



NEWS RELEASE

## Bruker and Champalimaud Foundation Announce Collaboration to Develop Novel Ultra-High Field 18 Tesla Preclinical MRI System and Applications

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World's highest field preclinical MRI will be used for oncology and neuroscience research  
MONTREAL, May 13, 2019 /PRNewswire/ -- At the Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Bruker today announced an agreement to develop the world's first 18 Tesla 11 cm bore, preclinical ultra-high field (UHF) magnetic resonance imaging (MRI) system and its clinical research applications in collaboration with the Champalimaud Foundation. This novel and unique system is expected to enable Champalimaud researchers to advance translational cancer and neuroscience research with UHF MRI and magnetic resonance spectroscopic imaging.

The 18T MRI is expected to be installed in late 2021 in the Neuroplasticity and Neural Activity laboratory under Dr. Noam Shemesh, with the goal to develop novel contrast mechanisms in MRI and spectroscopic imaging. The Champalimaud Foundation focuses its research on neuroscience and oncology, and the 18T system will advance the Foundation's in vivo research into cancer, metastasis and pre-metastatic niches (PMNs) in multiple cancer models. It will also advance research into brain plasticity and activity in normal and neurodegenerative disease models.

The ultimate goal of the Champalimaud Foundation is to improve clinical outcomes. The preclinical 18T MRI will facilitate the discovery of new spatially-resolved contrast mechanisms for elucidating biological function, and it will enhance temporal resolution to access additional information on brain dynamics.

Dr. Noam Shemesh, Principal Investigator at the Champalimaud Foundation, stated: "We are very excited to explore the full potential of the 18T MRI system, and to advance our understanding of biological mechanisms underlying

healthy and diseased conditions. We intend to harness the 18T ultra-high field and enhanced sensitivity to facilitate investigations into microstructure and metabolism dynamics in the brain, as well as in cancer, highlighting MRI as a tool for answering fundamental questions in biology, and not 'just' as a powerful diagnostic tool. We have a well-established, long-lasting collaboration with Bruker, and we are fully confident in the new science that will emerge from this project."

Dr. Wulf-Ingo Jung, President of Bruker's Preclinical Imaging division, added: "We are extremely pleased to partner with the Champalimaud Foundation to collaborate on unique, enabling research tools to advance scientific research in both neuroscience and oncology. This exciting UHF MRI partnership will be a demonstration of what can be achieved in collaboration with a leading medical research institution."

## About Champalimaud Foundation (Fundação Champalimaud)

The Champalimaud Foundation in Lisbon, Portugal, is a leader and promoter of knowledge, working to develop innovative projects and find solutions to the pressing health problems around the globe. Professor Noam Shemesh's future research using the 18 Tesla system hopes to answer existing biological questions, such as the exploration of early biomarkers for cancer, whilst creating profound new questions for the future.

For more information: <https://m.fchampalimaud.org/en/champalimaud-research/>

## About Bruker Corporation (Nasdaq: BRKR)

Bruker is enabling scientists to make breakthrough discoveries and develop new applications that improve the quality of human life. Bruker's high-performance scientific instruments and high-value analytical and diagnostic solutions enable scientists to explore life and materials at molecular, cellular and microscopic levels. In close cooperation with our customers, Bruker is enabling innovation, improved productivity and customer success in life science molecular research, in applied and pharma applications, in microscopy and nanoanalysis, and in industrial applications, as well as in cell biology, preclinical imaging, clinical phenomics and proteomics research and clinical microbiology.

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