

Brian Luke awarded a Heisenberg Professorship

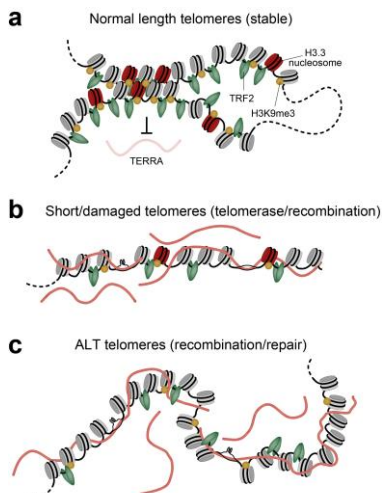
13 February 2017, Mainz, Germany. *Brian Luke, a Group Leader at the Institute of Molecular Biology (IMB) in Mainz, has been awarded a prestigious Heisenberg Professorship from the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation). Brian Luke is now jointly appointed as Professor at Johannes Gutenberg University Mainz (JGU) and Adjunct Director at the Institute of Molecular Biology (IMB), where he will continue to investigate the structure and function of telomeres.*

Telomeres are protective caps found at the ends of linear chromosomes. Free DNA ends are normally recognised by the cell as being broken and trigger a DNA damage response, which stops the cell from dividing and propagating the damage to other cells. At the natural ends of chromosomes, however, telomeres protect the DNA ends from such a response. Problems with telomere function can result in tissue loss due to increased rates of cellular senescence, as well as chromosomal abnormalities associated with ageing. Moreover, cancer cells acquire means to lengthen their telomeres, which allows them to achieve immortality.



The Heisenberg Professorship will support Dr Luke's research into multiple aspects of telomere structure and function. His lab will explore the role of a recently-discovered non-coding telomere repeat containing RNA (TERRA), which is transcribed from telomeres and is important for telomere function. Additionally, the Luke group will investigate telomere looping, which is understood to play a role in protecting chromosome ends from degradation. This research will provide valuable insights into how the structure of telomeres is linked to their function both during ageing and in cancer cells.

Brian Luke completed his PhD in Biochemistry at ETH Zurich in 2005 and went on to a postdoc at the École Polytechnique Fédérale de Lausanne (EPFL), where he played a crucial role in the discovery of the non-coding RNA TERRA, which remains one of his main research foci. He established his first independent research group at the Centre for Molecular Biology at the University of Heidelberg (ZMBH), during which time he was elected as an EMBO Young Investigator and received a Chica and Heinz Schaller Award. Luke moved with his group to IMB in 2015.



This model from the Luke lab depicts how TERRA functions at telomeres. When telomeres are short, TERRA likely establishes a local heterochromatin state and may promote telomere looping (a). At shortened telomeres (b) and when telomeres are recombining (like in some cancer cells) (c), TERRA levels increase, which promotes telomere lengthening (Rippe and Luke, 2015).

Further details

Further information about research in the Luke group can be found at www.imb.de/luke.

Further information about the **Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)** can be found here: www.dfg.de/en.

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 concentrates on three cutting-edge areas: epigenetics, developmental biology, and genome stability. The institute is a prime example of a successful collaboration between public authorities and a private foundation. The Boehringer Ingelheim Foundation has dedicated 100 million euros for a period of ten years to cover the operating costs for research at IMB, while the state of Rhineland-Palatinate provided approximately 50 million euros for the construction of a state-of-the-art building. For more information about IMB, please visit: www.imb.de.

About the Boehringer Ingelheim Foundation

The Boehringer Ingelheim Foundation is an independent, non-profit organisation 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 PLUS 3 Perspectives Programme and the Exploration Grants, the foundation supports independent group leaders. It also endows the internationally renowned Heinrich Wieland Prize as well as awards for up-and-coming scientists. In addition, the foundation pledged to donate 100 million euros to finance the scientific running of the IMB at Johannes Gutenberg University Mainz for ten years. In 2013, the Boehringer Ingelheim Foundation donated a further 50 million euros to Johannes Gutenberg University Mainz. www.boehringer-ingelheim-stiftung.de.

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