

SEMINARIO

“Exploring the Versatility of MR Spectroscopy from Earth-Field Portables to High-Resolution Superconductors”

Dr. Luiz Colnago

Investigador Senior

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Fecha : Martes, 9 de junio de 2026

Hora : 2:00 p.m.

Aula : Q-102 (Sección Química)



Dr. Luiz Alberto Colnago is a Senior Researcher at Embrapa Instrumentation (Brazil), specializing in Nuclear Magnetic Resonance (NMR) spectroscopy. He holds a PhD in Chemistry from the Military Institute of Engineering (IME) and completed a postdoctoral fellowship at the University of Pennsylvania (United States). With extensive expertise in biophysics and biochemistry, his research spans metabolomic analysis, biofuels, and the development of edible food coatings and controlled-release systems.

In this plenary, Dr. Colnago will address Nuclear Magnetic Resonance (NMR) as the most powerful spectroscopic technique available, boasting applications across all types of materials, including gases, liquids, solutions, solids, and biological systems, as well as non-invasive applications in medical diagnostics. Dr. Colnago's presentation will cover the applications of three distinct classes of NMR instrumentation: first, bulky instruments based on superconducting magnets used for high-resolution spectroscopy of solids and liquids, as well as medical applications; second, benchtop instruments based on permanent magnets, which have been utilized in industrial quality control and assurance for over 70 years; and finally, portable NMR instruments designed for both laboratory ("palm NMR") and field applications. To conclude, the session will present selected applications across a wide range of disciplines, including medicine, biology, biochemistry, molecular biology, and chemistry, as well as agriculture, food science, petroleum, petrochemicals, biofuels, pharmaceuticals, and polymers.