

Course 1		
Prof. Eric Adams	eeadams@mit.edu	effectiveness and potential environmental impacts of ocean carbon sequestration; modeling of near-field exposure of marine organisms entrained in liquid CO ₂ or CO ₂ hydrate plumes
Prof. Cynthia Barnhart	cbarnhart@mit.edu	Mathematical programming models and large-scale optimization approaches for transportation and logistics systems; service network design and operations planning for scheduled transportation systems.
Prof. Moshe Ben-Akiva	mba@mit.edu	Transportation systems analysis, intelligent transportation systems, demand modeling, data collection and statistical analysis, infrastructure management.
Prof. Phillip Gschwend	pmgschw@mit.edu	Fates of organic chemicals in natural and engineered environments
Prof. Ruben Juanes	juanes@mit.edu	understanding, modeling, simulation and quantitative prediction of complex geosystems, with special application to petroleum reservoir engineering, groundwater hydrology, CO ₂ sequestration and gas hydrates
Prof. Richard de Neufville	ardent@mit.edu	Technology and policy, dynamic strategic planning system analysis, airport planning and design, transportation systems.
Prof. David H. Marks	dhmarks@mit.edu	Sustainable development, environmental engineering, water resource systems, industrial ecology.
Mr. Carl D. Martland	martlan@mit.edu	Freight transportation management, railroad systems, engineering economics, regional transportation planning.
Prof. Chang Mei	ccmei@mit.edu	Theoretical hydrodynamics; Ocean and coastal waves phenomena; fluid-solid interaction; poroelasticity; seabed mechanics; land subsidence, debris, and mud flow; mechanics of soil remediation
Prof. Daniel Roos	roos@mit.edu	Technology and policy, transportation systems, industry studies.
Prof. Nigel Wilson	nhmw@mit.edu	Public transportation, transport system design, new transportation systems.

Course 2		
Prof. Arthur Baggeroer	abb@boreas.mit.edu	acoustics of arctic, coastal, and other ocean environments; implications for off-shore oil exploration.
Prof. John Brisson	brisson@mit.edu	cryogenic engineering, acoustic compression, micro-engines and refrigerators, thermodynamics
Prof. Louis Bucciarelli Jr.	llbjr@mit.edu	Projects in the development of stand-alone photovoltaic energy systems. In particular, the development of stand-alone systems for the measurement of the solar resource at any place in the world. Instrumentation, hardware and software are all of interest. See http://pvbase.mit.edu/index for a pv monitoring station atop building 1. Projects also in the development of interactive exercises for open courseware for courses 1.050 and 1.105. (Note: I am on leave generally for three months in the spring but willing to advise electronically from afar.)
Prof. Gang Chen	gchen2@mit.edu	Micro- and nanoscale heat transfer and energy conversion with applications in thermoelectrics, photonics, and microelectronics; nano-mechanical devices and micro-electro-mechanical systems; radiation and electromagnetic metamaterials, direct thermal to electrical energy conversion, solar energy conversion
Prof. Wai Cheng	wkcheng@mit.edu	Automotive engine performance and emissions
Prof. Chryssostomos Chryssostomidis	chrys@mit.edu	artificial intelligence; robotics; deep-ocean exploration technology
Prof. Ernest G. Cravalho	ecravalho@comcast.net	Biomedical engineering, organ transplantation, lasers in medicine and surgery, cryobiology, heat transfer, thermodynamics, energy conversion.
Prof. Ahmed Ghoniem	ghoniem@mit.edu	High performance computing in turbulent reactive flow, computational mathematics, combustion dynamics and active control, modeling and simulation of transport-chemistry interactions in thermochemical and electrochemical systems including high temperature fuel cells, gasification processes and fuel production. Analysis of high-performance, zero-emission integrated energy systems with CO ₂ capture.
Prof. Leon R. Glicksman	glicks@mit.edu	Energy efficient buildings; sustainable building design; building materials; design, construction and testing of innovative super insulations; new designs and experimental measurements; indoor ventilation improvements; fluidized beds; fluid flow and heat transfer; experimental and computational studies.
Prof. Timothy Gutowski	gutowski@mit.edu	Environmentally benign manufacturing; manufacturing system design; composite materials processing; manufacturing processes
Prof. John B. Heywood	heywood@mit.edu	Internal combustion engine processes, vehicle technology assessment, transportation environmental impacts and energy.
Prof. John Lienhard V	lienhard@mit.edu	Heat and mass transfer; fluid mechanics; convective transport; desalination; energy; extremely high heat fluxes; electronics thermal management
Prof. Carol Livermore	livermor@mit.edu	Power MEMS, including microgenerators and MEMS components for high power lasers; energy storage in carbon nanotube super-springs; and technology and applications for micro- and nano-scale self-assembly.
Prof. Gareth McKinley	gareth@mit.edu	Rheology, Non-Newtonian Fluid Dynamics, Hydrodynamic Instabilities, Extensional Rheometry
Prof. Borivoje Mikic	mikic@mit.edu	Heat transfer, energy, biomedical engineering.
Prof. Emanuel Sachs	sachs@mit.edu	photovoltaics; computer-aided manufacturing design; energy and power systems; electronic materials processing
Prof. Paul Sclavounos	pauls@mit.edu	Wind energy infrastructure

