



JOHANNA MERLIN

CONTACT

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EDUCATION

- **Ph.D Program « Molecular and cellular interactions »**
October 1st, 2017 – September 30th, 2020
Côte d'Azur University, Nice
- **Research Master Degree**
« Genetics, Immunity and animal development »
2015-2017
Côte d'Azur University, Nice
- **French Licence « Biochemistry, molecular and cellular biology »**
2012-2015
University of Sud, Toulon

RELEVANT EXPERIENCE

● **Doctoral Researcher « Impact of macrophage glutaminolysis on cardio-metabolic diseases »**

October 2017 – September 2020

Centre Méditerranéen de Médecine Moléculaire (C3M) UMR1065
INSERM/UNS, Supervised by Dr. Laurent Yvan-Charvet and Dr. Stoyan Ivanov

● **Trainee Researcher « Impact of SIRT6 in non-alcoholic fatty liver diseases (NAFLD) »**

January 2017 – June 2017

Centre Méditerranéen de Médecine Moléculaire (C3M) UMR1065
INSERM/UNS, Supervised by Dr. Adeline Bertola in Dr. Philippe Gual's team

● **Trainee Researcher « Impact of myeloid cell glutaminolysis on metabolic syndrome »**

February 2016 – June 2016

Centre Méditerranéen de Médecine Moléculaire (C3M) UMR1065
INSERM/UNS, Supervised by Dr. Laurent Yvan-Charvet

SKILLS

RESEARCH INTEREST

Cardio-metabolic Diseases
Immunology
Metabolism

PROJECT MANAGEMENT

Implementation and optimization of experimental procedures
Teamwork : organization, collaboration, communication, listening and adaptation.
Student supervision (master and Ph.D)

INFORMATIC TOOLS:

Office package (Word, Excel, Powerpoint),
Flowjo, GraphPad Prism, ImageJ, StepOne
RNAseq analysis with Phantasus

LANGUAGES:

French : Native language
English : Advanced (TOEIC 930/990)

CELL BIOLOGY

Cell culture (adherent and non adherent cells)
Ex vivo culture (Bone marrow derived macrophages and dendritic cells, Peritoneal macrophages, Sympathetic neuron associated macrophages)
Transfection (by siRNA)
Transduction (with lentivirus)

MOLECULAR BIOLOGY

Protein extraction/ Western Blotting
RNA and DNA extraction
Reverse transcription / RT-qPCR

FLOW CYTOMETRY

Intra-cellular staining
Mono/multicolor labelling (ROS detection, Viability, Celltrace, Immunophenotyping)

METABOLIC ANALYZES

Seahorse Agilent
Calorimetry
Glucose tolerance test

ANIMAL EXPERIMENTATION

Formation : Level 2
Breeding management
Mice handling
Injections : intraperitoneal and intravenous
Bone marrow transplantation
Dissection : Visceral, sub-cutaneous and brown adipose tissue, Liver, Heart, Spleen, Spinal cord, Thymus, Brain, Lung etc.

IMAGING

Fluorescent microscopy (Nikon confocal A1R, Leica WF)
Optic microscopy (Nikon Eclipse E200)
Live Imaging (Incucyte)

HISTOLOGY

Tissue prep and embedding
Cryostat sectioning: Heart, Muscles
Microtome sectioning : Liver, Spleen, Adipose tissue
H&E, Oil Red O and fluorescent staining

