

Section 29 - Collège B2 – Sabrina Marion

Short CV

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Summary

I joined the Center of Infection and Immunity of Lille (CIIL) in 2013 as Associate Professor / Chaire d'Excellence CNRS starting a new research axis on the intracellular parasite *Toxoplasma gondii*. I became co-team leader of the Cellular and Molecular Biology of Toxoplasma group and integrates the Labex ParaFrap from 2105 to 2018. My research interests always focused on the mechanisms that regulate host-pathogen interactions and more recently, on molecular parasitology. I obtained my PhD at the Pasteur Institute Paris studying the extracellular protozoan *Entamoeba histolytica* in the lab of Nancy Guillen. My PhD work was awarded with the Price "Jeune Chercheur" from the Bettancourt-Schueller foundation. In 2005, I obtained an EU Marie-Curie Fellowship that allowed me to join the lab of Gareth Griffiths at the EMBL Heidelberg (Germany), where I studied the mechanisms of phagosome-lysosome fusion in macrophages in the context of *Mycobacterium* infection. After my return to France, I continued to investigate phagocytosis in human and murine primary macrophages in the lab of Florence Niedergang at the Cochin Institute, Paris (EMBO and FRM fellowships). I discovered that the NF κ B activating protein Bcl10 plays a key role in coupling cytoskeleton dynamics and the induction of an early pro-inflammatory response during the early steps of phagosome formation. Before to be recruited in Lille, I joined the lab of Morgane Bomsel (Institute Cochin, Paris) for one year analyzing the role of macrophage polarization during HIV infection and the establishment of a viral reservoir using an original model of primary tissues from AIDS patients. In my current research in the API-B team, I combine my expertise in cell biology of membrane dynamics, innate immunity and molecular parasitology to investigate host-pathogen interactions during *T. gondii* infection. We notably developed super-resolution microscopy approaches to dissect secretory pathways involved in parasite effector release into host cells. More recently, in collaboration with the lab of S. Janssens (VIB-Ghent), we demonstrated an original role for the UPR sensor IRE1 in the regulation of dendritic cell functions and the establishment of efficient T cell immunity required to control *T. gondii* acute infection. In collaboration with neuroscientists from Lille, Toulouse and the UK, we also develop projects aiming to characterize the impact of latent brain infection and associated chronic neuroinflammation on neuronal functions in normal and pathological conditions (Alzheimer's disease).

Training Responsibilities (since 2013): 6 PhD students, 3 post-doc, 3 engineers /technician (non-permanent) and 8 masters students.

Teaching activities

Regular teaching at the bachelor and Master levels (Immunology and microbiology).

Since 2019: Coordinator of the Master "Infection, Inflammation and Immunity". University of Lille

Award, Grants and Fellowships

2023-2027	ANR Nintendo (Agence Nationale de Recherche), Partner
2023-2026	ANR ImmunUP (Agence Nationale de Recherche), coordinator

2020-2024	PEDR (Prime d'Encadrement doctoral et de Recherche)
2021-2022	Grant « Transdisciplinary Projects », Institut Pasteur de Lille. „Metabolic regulation of the UPR in <i>Toxoplasma</i> infected dendritic cells“. Coordinator.
2020-2021	Grant CPER CTRLR, Région Hauts de France. “Impact of <i>Toxoplasma</i> -triggered neuro-inflammation and modulation of the kynurenine pathway on Tau pathology”, coordinator.
2017-2019	Grant from Réseau des Instituts Pasteur (RIP)> Program Brain and Microbes: “Neuro-Immune mechanisms involved in <i>Plasmodium-Toxoplasma</i> coinfection“, partner.
2015-2018	ANR Grant, Agence National pour la Recherche, “Regulation of <i>Toxoplasma gondii</i> vesicular trafficking“, partner.
2015-2018	Annual allocation, Labex ParaFrap
2013-2018	Chaire d'Excellence, Centre National de la Recherche et de la Santé (CNRS),
2011	EMBO short-term Fellowship, Laboratory of M. Thome, UNIL, Lausanne
2009-2011	Postdoctoral fellowship, Fondation pour la Recherche Médicale, France
2006-2009	Postdoctoral fellowship, EU Marie Curie Fellowship, FP6 program
2005	Prize “Jeune Chercheur” from Fondation Bettancourt-Schuller

Publications

29 Publications (15 PDC)
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