Methods in mammary gland biology and breast cancer (11th ENBDC workshop)
Conference report from Igor Tokarchuk

This report summarizes the experience of the high-level international conference Methods in mammary gland biology and breast cancer, convened by the European Network of Breast Development and Cancer Labs (ENBDC) in Weggis, Switzerland on May 16-18, 2019.

The conference was opened by Zuzana Koledova, ENBDC Chair from Masaryk University (Brno, Czech Republic), who welcomed over 90 participants from Europe and Australia.

The objectives of the conference were: 1) To provide a platform for discussion about the mammary gland biology, especially premalignant disease progression as well as advanced breast cancer mechanisms. 2) To foster interactions between labs working on mammary gland development and cancer worldwide.

The programme covered quite a diverse range of interests, such as high-resolution genomics/proteomics, breast cancer signalling, preclinical models and mammary gland morphogenesis.

Delphine Merino (Australia) in her talk “Genetic and optical barcoding to follow tumour and metastasis heterogeneity” disclosed a clonal approach as an analogy to Darwin’s approach. She hypothesized that the primary malignant tumours grow as a clonal mosaic and presumably, particular clones have tropism to certain organs. Their lab divided all clones on shedders and seeders. Therefore, the “take-home message” is: This is not about HOW MANY cells do we kill, but WHAT kind of cells.

Besides, a couple of great talks showed the role of microenvironment (e.g. cancer-associated fibroblasts) in breast cancer development, confirming that CAF’s stiffness rate can directly influence the drug delivery efficiency in mouse models. Promising markers for CAFs identification have been shown as well. I was particularly interested in this part since one of my new projects is on the intersection of CAFs and autophagy modulation in breast cancer progression.

During the poster session, I had a chance to present my research project “Reversing EMT in breast cancer by retinoic acid and autophagy modulation”. During 1 hour, together with experts from the field and students, we were discussing the achievement and pitfalls, resulting in valuable suggestions for my future project planning.

Overall, 11th ENBDC workshop united a great scientific community in the field of breast cancer development and I very much appreciate the contribution of LS2 into my PhD progress.