Focus on Faculty # 72
Moulay Alaoui-Jamali

I was born in Marrakech (Morocco), an ancient city located at the foothills of the Atlas mountains at the crossroads of the Atlantic and Mediterranean coastlines and the Sahara. After completing my Bachelor's degree, I moved to the capital Rabat where I pursued an enriching 6-year training in veterinary medicine. This covered diverse pathologies except oncology, which was introduced as incredibly complex with many unresolved questions that piqued our curiosity as students. In those days we appreciated the quote by the poet Rainer Maria Rilke "be patient toward all that is unsolved in your heart and try to love the questions themselves…". This is where my passion and path to become a cancer scientist started.

Soon after completing my DVM in 1981, I was awarded a scholarship by the French Government to pursue training in basic oncology at the "Institut de Recherches Scientifiques sur le Cancer" at Villejuif (1982-86), under the mentorships of Pr. Ivan Chouroulinkov, a renowned pathologist who pioneered the importance of tumor promoters in chemical carcinogenesis, and Pr. George Mathé, an oncologist and founder of the "Institut de Cancérologie et d'Immuno-génétique". My research, related to the discovery of anti-leukemia agents capable of triggering cell death in leukemia models, culminated in the degree "doctorat d'état Es-Sciences pharmacologiques". In 1987, I undertook postdoctoral training at the Cancer Center of the Roswell Park Memorial Institute in Buffalo to work on drug resistance in ovarian cancer, under the mentorship of two renowned oncology scientists, Dr. Youcef Rustum and Dr. Enrico Mihich. In 1990, I relocated to Montreal where I was fortunate to meet and work with a great colleague and friend Dr. Gerald Batist at the Montreal General Hospital, and where I received my first McGill University appointment as an Assistant Professor (1991). Soon after, I moved to the Lady Davis Institute (LDI) of the Jewish General Hospital where I established my team and enjoyed memorable support from a visionary man, Dr. Sam Freedman. I am currently a Full Professor in the Department of Medicine and the Gerald Bronfman Department of Oncology at McGill and a Principal Investigator at the LDI.

My research has focused on the biology of cancer progression and drug resistance. Briefly, the outcome of my past contributions to these fields include: (1) establishing the critical role of cell cytoskeleton signaling in the regulation of focal adhesion dynamics and cancer cell plasticity during the metastatic process; (2) discovery of experimental therapeutics targeting focal adhesion signaling; (3) the implication of global/transcription-coupled DNA repair in intrinsic resistance of NSCLC to platinum; and (4) discovery of the SERTAD3 gene (Gene bank AF192529/AF317202), whose product functions as a transcriptional co-activator. More recently, we expanded our work to unravel the role of centrosome clustering in driving tumour cell heterogeneity and progression.

Over my years as a scientist, I have come to deeply appreciate cancer research as a cornerstone of hope. I witnessed a rapidly evolving field, with the fall and birth of many concepts. I've lost friends and family members to this disease, but grief only strengthened my dream to push the boundaries of my work with the hope of translating relevant aspects of our research into clinical intervention. Last, I recognize that my career path could not be possible without the incredible support of my family including my children and grandchildren, who are an extremely important part in every step of my life.

Representative publications from past research I enjoyed most, including relevant active collaborations:

Chia-Hao Chang, Krikor Bijian, Dominik Wernic, Jie Su, Sabrina Daniela da Silva, Henry Yu, Dinghong Qiu, Mariana Asslan, **Moulay A Alaoui-Jamali**. A novel orally available seleno-purine molecule suppresses triple-negative breast cancer cell proliferation and progression to metastasis by inducing cytostatic autophagy. Autophagy, 2019 Aug;15(8):1376-1390.

Carnielli CM et al. Combining discovery and targeted proteomics reveals a prognostic signature in oral cancer. Nature Commun**.** 2018 Sep 5;9(1):3598.

Li L et al. Ubiquitin ligase RNF8 suppresses Notch signaling to regulate mammary development and tumorigenesis. J. Clin. Invest. 2018 Oct 1;128(10):4525-4542.

Yingjie Xu 1, Tarek A Bismar, Jie Su, Bin Xu, Glen Kristiansen, Zsuzsanna Varga, Lianghong Teng, Donald E Ingber, Akiko Mammoto, Rakesh Kumar, **Moulay A Alaoui-Jamali**. Filamin A regulates focal adhesion disassembly and suppresses breast cancer cell migration and invasion. J. Exp. Med. 2010 Oct 25;207(11):2421-37.

Moulay A Alaoui-Jamali, Daniel J Song, Naciba Benlimame, Lily Yen, Xiaoming Deng, Maite Hernandez-Perez, Taiqi Wang. Regulation of multiple tumor microenvironment markers by overexpression of single or paired combinations of ErbB receptors. Cancer Res. 2003 Jul 1;63(13):3764-74.