PUBLICATIONS

1. **Biology and function of adipose tissue macrophages, dendritic cells and B cells.** Ivanov S, Merlin J, Lee MKS, Murphy AJ, Guinamard RR. Atherosclerosis. 2018 Apr;271:102-110. doi: 10.1016/j.atherosclerosis.2018.01.018.
2. **Mesothelial cell CSF1 sustains peritoneal macrophage proliferation.** Ivanov S, Gallerand A, Gros M, Stunault MI, Merlin J, Vaillant N, Yvan-Charvet L, Guinamard RR. Eur J Immunol. 2019 Nov;49(11):2012-2018. doi: 10.1002/eji.201948164.
3. **Dormir ou nuire à ses vaisseaux sanguins, telle est la question.** Yvan-Charvet L, Merlin J. Med Sci (Paris). 2019 Oct;35(10):743-746. doi: 10.1051/medsci/2019147.
4. **ABCA1 Exerts Tumor-Suppressor Function in Myeloproliferative Neoplasms.** Viaud M, Abdel-wahab OO, Gall J, Ivanov S, Guinarmard RR, Sore S, Merlin J, Ayrault M, Guilbaud E, Jacquiel A, Auberger P, Wang N, Levine RL, Tall AR, Yvan charvet L. 2020 Mar 10;30(10):3397-3410.e5. doi: 10.1016/j.celrep.2020.02.056.
5. **Myeloid Cell Diversity and Impact of Metabolic Cues during Atherosclerosis.** Gallerand A*, Stunault MI*, Merlin J*, Guinamard RR, Yvan-Charvet L, Ivanov S. Immunometabolism.2020;2(4):e200028. doi: 10.20900/immunometab20200028.
6. **Non-canonical transamination metabolism of glutamine sustains efferocytosis by coupling oxidative stress buffering to oxidative phosphorylation.** Merlin J*, Ivanov S*, Sergushichev A, Gall J, Stunault M, Ayrault M, Swain A, Orange F, Gallerand A, Gautier EL, Berton T, Martin JC, Carobbio S, Masson J, Gaisler-Salomon I, Maechler P, Rayport S, Sluimer JC, Biessen EAL, Guinamard RR, Thorp EB, Artyomov MN, Yvan-Charvet L. In revision at Nature Metabolism.
7. **Spinal cord macrophage glutaminolysis controls glucose homeostasis by supporting sympathetic tone of thermogenic adipose depots.** Merlin J *, Ivanov S *,Sergushichev A, Ayrault M, Guilleron J, Cormont M, Ohanna M, Vaillant N, Masson J, Gaisler-Salomon I, Rayport S, Re DB, Gautier EL, Guinamard RR, Artyomov MN, Yvan-Charvet L. In preparation.
8. **Adipose Tissue Lipolysis Regulates Monocyte Pool Dynamics in a Circadian Manner.** Stunault MI, Gallerand A, Merlin J, Luehmann HP, Khedher N, Jalil A, Dolfi B, Castiglione A, Ayrault M,Vaillant N, Gilleron J, Mack M, Masson D, Liu Y, Guinamard RR, Yvan-Charvet L, Ivanov S. Submitted to Nature Immunology.
9. **Unravelling the sex-specific diversity and functions of adrenal gland macrophages.** Dolfi B*, Gallerand A*, Firulyova MM, Merlin J, Dumont A, Castiglione A, Khedher N, Vaillant N, Stunault MI, Xu Y, Schrank PR, Kim SH, Ding J, Gilleron j, Magnone V, Barbry P, Dombrowicz D, Wakkach A, Blin-Wakkach C, Becher B, Pagnotta S, Zaitsev K, Kim KW, Yvan-Charvet L, Guinamard R, Williams JW, Ivanov S. Submitted to Journal of Experimental Medicine.

PRESENTATIONS/AWARDS

POSTER PRESENTATIONS :

- Science festival. October 2019. Nice, France
- Nouvelle Société Française d'Athérosclérose (NSFA). June 2019. Biarritz, France
- Journées de l'école doctorale (JEDNs). May 2019. Nice, France
- Nouvelle Société Française d'Athérosclérose (NSFA). June 2018. Biarritz, France
- European Atherosclerosis Society (EAS). May 2018. Lisbonne, Portugal. ePoster

ORAL PRESENTATIONS :

- 3rd Symposium of the Occitanie network on monocytes-macrophages. November 2019. Montpellier, France
- Nouvelle Société Française d'Athérosclérose (NSFA). June 2019. Biarritz, France
- Symposium Inflammation and Disease. April 2018. Nice, France.

AWARDS

- First Prize, SoMM awards 2019. Montpellier, France
- Participating at the best thesis prize – Results in 2021

REFEREES

Dr. Laurent Yvan-Charvet
phD Supervisor

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Laurent.yvan-charvet@univ-cotedazur.fr

Dr. Stoyan Ivanov
phD Supervisor

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Dr. Philippe Gual

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