# 12th O.U.R. Fall Conference

## PLENARY SPEAKER

## Dr. Humberto Hernandez

**Associate Professor of Biology**
**Director of Biology and Chemistry**
**College of Natural and Applied Sciences (CNAS)**
**College of Education and Health Professions (CEHP)**
**Vice-President of the Faculty Assembly/Advisory Council**
**Texas A&M University - Victoria**

**Live Oak Ballroom, Setzer Student Center**
**9:15 to 10:00 AM - November 14, 2025**

## SHORT BIOGRAPHY

Dr. Humberto Hernandez joined Texas A&M–Victoria in September 2019, where he serves as the Director of Biology and Chemistry, as well as Biosafety Coordinator for the College of Natural and Applied Sciences. He teaches in the Biology Undergraduate Program, the Biomedical Sciences Graduate Program, and the College of Education and Health Professions. His research focuses on the role of aging, the microbiome, inflammation, and fibrosis in the development of ocular diseases such as Dry Eye, Keratoconus, and Primary Open-Angle Glaucoma. Using in-vitro cell culture models, his lab seeks to uncover molecular mechanisms and develop therapeutic targets for these conditions. His work has been funded by the NIH, the National Eye Institute, and internal Texas A&M–Victoria grants. Former students from Dr. Hernandez's lab are now pursuing Doctoral and Medical degrees, teaching in local schools and colleges, and working in biotechnology and related industries. He actively mentors students who want to engage in impactful biomedical research.

## LECTURE: A JOURNEY THOUGH OCULAR RESEARCH AND RESILIENCE

Dr. Humberto Hernandez is a proud Lamar University Cardinal (B.S. in Biology, 2012), where his early research on plant hybridization and pathogen–host interactions sparked a lifelong fascination with the unseen world. He went on to earn his Ph.D. at the University of North Texas Health Science Center, where he was the first to demonstrate that conditional gene knockout in the eye could produce an ocular phenotype through gene therapy. He later completed a postdoctoral fellowship at Baylor College of Medicine, focusing on the ocular surface and aging.

Today, Dr. Hernandez blends his research expertise with his passion for teaching and mentoring, exploring the mechanisms of disease using cell culture models. In his presentation, he will share how his personal experience with an ocular condition inspired his scientific journey. As a first-generation college graduate, Dr. Hernandez will reflect on the challenges and rewards of his academic path, encouraging students to pursue their passions and reminding them that with perseverance and purpose, every dream is possible.

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