



MEEM DEPARTMENT FACULTY EXPERTISE

Department of Mechanical Engineering and Engineering Mechanics		
ENERGY-THERMOFLUIDS (ETF)		April - 2021
Students seeking detailed advice on technical electives, graduate school, or career opportunities in specific disciplines are encouraged to talk to the appropriate faculty member(s) listed below.		
Faculty	Technical Electives Taught	Expertise
J. Allen Room no.810, 487-2349 jastallen@mtu.edu	MEEM4200, MEEM5290, MEEM5999, MEEM6999	Capillary Flow, Interfacial transport Phenomenon, Fuel Cell, Phase Change Heat Transfer, Microgravity, Fluid Physics, Near-field, Optical Diagnostics, Porous media
E. Bar-Ziv Room no.1012, 487-3151 ebarziv@mtu.edu	MEEM4240	Clean Coal Combustion, Biomass Torrefaction, Thermal treatment of carbonaceous material for clean energy
S. Bigham Room no.1022, 487-2747 sbigham@mtu.edu	MEEM5280	Phase change heat transfer, Transport phenomena, Multiphase flow, Thermal management, Energy Systems, Micro and Nano fabrication techniques, Micro and Nano engineered materials
C. Cai Room no.1013, 487-3286 ccai@mtu.edu	MEEM5210, MEEM5240	Computational fluid dynamics, Fluid dynamics, non-equilibrium and rarefied gas flows, plasma flow simulations, gas kinetic theory
C. K. Choi Room no.832, 487-1463 cchoi@mtu.edu		Micro-fluidics, cellular sensing, micro and Nano-fabrication, micron and sub-micron optical visualization, microscale heat and mass transfer
J.E Johnson Room no.817, 487-3433 jenesbit@mtu.edu	MEEM5990 (IC Engines 1- MEEM 4220)	Sprays and Combustion, Thermodynamics, Optical Diagnostics, IC Engine, Alternative Fuels
L.B King Room no.1014, 487-2683 lbking@mtu.edu	MEEM5210, MEEM5990 (Plasma Dynamics)	Fluid Mechanics, plasma physics, Space system designs, Space Simulations, Laser diagnostics, Space propulsion
S.Y. Lee Room no.917, 487-2559 sylee@mtu.edu	MEEM5270	Thermodynamics, Sprays and combustion, Chemical Kinetics, Air breathing propulsion, laser diagnostics, CFD combustion models
H. Masoud Room no.930, 487-3025 hmasoud@mtu.edu	MEEM5230, MEEM5210	Fluid mechanics, Heat Transfer, Thermodynamics, Methods of applied mathematics, numerical modeling



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ENERGY-THERMOFLUIDS (ETF), Continued		
Faculty	Technical Electives Taught	Expertise
S. Miers Room no.904, 487-2709 samiers@mtu.edu	MEEM4220, MEEM5200	Thermodynamics, Internal Combustion Engines, Alternative and Renewable transportation fuels, heat transfer, regulated and unregulated emissions, wireless telemetry
J. Naber Room no.1012, 487-1938 jnaber@mtu.edu	MEEM4220, MEEM5250, MEEM4295/5295, MEEM4296/5296	Spray and combustions, Internal Combustion Engines, After treatment, powertrain systems, hybrid vehicles
A. Narain Room no.804, 487-2555 narain@mtu.edu	MEEM5210, MEEM5230, MEEM5280	Integration of innovative condensers and boilers in advanced thermal and power systems, Computational Simulations, Fluid Mechanics, Heat Transfer, Condensing and boiling change floes, high performance heat exchangers, sensors and flow charts
A. Narendranath Room no.917, 487-3019 dnaneet@mtu.edu	MEEM4210, MEEM5215	Mathematical model of thermal transport, evaporative phase change phenomenon, applied partial differential equations
F. L. Ponta Room no.936, 487-3563 flponta@mtu.edu	MEEM4210, MEEM5215	Theoretical and computational fluid mechanics, vortex dynamics, fluid structure interactions, wind turbine aerodynamics, renewable energy sources, energy systems
Y. Ra Room no.907, 487-2385 yra@mtu.edu	MEEM4240, MEEM5270	Combustion chemical kinetics, Internal Combustion Engine, CFD, Spray modeling, alternative fuels
K. Tajiri Room no.932, 487-2675 ktajiri@mtu.edu	MEEM4230, MEEM4260	Transpiration phenomenon in multiscale/multiphase systems, Electrochemical energy conversion device (Fuel Cell), Two phase flow micro-channel
J.J. Worm Room no.709, 487-2686 jjworm@mtu.edu	MEEM4296, MEEM5296, MEEM5255	IC Engines, Alternative fuels, Combustion, Engine development, Hybrid vehicles
S-L. Yang Room no.903, 487-2624 slyang@mtu.edu	MEEM5240	Computational fluid dynamics, heat transfer, thermodynamics, Research and development



