SHORT BIO:

Isaura Soto Ayala is a Bionic Engineer graduated from Universidad Popular Autónoma del Estado de Puebla (UPAEP) and holds a Master of Science in Mechanical Engineering from Instituto Politécnico Nacional (IPN). Her expertise lies in computational biomechanics and numerical simulation using the Finite Element Method (FEA), applied to musculoskeletal systems and patient-specific medical devices. She has collaborated with the Instituto Nacional de Rehabilitación (INR), where she developed advanced computational models of the shoulder complex, unconventional tumor prostheses, and structural analyses associated with osteoporotic conditions. Additionally, she contributed to Computational Fluid Dynamics (CFD) studies of the respiratory system, integrating multiphysics approaches for biomedical applications.

She is actively involved in the development of customized prosthetic solutions at Proasthetics, leading engineering-driven strategies that integrate biomechanical analysis, additive manufacturing, and functional validation. In parallel, she has professional experience in the automotive industry within engineering development environments, contributing to the design, validation, and optimization of high-performance mechanical systems.

She serves as a faculty member at Universidad Iberoamericana Puebla, Universidad Popular Autónoma del Estado de Puebla (UPAEP) and Universidad Anáhuac Puebla, where she teaches advanced courses in Bionic, Biomedical and Mechatronics Engineering.

Her professional and academic work bridges computational engineering, translational biomechanics, and technological innovation, with a strong focus on applied research and real-world implementation.

Currently, she serves as Coordinator of the Biomedical Engineering undergraduate program at Universidad Iberoamericana Puebla, where she continues to promote interdisciplinary education, research, and innovation in rehabilitation engineering.