

Welcome to KFUPM

Dr. Isabella Francis

Assistant Professor

Department of Mechanical Engineering

Affiliated with Interdisciplinary Research Center for Biosystems & Machines



Education:

Ph.D. in Mechanical and Mechatronic Engineering from University of Technology Sydney, Australia, 2024

Previous Organization:

AVESTA Consulting, Sydney, Australia; Engineering Consultant; (2024–2026)

Research Profile (SCOPUS):

Total Citations: **298**

Total Journal Publications: **11**

H-index: **9**

Professional Interests:

Computational Fluid Dynamics, Fluid-Structure Interaction, Multiphase Flow, Lung-on-a-Chip Systems, Finite Element Analysis, Heat Transfer

About Dr. Francis:

Dr. Francis brings expertise in thermal sciences, solid mechanics, and computational engineering, supported by academic and industry experience. Her research expertise in thermo-fluids, fluid–structure interaction, and optimization is highly transferable to nuclear energy and thermal-hydraulic systems. As an engineering consultant in Sydney, she has applied structural and thermal analysis, including FEA, buckling, fatigue, and safe-design assessments, to complex engineering projects. She has also taught thermodynamics, thermo-fluids, applied mechanics, and mechanical design, while supervising undergraduate and postgraduate students.