

Dr. Bijlenga obtained a degree in medicine, medical biology and then a doctorate in science and medicine (MD-PhD) from the Faculty of Medicine and Science of the University of Geneva in 1995, 1997 and 2000 respectively and went for a fellowship in vascular neurosurgery in Cambridge with Prof Peter Kirkpatrick and Marek Czosnyka in 2006-2007.

In his career in neurosurgery and biomedical research, Philippe Bijlenga has been deeply committed to exploring complex neurological conditions and improving patient outcomes.

His work on the mechanism of myoblast fusion, highlighted in PNAS (2000) aims to advance our understanding of muscle development and regeneration, potentially informing treatments for muscular dystrophy.

Another area of his research, detailed in the Journal of Biological Chemistry (1998), Molecular Pharmacology (2005) and Biochemistry (2011) investigates mitochondrial function and neuron adaptation to hypoxia. The studies are crucial for understanding responses to ischemic strokes and other cerebral pathologies, paving the way for effective treatments.

His extensive work on intracranial aneurysms, as published in Nature Genetics (2010 & 2020), Lancet Neurology (2015) and Stroke (2011,2017,2018,2021), covers genetic mechanisms, epidemiology, and patient management. This comprehensive approach aims to enhance clinical practices and patient care.

Furthermore, he is fundamentally interested in effects of cognitive bias on medical research. He is passionate about using the latest advances in digitalization and data processing to mitigate these biases, thereby refining research methodologies and clinical decision-making as reported in Computers in Biology and Medicine (2022).

The development of digital tools for surgical assistance, a project he is been deeply involved in, is reviewed in a book chapter in the Youman's and Winn exemplifies his dedication to integrating technology and medicine to advance the field.

Overall, his research endeavours are driven by a desire to understand complex biological processes and mitigate cognitive biases in medical research, utilizing technological advancements to translate these findings into effective clinical applications.