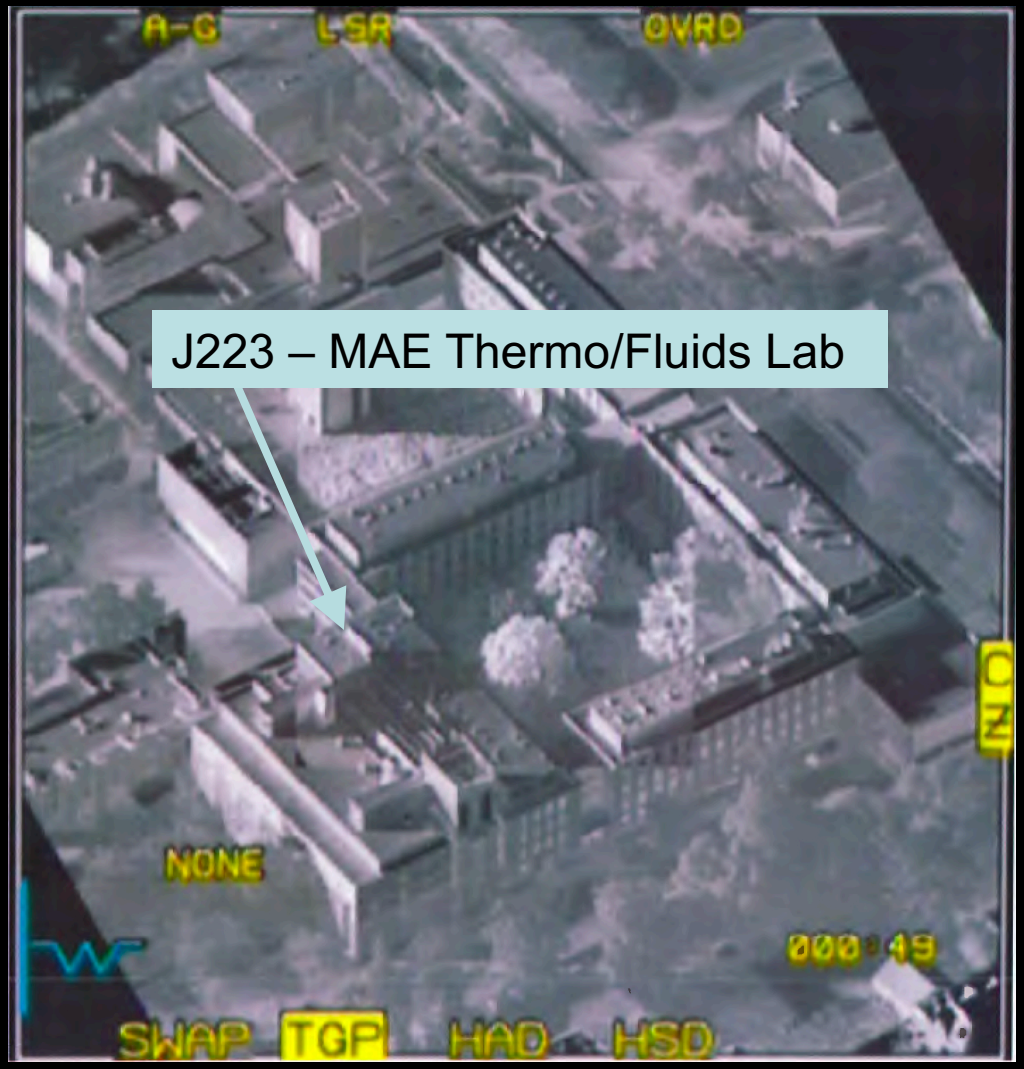


Cockpit Image of E-Quad from F-16 taken by USAF Maj. Cory Jerch MAE ‘04

Cory – MAE
Senior in 2004

Cory at Aviano Air Base, Italy in 2014

MAE Class of 2019

Leading edge melted

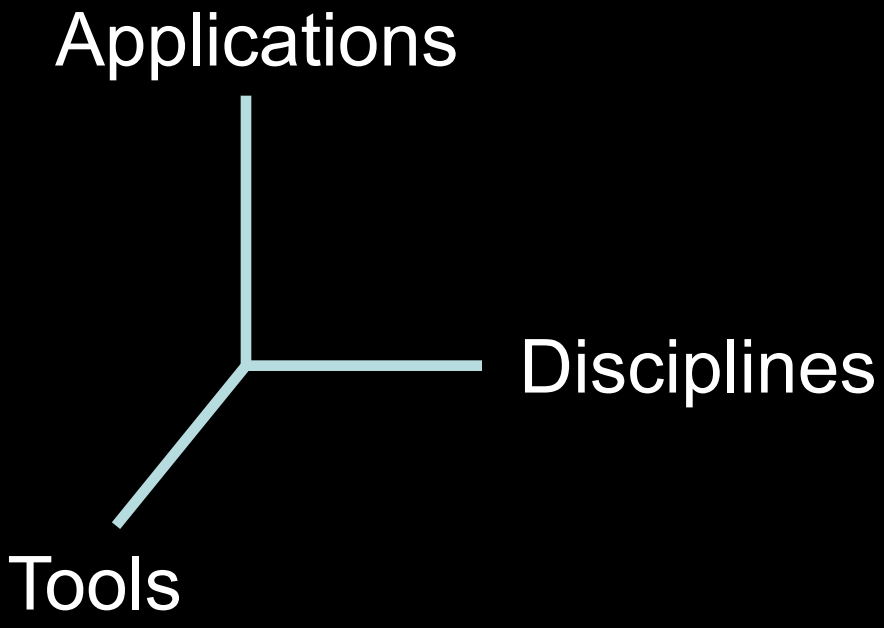
Engineering

Structures

Machines

Networks

Processes



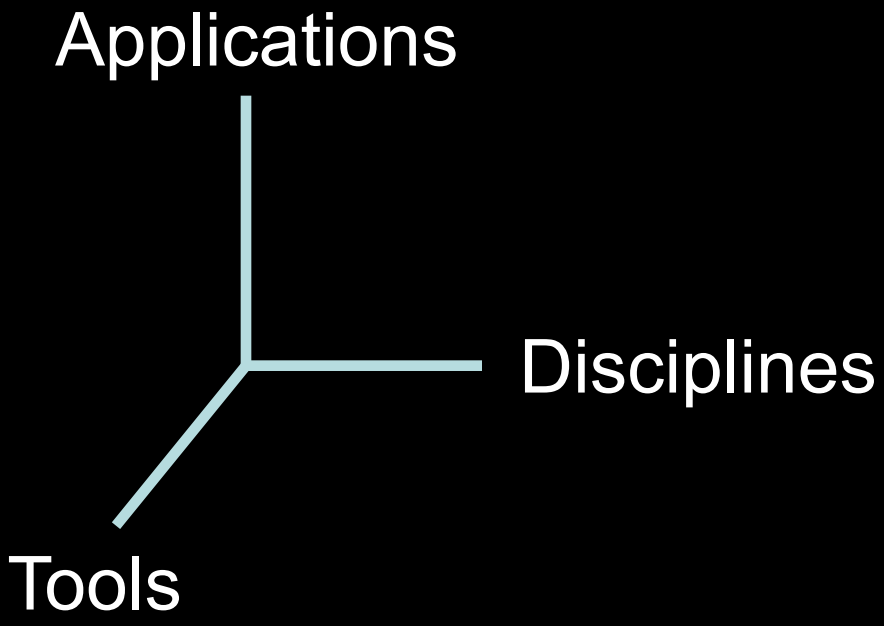
Mechanical and Aerospace Engineering

Structures

Machines

Networks

Processes



“If it moves, we own it”

Mechanical and Aerospace Engineering

- Energy
- Fluids
- Dynamics and Controls
- Aerospace
- Materials
- Applied Physics

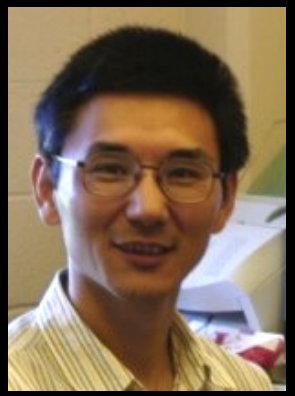
MAE 530 / 531

Combustion fundamentals, LAB

MAE 427
DGS

Turbulent Combustion, THEORY

MAE 426
MAE 228



Combustion Plasmas, LAB

MAE 221
MAE 228

Gas Turbines, THEORY

MAE 422

Electricity – Sector Eng. POLICY

Energy Faculty

- Fundamentals of Combustion – swirling flames
- New materials formed in flames, Supersonic Combustion; Alternative Fuels
- Li-ion Battery Cathode Design; Electric Power Policy
- Sustainable Energy Certificate Program

