

NVVI travel report, November 2017

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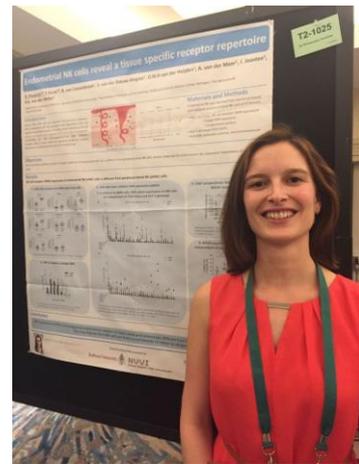
Keystone Symposium: Maternal-Fetal Crosstalk: Harmony vs. Conflict (T2)
Washington DC, USA, 4-8 October 2017

In October 2017, I attended the Keystone symposium on Maternal-Fetal crosstalk: Harmony vs. Conflict in Washington DC, which was made possible by the support from the Dutch Society of Immunology and the Radboud University. The conference brought together investigators from different disciplines, who all investigate maternal and fetal factors that shape pregnancy outcome.

The conference started with a joint session together with the Grand Challenges symposium. The topic of this joint session were initiatives and innovations that are supported by the Bill & Melinda Gates foundation, USAID and NICHD grants that try to solve global health and development problems. For instance, they supported the development of a mobile hospital that could easily be assembled in regions where urgent medical supplies are needed like during the Ebola crisis. During this joint session we even saw Bill Gates himself and the United States Secretary of State give a keynote lecture!

During the Keystone symposium there were a lot of interesting sessions and presentations. Margherita Turco (University of Cambridge, UK) developed organoids from human endometrium and placenta. This *in vitro* model allows for better studying of the molecular mechanisms regulating placental development in response to maternal cues. Moriya Gamliel (Hebrew University, Israel) found NK cells in the endometrium that show a memory phenotype, suggesting that uterine NK cells can remember previous pregnancies and might support subsequent encounters with a developing fetus. I found this particularly interesting since I am also studying endometrial NK cells. After some nice discussions with Moriya about what we see in our samples, we decided to have a meeting soon to discuss our research projects in more depth and to see if there are possibilities to collaborate. In addition, I was fascinated by the talks on microchimerisms. Bidirectional trafficking of cells between mother and fetus occurs during pregnancy and are retained long-term in both individuals. Cells of fetal origin found in the mother are thought to play a role in establishing tolerance towards the fetus and in improving outcomes of future pregnancies. Also maternal microchimerisms, containing non-inherited maternal antigens (NIMA), end up in the fetal circulation where they are able to induce NIMA-specific regulatory T cells. I think there is much to explore on this topic. Will these microchimerism play a role in the development of the neonatal immune system? Or should they be taken into consideration when looking for a suitable organ donor? We also had the chance to talk and go out for dinner with Sing Sing Way (Cincinnati Children's Hospital, USA), one of the presenters on microchimerisms, and his PostDoc. We invited Sing Sing to give a lecture at the Radboudumc in March 2018 during one of the Radboud Research Rounds. It was really nice to already meet him and have a discussion in an informal setting.

I had the opportunity to present my own work during a poster presentation. Every night after dinner, there was a poster session. Although this was sometimes a bit exhausting after a long day of presentations, the poster sessions were very well organized. There was a lot of interaction and you had the chance to discuss your work with senior investigators in an informal setting. I was excited that I could grasp the attention of Ashley Moffett, to my opinion THE researcher in the field of uterine NK cells, and ask her what she thought about my research and results. Although critical, she was very enthusiastic and positive about it which made me very happy!



Lastly, even though the conference started every day at 8h30 and ended at 22h00, there was some free time in the afternoon to explore the city. We visited the monuments of the National Mall and some museums, who all have free entrance by the way! Since we were in Washington, we also had to visit the white house.

Altogether, I really enjoyed attending this symposium as a lot of the presentations and discussions gave me new insights, inspiration, and ideas to explore and potentially incorporate in my own research. In addition, it broadened my network which will be beneficial not only for new research collaborations but also my future career. Therefore, I would like to thank the Dutch Society of Immunology for the financial support they gave me that allowed me to participate in this conference.