Innovation in Breast Cancer

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Jorge S. Reis-Filho, MD PhD FRCPath, holds a joint medical degree from University of Porto, Portugal, and Universidade Federal do Parana, Brazil. After finishing his histopathology training at the Institute of Molecular Pathology and Immunology, University of Porto, Portugal, he did his PhD on breast cancer molecular pathology at the Breakthrough Research Centre where he was appointed Team Leader of the Molecular Pathology Laboratory in 2006. In 2007, Dr Reis-Filho was awarded the CL Oakley Lectureship by the Pathological Society of Great Britain and Ireland and the BACR Translational Research Award. In 2010, Dr Reis-Filho was awarded the 2010 Ramzi Cotran Young Investigator Award by the United States and Canadian Academy of Pathology and the Future Leaders Prize by Cancer Research UK. Dr Reis-Filho is the youngest ever Fellow of The Royal College of Pathologists to have become a member by published works. In 2012, Professor Reis-Filho took the position of Member at the Department of Pathology and Affiliate Member of the Human Oncology and Pathogenesis Program at Memorial Sloan Kettering Cancer Center in New York, USA, and in 2016, he was appointed Chief of Experimental Pathology and Director of the Experimental Pathology Fellowship Program. Dr. Reis-Filho has published over 465 peer reviewed articles, is an associate editor of the Journal of the National Cancer Institute and Breast Cancer, an international advisor for Lancet Oncology, and a member of the editorial board of Genome Biology.

Dr. Reis-Filho's research interests are in the development of a predictive breast cancer classification system based on the oncogenic drivers of special histologic types of breast and salivary gland cancers, and in the understanding of the causes and impact of intra-tumor genetic heterogeneity in cancers. His group has approached these aims using a combination of traditional pathology approaches with high-throughput genomics methods. He has led projects that resulted in the development of novel single cell sequencing methods that can be applied to formalin-fixed paraffin-embedded samples, and has employed these methods to investigate the impact of intra-tumor genetic heterogeneity in the progression from in situ to invasive breast cancer. His team is also exploring circulating cell-free plasma DNA and cell-free cerebrospinal fluid DNA sequencing approaches as biomarkers for disease monitoring and as a means to combat the challenges posed by intra-tumor genetic heterogeneity.