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MANUFACTURING INDUSTRIAL (MI)		April - 2021
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Faculty	Technical Electives Taught	Expertise
W. J. Endres Room no.826, 487-2567 wjenders@mtu.edu	MEEM4610, MEEM5610, MEEM5990	Cutting mechanics, Machining dynamics, Wood Chipping mechanics, mechanistic modeling techniques, mechanical design, entrepreneurship
R. Tewari Room no.818, 487-1743 rtewari@mtu.edu	MEEM4403, MEEM4650, MEEM5670, MEEM4430, MEEM4655, MEEM5650, MEEM4990, MEEM5990	Micromachining, metrology, Nano- technology
Z. Wang Room no.824, 487-2786 zequnw@mtu.edu	MEEM5401	Design under Uncertainty, Prognostic and health management, modeling calibration and validation, reliability



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Department of Mechanical Engineering and Engineering Mechanics		
SOLID MECHANICS (SM)		April - 2021
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Faculty	Technical Electives Taught	Expertise
P. Abadi Room no.923,487-1735 pabadi@mtu.edu	MEEM4150, MEEM4180	Mechanical Behavior of materials, nanomaterials, biomaterials, materials and mechanics in tissue engineering
S. Ghosh Room no.801, 487-2689 susantag@mtu.edu	MEEM4150, MEEM4180, MEEM5170	Non-linear mechanics, Computational Mechanics, Mechanics of materials
I. Miskioglu Room no.821, 487-2752 imiski@mtu.edu	MEEM4150, MEEM5160, MEEM4170, MEEM5150, MEEM5180	Experimental mechanics, Photo Mechanics, Composite materials, Nano mechanics
S. Morse Room no.201E Dillamn, 487-3241 smmorse@mtu.edu		Numerical methods, Finite elements, Mechanics of materials, Glass strength and fracture. Large scale data processing and data mining.
G.M. Odegard Room no.805, 487-2329 gmodegar@mtu.edu	MEEM4150, MEEM4710, MEEM4405, MEEM4810, MEEM5110, MEEM5150, MEEM5160, MEEM5170, MEEM5180	Computational and experimental mechanics, material sciences, Nano mechanics
W.W. Predebon Roomno.808, 487-2551 wwpredeb@mtu.edu	MEEM5110, MEEM5710	Ceramics, Stress wave propagation with microstructural effects, impact phenomena
T. Sain Room no.921, 487-2977 tsain@mtu.edu	MEEM4170	Computational Mechanics, Finite element analysis, design of composite materials
P. Van Susante Room no.915A, 487-3253 pjvansus@mtu.edu	MEEM4403, MEEM4405, MEEM4810	Finite element analysis, Structures, design, Mechanics of materials



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DESIGN/DYNAMICS SYSTEM (DDS)		April - 2021
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Faculty	Technical Electives Taught	Expertise
A. Barnard Room no.GLRC 307, 487-2412 arbarnar@mtu.edu	MEEM4704, MEEM5900, MEEM4701, MEEM5702, MEEM5703	Signal Processing, Model Analysis, Acoustics, Noise control, vibrations
J. Y. Bae Room no.802, 487-1416 bae@mtu.edu		Robotics, Vehicle Routing Problems, Autonomous Navigation, Operational Research for Autonomous Vehicles
J.R. Blough Room no. 807, 487-1020 jrblough@mtu.edu	MEEM4701, MEEM5700, MEEM5703	Digital Signal Processing, Rotating Machinery, Vibrations, Noise Control
B. Chen Room no.905, 487-3537 bochen@mtu.edu	MEEM4990/5990, MEEM4700, MEEM/EE4750, MEEM/EE5750	Mechatronics and embedded systems, control systems, hybrid electric vehicle, smart grid
J. DeClerck Room no.906, 487-2246 jdeclerck@mtu.edu	MEEM5702, MEEM5703	Analytical and experimental model analysis, Signal Processing, Design process, model validation
S. Ma Room No.929, 487-3390 stevenma@mtu.edu	MEEM4450/5450	Vehicle Dynamics, Kinematics, Dynamic Simulations, Modeling
S. Malladi Room No.911, 487-3503 smalladi@mtu.edu	MEEM4701	Vibrations, Signal processing, Smart structures, model analysis, Smart buildings
G.G. Parker Room no.803, 370-1341 ggparker@mtu.edu	MEEM4705, MEEM5701, MEEM5715, MEEM6702	Control System, Dynamics, Robotics
D. Robinette Room no.933, 487-2764 dlrobine@mtu.edu		Powertrain system, Dynamics and Controls, Signal Processing, Rotating Machinery, Torsional Vibrations
S. Sun Room no.925, 487-2249 yes@mtu.edu	MEEM57115, Human Factors	Dynamics Systems, Controls, Sensors and measurements
W. Weaver Room no.820, 487-1416 wwweaver@mtu.edu	MEEM4775,MEEM5715	Control Systems, Dynamics, Electric Motor Modeling and Analysis, Smart Grids
Y. Yang Room no.926, 487-3405 yyang14@mtu.edu	MEEM4701/MEEM4702	Structural dynamics, System identification, structural health monitoring, non- destructive evaluation, high-resolution sensing/imaging, machine learning, computer vision