



NEWS RELEASE

Successful Installation of World's First 1.2 GHz NMR System Enables Novel Functional Structural Biology Research

5/4/2020

CERM of University of Florence, Italy Accepts Bruker 1.2 GHz NMR System

BILLERICA, Mass.--(BUSINESS WIRE)-- Bruker Corporation (Nasdaq: BRKR) today announced the successful installation and customer acceptance of the world's first **Avance™ NEO1.2 GHz** NMR system at the CERM (www.cerm.unifi.it) of the University of Florence. CERM is an Italian center of the European research infrastructure in structural biology, called Instruct-ERIC.

This press release features multimedia. View the full release here:

<https://www.businesswire.com/news/home/20200504005189/en/>

Acceptance of 1.2 GHz NMR at CERM, U. of Florence: Professor Lucia Banci and Bruker engineer Joerg Tischler (Photo: Business Wire)

Thanks to the tireless efforts and support by our customers and partners at CERM, as well as by our field service engineers, Bruker was able to carry out this first ultra-high field NMR 1.2 GHz installation while adhering to

COVID-19 safety guidelines. Following the acceptance of the world's first 1.1 GHz NMR at the St. Jude Children's Research Hospital (www.stjude.org) in late 2019, this achievement marks the second successful customer installation of a Bruker GHz-class NMR system with a novel HTS/LTS hybrid magnet design (explained below).

This new 1.2 GHz NMR system will enable CERM to perform novel research in functional structural biology of proteins and protein complexes. The CERM research focuses on the structures, dynamics and functions of important globular proteins, membrane proteins and protein complexes. Ultra-high field (UHF) NMR is unique in its capabilities to study "difficult" protein systems and biological questions. These include the high-resolution structural



and dynamic characterization of proteins, and their interactions in human living cells near physiological conditions. GHz-class NMR also enables improved research on intrinsically disordered proteins (IDPs) that make up 30%-50% of the human proteome. IDPs are implicated in many instances of disease biology.

Professors Lucia Banci and Claudio Luchinat at the CERM of University of Florence, stated: "We are thrilled to have the world's first 1.2 GHz NMR spectrometer successfully installed in our lab. We are looking forward to putting the instrument to use in our research on the structures and function of proteins linked to neurodegenerative diseases, such as Alzheimer's and Parkinson's Diseases, as well as in cancer and viral protein structure and functional research. Right now, we are actively working on SARS-CoV-2 proteins, and we will soon record the first 1.2 GHz NMR spectra of a protein from this coronavirus!"

Dr. Falko Busse, Bruker BioSpin's Group President, stated: "I am deeply grateful to our customers for their support and flexibility during the installation phase, and we look forward to their enabling research in functional structural biology and IDPs at 1.2 GHz. We are very excited that the installation of the world's first 1.2 GHz NMR spectrometer in Florence was successful and look forward to moving to the next phase of our UHF NMR program with additional customer deliveries."

Bruker's unique 1.1 and 1.2 GHz NMR magnets utilize a novel hybrid technology with advanced high-temperature superconductors (HTS) in the inner sections, and low-temperature metallic superconductors (LTS) in the outer sections. The **Ascend™** 1.1 and 1.2 GHz magnets are stable, homogenous, standard-bore (54 mm) magnets that meet the requirements of high-resolution and solid-state NMR. Bruker's **Avance™ NEO** 1.1 and 1.2 GHz spectrometers offer different ultra-high field CryoProbes™ for solution-state NMR and fast-spinning MAS biological solid-state probes.

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. For more information, please visit: www.bruker.com.

View source version on [businesswire.com](https://www.businesswire.com/news/home/20200504005189/en/): <https://www.businesswire.com/news/home/20200504005189/en/>

Investor Contact:

Investor Contact:

Miroslava Minkova

Director, Investor Relations & Corporate Development

T: +1 (978) 663-3660 x1479

E: **Investor.Relations@bruker.com**

Customer and Media Contact:

Thorsten Thiel, Ph.D.

VP of Group Marketing

Bruker BioSpin

T: +49 (721) 5161-6500

E: **thorsten.thiel@bruker.com**

Source: Bruker Corporation