MAE 305
MAE Chair

Microfluids LAB

MAE 502

Air / Water interface, LAB

MAE 331
MAE 332
IW Coordinator

CFD Computer Modeling THEORY; Boeing Fellow

MAE 222
MAE 224

Turbulence, Wind Turbine, LAB

Fluids Faculty

- Turbulence and Boundary Layer Interactions
- Fundamentals of fluids – buoyancy, surface tension
- Design Optimization: Sailboats to Airplanes
- High Speed Wind Tunnel

MAE 433
Head, Rockefeller

Computer Modeling and control of Fluids, THEORY

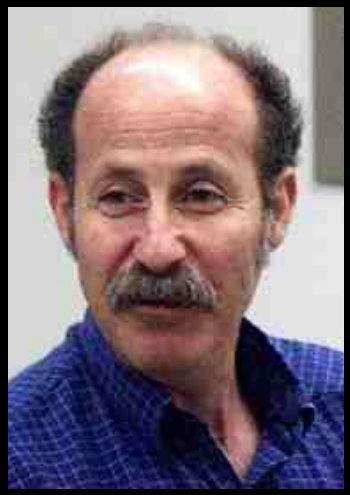
MAE 434
CST, Director

Computational Biology; flocking, LAB

MAE 206
MAE 345

Aerial Robotics in complex environments, LAB

MAE 412
CEE 102
DUS



Mechatronics, Telescope and Laser Design, LAB

D & C Faculty

- Underwater Robotics and Swarms
- Reduced Order Modeling
- Drones
- Robotics, Automation, and Optical System Control

MAE 206
MAE 345

Aerial Robotics in complex environments – Drones, LAB

MAE 331
MAE 332
IW Coordinator

CFD Computer Modeling, THEORY

MAE 431
MAE 432

Electric propulsion, MPD thrusters, 3D acoustics, LAB

MAE 331
MAE 345

Stochastic Optimal Control, THEORY

Aerospace Faculty

- Drones – Aerial Robotics
- Electric Propulsion; MPD Thrusters
- Computational Fluid Mechanics
- Apollo LEM Guidance and Navigation (Stengel)

MAE 344

Collective motion of cells, wound healing, LAB

MAE 306

Materials modeling, biomaterials, THEORY

MAE 324
Director, PRISM

Energy storage, batteries, acoustic lens, LAB

MAE 223

Topology and Mechanics, THEORY

Materials Faculty

- High Temperature and High Strength Materials
- Nano-scale and Bio-materials, Tissue engineering
- Laser Processing of Materials
- Crack and Fracture; Coatings and Thin Films

