

Dipartimento di Medicina e Chirurgia

DOTTORATO DI RICERCA IN TECNOLOGIE INNOVATIVE NELLE SCIENZE BIOMEDICHE – XL CICLO

Anno accademico 2024-2025

SEMINARIO SCIENTIFICO

Prion diseases and innovative diagnostic approaches

15 Maggio, 2025

Relatori: Ignazio Cali (PhD), Brian S. Appleby (MD), Rodrigo Morales (PhD)



Aula 302

Polo Scientifico e Tecnologico, Plesso M
C.da Santa Panasia, Enna



<https://meet.google.com/uej-ihwq-qtt>

Ignazio Cali, PhD

Associate Professor, Faculty of Medicine and Surgery, “Kore” University of Enna; Associate Director of the National Prion Disease Surveillance Center (NPDPSC)

- Ore 14:30: *Human prion diseases: molecular and histopathological features*

Brian Appleby, MD

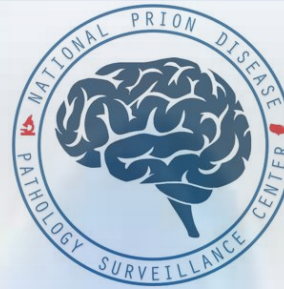
Professor, Departments of Neurology, Psychiatry and Pathology, Case Western Reserve University, and Director of the NPDPSC

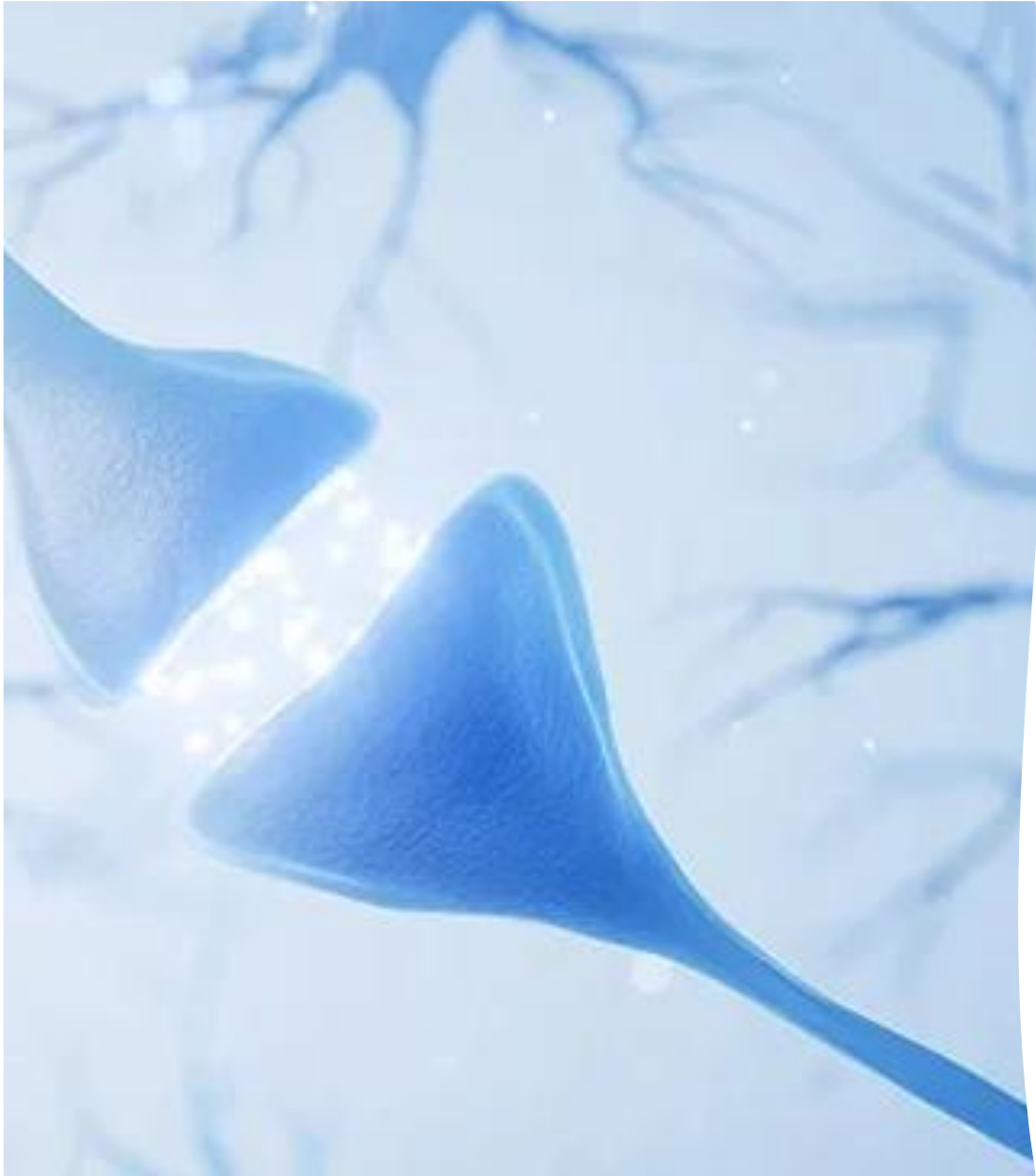
- Ore 15:30: *Clinical features and innovative approaches in the diagnosis of human prion diseases*

Rodrigo Morales, PhD

Professor, Department of Neurology, The University of Texas Health Science Center, USA; Centro Integrativo de Biología y Química Aplicada (CIBQA), Universidad Bernardo O'Higgins, Santiago, Chile

- Ore 16:30: *A highly sensitive assay for the detection of the pathogenic prion protein in environmental and biological samples*





Abstract: Prion diseases or transmissible spongiform encephalopathies have received the attention of media after bovine spongiform encephalopathy (BSE), commonly known as “mad cow disease”, was first diagnosed in the United Kingdom in the mid 80’s. Ten years later, the human form of “mad cow disease”, linked to the consumption of BSE-infected beef, was identified, leading to an even greater attention worldwide. Furthermore, the zoonotic potential of chronic wasting disease (CWD), a prion disease of cervids, is still unclear and under investigation. The protein responsible for these rapid neurodegenerative diseases, the pathogenic or scrapie prion protein (PrP^{Sc}), is an unconventional infectious agent. Like Dr. Jekyll and Mr. Hyde, the physiological prion protein “leaves” its normal physiological conformation to take on a pathological one. More recently, the coexistence of two or more pathogenic proteins within an individual has gained attention as disease comorbidity seems to represent the rule rather than the exception. In this seminar, speakers will discuss phenotypic and molecular aspects of prion diseases, including innovative approaches for the detection of the pathogenic prion protein.