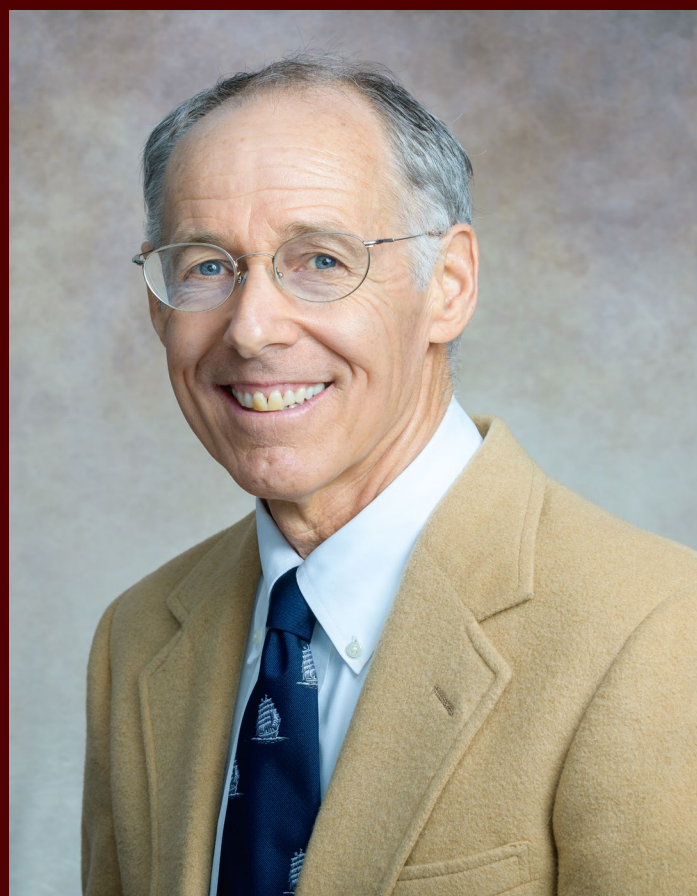


# Fluids and Heat Transfer Laboratory Marine Engineering Technology



TEXAS A&M  
UNIVERSITY

GALVESTON CAMPUS®



Prof.  
Gerard Coleman

## Lab Objectives

### Lab Capabilities

The laboratory equipment comprise the following training elements:

Thermodynamics and Heat Transfer

Fluid pumping and piping systems

Operation of pumps and shaft alignments

Fundamentals of Automation, Instrumentation and Control Systems

The equipment components are able to demonstrate and teach thermodynamics analyses on steam and refrigeration cycles; hydrostatic pressure effects; hydrodynamic pumping power, pressure and head loss calculations; dynamic flow in venturies, flow tubes, pipes, jets, and valves; and ship stability and damage control.

### Lab Facilities

Fluids Center of Pressure demonstrator

Pelton Wheel power demonstrator, H19

Shaft Alignment Trainer, Vibralign 160-03-01

Digital Flow Bench, TecSolutions, H1F

Fluid Circuits Demonstrator, Hampden, H-6925-CDL

Heat Exchanger Demonstrator, Hampden, H-6878X

Heat Transfer Service Unit, PA Hilton, H111

Fluids Pump Demonstrator, Technovate, 9010

Electric Boiler, Reimer Electra Steam, R-12

Thermodynamics Rankine Cyler, Turbine Technologies, 705-37

Naval Architecture Stability Demonstrator, Armfield, NA8-10

Ship Vibration Apparatus, Armfield, 1A19337

Refrigeration Demonstrator, Hampden, H-CRT

### Courses Supported

MARE 202 Marine Thermodynamics

MARE 211 Steam Propulsion Plants

MARE 305 Fluid Mechanics Theory

MARE 313 Heat Transfer

MARE 405 Fundamentals of Naval Architecture

### Research Supported

Undergraduate Senior Design Courses

Faculty Applied Engineering Projects



# Texas A&M University at Galveston

## Marine Engineering Technology Department