MAE 521
MAE 328

Femtosecond Lasers, X-ray production, LAB

MAE 434

Control of Plasmas LAB

MAE 322
MAE 423
MAE 226

Mechanical Design; Entrepreneur

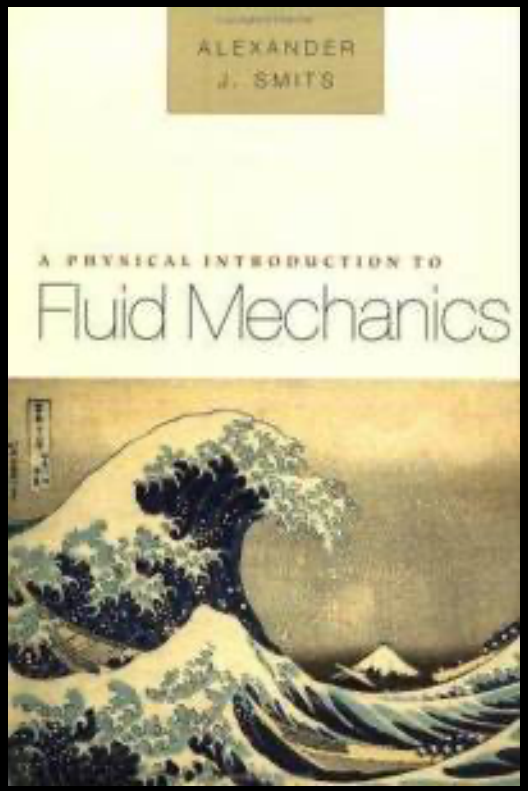
MAE 309
MAE 353

Nuclear Policy; Global Security

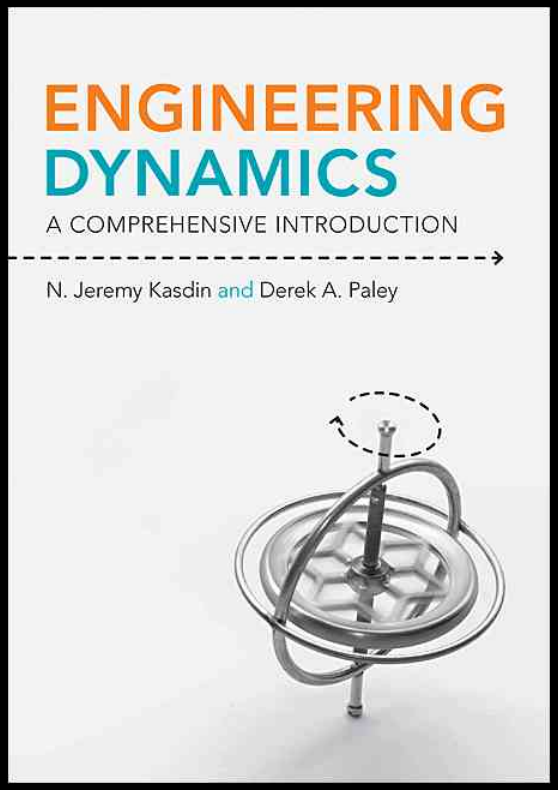
Applied Physics Faculty

- Compact X-Ray Light Source
- Plasma control
- Mechanical Design
- Nuclear Archeology

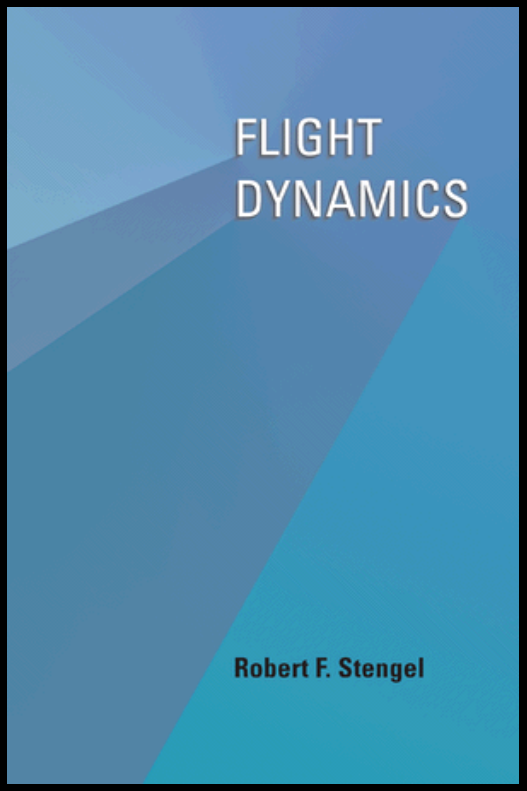
BOOKS by MAE Faculty



MAE 222



MAE 206



MAE 331

Students and Staff (Jo, Theresa, Jon, Glenn, Al, Mike)

Pyne Prize
Churchill Scholarships
Rhodes Scholars
NSF Fellows
Palmer Prize
Valedictorians
Boo Bicycles
Juiced Bikes
Dallas Stars (NHL)
Carolina Panthers (NFL)
USAF and Navy Pilots

VIDEOS

Some of our Graduates …

Alexandra Techet – Mech Prof. MIT
John Dabiri – Aero and Mech Prof. Caltech
Nils Pierce – Applied Math and Bioengineering Prof. Caltech
Alison Marsden – Pediatrics and Bioengineering Prof. Stanford
Christopher Hart – former director NTSB
Lori Setton – Biomedical Prof. and Chair, Wash U.
Amy Laviers – Mech Prof. Univ of Illinois
Andrew Alleyne – Mech Prof. Univ of Illinois
Nick Frey – founder Boo Bicycles
Tora Harris – founder Juiced Bikes
Gordon Bitko – CIO FBI
Margaret Saroka, M.D. – Radiology
Amog Ram – Lead Software Engineer for SpaceX
Francis Arnold – Bioengineering Prof Caltech – Nobel Prize (Chem) 2018
Pete Conrad ‘62 – Navy Pilot and Astronaut (Gemini, Apollo 12, SkyLab)
Norm Augustine – former CEO of Lockheed-Martin
Patricia Falcone – Deputy Director Lawrence Livermore Lab
Paul Bondor, J.D. – Patent Attorney
Arron Melvin – Formula One Race Car Aerodynamicist
Cory Jerch – USAF Pilot
Seth DeValve – NFL Receiver