PRESS RELEASE

Natalia Soshnikova from IMB Mainz accepted into the DFG's Heisenberg Programme

21 Nov 2018. *Dr Natalia Soshnikova, Group Leader at the Institute of Molecular Biology (IMB) in Mainz, has been accepted into the prestigious Heisenberg Programme from the German Research Foundation (DFG) to further pursue her research on gut development. Admission into this programme is granted to outstanding scientists to enable them to prepare for a senior academic position while continuing their research work.*

At first glance, the gut appears to be a simple organ consisting of only a long tube surrounded by a few cell types wrapped in muscle. Yet, just how complex this organ is, has slowly been realised over the last two decades. This complexity is underscored by the intricacy of its formation during development and its connection with the health of the whole body. When moving to the Institute of Molecular Biology (IMB) in 2012 to establish her own research group, Dr Natalia Soshnikova worked to unravel the mechanisms behind how different cells in the gut arise from their embryonic forbearers. "Moving to IMB I had a chance to start something totally new", says Dr Soshnikova. "I was interested in the specification of intestinal stem cells during development. In my time at IMB, I have been able to uncover factors that control the timing and specification of these cells in the embryonic gut." Her research, which was published, for example, in the journals *Nucleic Acids Research* and *The EMBO Journal* in 2017, encouraged her to apply for the Heisenberg Programme, to which she was accepted in November 2018. Now, she says, "I'm eager to tackle the next challenge."

As Dr Soshnikova explains, "Following my work on intestinal stem cells I am curious to explore their relationship to cancer. The intestinal epithelium is one of the most highly regenerative tissues in the body. Due to this regenerative capacity, it is very prone to neoplasia and cancer. Within the Heisenberg Programme, I will examine the development of embryonic intestinal stem cells into adult intestinal stem cells and whether some of these cells are more likely to become cancer forming later in life."

Dr Soshnikova will carry out this work at the Institute for Molecular Medicine at the University Medical Center (UMC), Mainz, which is led by Prof. Ari Waisman. Dr Soshnikova elaborates, "The gut is a complex organ and we have only studied the epithelium so far. Our long-term plan is to understand how the organ is maintained as a whole. How both neurons and immune cells inside of the intestine maintain and talk to the epithelium is an area of developing research. In perusing this, it will be very important to have colleagues who are experts in these areas and the Institute for Molecular Medicine at UMC provides exactly that."

Further details

Natalia Soshnikova is a Group Leader at IMB Mainz. Further information about research can be found at www.imb.de/soshnikova. Dr Soshnikova performed her doctoral studies in the lab of Prof. Walter Birchmeier at the Max Delbrück Center for Molecular Medicine in Berlin and was awarded her PhD from the Humboldt University of Berlin in 2004. During her PhD she studied how Wnt and Bmp signalling function to direct limb development. This was followed by a postdoctoral position at the University of Geneva in the group of Prof. Denis Duboule, which was supported by the award of an EMBO long-term fellowship. Here, she determined how chromatin marks regulate Hox gene expression and the co-linear activation of Hox genes during development. In 2011, she moved to IMB in Mainz as a group leader where she spent seven years working on the specification of intestinal stem cells during embryogenesis.

The Heisenberg Programme is committed to the promotion of young, highly-qualified and outstanding researchers on track for full professorships in Germany. It is one of the most renowned funding schemes of the German Research Foundation (DFG). It is named after Werner Heisenberg who was appointed professor at the age of only 26 and was awarded the Nobel Prize in physics at 32. The fellowship supports the recipient scientists for three years and can be extended by another two years.

About the Institute of Molecular Biology gGmbH

About the Institute of Molecular Biology gGmbH The Institute of Molecular Biology gGmbH (IMB) is a centre of excellence in the life sciences that was established in 2011 on the campus of Johannes Gutenberg University Mainz (JGU). Research at IMB focuses on three cutting-edge areas: epigenetics, developmental biology, and genome stability. The Institute is a prime example of successful collaboration between a private foundation and government: The Boehringer Ingelheim Foundation has committed 154 million euros to be disbursed from 2009 until 2027 to cover the operating costs of research at IMB. The State of Rhineland-Palatinate has provided approximately 50 million euros for the construction of a state-of-the-art building and will give further 52 million in core funding from 2020 until 2027. For more information about IMB, please visit: www.imb.de.

Boehringer Ingelheim Foundation

The Boehringer Ingelheim Foundation is an independent, non-profit organization committed to the promotion of the medical, biological, chemical, and pharmaceutical sciences. It was established in 1977 by Hubertus Liebrecht (1931–1991), a member of the shareholder family of the company Boehringer Ingelheim. With the Perspectives Programme “Plus 3” and the Exploration Grants, the foundation supports independent junior group leaders. It also endows the internationally renowned Heinrich Wieland Prize as well as awards for up-and-coming scientists. In addition, the Foundation is donating a total of 154 million euros from 2009 to 2027 to the University of Mainz for the Institute of Molecular Biology (IMB). Since 2013, the Foundation has been providing a further 50 million euros for the development of the life sciences at the University of Mainz.

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