DEPARTAMENTO DE **CIENCIAS**
*Sección **QUÍMICA***
Grupo de investigación en
MODIFICACIÓN DE MATERIALES

SEMINARIO

"Small Magnets, Big Impact: How Time Domain NMR is Reshaping Modern Technology"

Dr. Luiz Colnago
Investigador Senior
EMBRAPA Instrumentation, Brasil

Fecha : Jueves, 11 de junio de 2026
Hora : 12:00 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 (USA). 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 Time-Domain Nuclear Magnetic Resonance (TD-NMR) spectroscopy. This analytical method, based on the intensity of the FID or spin echo signals, have been successful used in industrial quality control (QC) and quality assurance (QA). They have been certified by international agencies such as ISO, IUPAC, ASTM, and AOCS. Currently, new applications are based on the measurements of longitudinal (T_1) or transverse (T_2) relaxation times, diffusion measurements, spin-spin spectroscopy and the use of solid echoes and multidimensional pulse sequences. The presentation will cover applications of these sequences in agriculture, food science, petroleum and petrochemicals, biofuels, pharmaceuticals, polymers, and the monitoring of chemical and electrochemical reactions in operando.

PROYECTO: DEVELANDO LA REOLOGÍA DE LA GOMA XANTANA RETICULADA EN SOLUCIÓN POR ESPECTROSCOPÍA DE RMN EN ALTA RESOLUCIÓN Y EN EL DOMINIO DEL TIEMPO
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