O, Lanthier N, Das AK, Burant CF, Leclercq IA, MacDougald OA, Bommer GT. Expression of miR-33 from an SREBP2 intron inhibits cholesterol export and fatty acid oxidation. *J Biol. Chem.* 29;285(44):33652-61 (2010).

## GRANTS and AWARDS

2009 – 2013 Doctoral Fellowship FRIA, Fond National de la Recherche Scientifique (FNRS)

2012 Fellowship, Bourse d'excellence de la Fédération Wallonie-Bruxelles

2012 Award, Presentation Prize at the 10th ABC meeting, Brussels, Belgium

2014 Fellowship, Bourse du Patrimoine, Université catholique de Louvain, Brussels

2016-2019 **Membership**: European Association for the Study of the Liver (EASL)

## TRAININGS and SUMMER SCHOOLS

2019 EASL Basic School: Liver cell isolation and characterization, Dusseldorf, Germany.

2018 Altertox Academy Training: PBPK modelling for Quantitative IVIVE, KUL, Leuven, Belgium.  
Genetics of transporters: a population-based perspective, Transcure, Bern, Switzerland.

2017 KNIME workflows for life science, JRC, Ispra, Italy.

JRC Summer School on Alternative Approaches for Risk Assessment, ECVAM, Ispra, Italy.

2015 Training on R programming for Statistics in Biomedical Sciences, Liège, Belgium.