Prof. Yang Shao-Horn	shaohorn@mit.edu	Materials for electrochemical energy storage and conversion, understanding and altering the crystal, surface and electronic structures of thin films and nanomaterials, and design new materials for lithium storage and electrocatalysis of small molecules such as oxygen reduction, water splitting and methanol oxidation.
Prof. Alexander Slocum	slocum@mit.edu	MEMS; nanotechnology; precision engineering; machine design; product design
Prof. Joseph Smith, Jr.	jlsmith@mit.edu	Distributed power systems; cryogenic engineering; thermodynamics; fluid mechanics; heat transfer
Prof. Michael Triantafyllou	mistetri@mit.edu	flow control, vortex-induced vibrations, and biomimetics; underwater robots
Prof. Kim Vandiver	kimv@mit.edu	dynamics of offshore structures and flow-induced vibration
Prof. Evelyn N. Wang	enwang@mit.edu	Micro electro-mechanical systems (MEMS), micro-/nanotechnologies for electronics cooling, energy conversion, water desalination, and biotechnologies.
Prof. Victor Wong	vwong@mit.edu	Modeling and experimental diagnostics of lubricant films in I.C. engines, clean diesel technologies, engine combustion and emissions, heat transfer and lubrication studies for the application of advanced materials.
Prof. Dick K-P Yue	yue@mit.edu	wave hydromechanics; fluid-structure interactions; ocean-atmospheric fluid mechanics; fish swimming hydrodynamics

Course 3

Prof. Ronald G. Ballinger	hvyet@mit.edu	Corrosion, Environmental degradation, Materials development for current and advanced power reactor systems, mechanical properties, fracture mechanics.
Prof. Angela Belcher	belcher@mit.edu	Using biology to make nano-hybrid materials for electronics, defense, energy, and medicine.
Prof. Gerbrand Ceder	gceder@mit.edu	Designing and understanding advanced materials by means of computational modeling and experimental research; high temperature superconductors, electrodes for rechargeable batteries, and high temperature alloys
Prof. Yet-Ming Chiang	ychiang@mit.edu	Properties and processing of inorganic materials for electronic, structural, electrochemical, and electromechanical applications and devices. Studies of defects and interfaces in materials. Materials and device design for energy storage and generation technologies such as lithium rechargeable batteries and fuel cells.
Prof. Michael J. Cima	mjcima@mit.edu	Chemical and physical phenomena involved in processing of ceramic materials for structural and electronic applications; processing of both thin films and bulk materials are studied.
Prof. Lionel C. Kimerling	lckim@mit.edu	Properties and processing of electronic materials; new optical and electronic phenomena, devices and circuit applications, process control and defect engineering.
Prof. Anne Mayes	amayes@mit.edu	molecular self-assembly principles perfected by Mother Nature to create new nanostructured polymeric materials for technological use; electrolytes and nano-templated electrodes for lithium rechargeable batteries
Prof. Donald R. Sadoway	dsadoway@mit.edu	Environmentally sound processes for extraction and recycling metals; electrochemical processing of materials; batteries.
Prof. Edwin Thomas	elt@mit.edu	Self-assembling block copolymers; photonic band gap materials; light weight nanostructured fibers and materials; nanosystems intergration
Prof. Harry L. Tuller	tuller@mit.edu	Clean energy: fuel cells, photoelectrochemistry, thermoelectrics; electronic nose sensors; nanoionics; microsystems; electroceramics.

Course 4

Prof. Marilyn Andersen	mand@mit.edu	Daylighting in buildings; visual comfort; photometry; solar protection systems; complex glazings; simulation tools for light distribution in interior spaces.
Prof. Leon Glicksman	glicks@mit.edu	Comfort, air circulation in rooms, sustainable buildings, natural ventilation, sustainability web site for designers, building envelope systems.
Dr. Reinhard Goethert	rkg@mit.edu	Tools and techniques in upgrading communities in Third World countries; strategies in repairing mass housing projects; water and sanitation; growth scenarios for urban areas.
Prof. Kent Larson	kll@mit.edu	technologies, materials, and strategies for energy generation, use, and conservation in homes, workplaces, and cities
Prof. Leslie Norford	lnorford@mit.edu	Building controls and expert systems, building energy monitoring, ventilation systems and airflow monitoring, technology development for housing in East Europe and the Soviet Union, nonintrusive electric load monitoring.

Course 5

Prof. Mounji Bawendi	mbg@mit.edu	Science and applications of nanocrystals, especially semiconductor nanocrystal (aka quantum dots)
Prof. John Deutch	jmd@mit.edu	physical chemistry and energy technology; analysis and modeling of the technical, economic, and environmental aspects of fuel cell behavior and fuel cell systems
Prof. Daniel Nocera	nocera@mit.edu	Basic mechanisms of energy conversion in biology and chemistry, artificial photosynthesis, water-splitting, hydrogen generation

Prof. Jeffrey Steinfeld	jstein@mit.edu	High sensitivity spectroscopic techniques for environmental measurements; supercritical fluids as environmentally acceptable reaction media
Prof. Timothy Swager	tswager@mit.edu	Chemosensory research is directed at harnessing the unique properties of conjugated organic polymers (molecular wires); conductive transition metal hybrid structures; design and discovery of new classes of liquid crystals, investigations of liquid crystals with high chirality, demonstrations of novel electro-optical effects, development of molecular recognition approaches to liquid crystals, and investigations of new types of polymer/liquid crystal composites; development of molecular device technologies by applying molecular recognition principles for the formation of new polymers architectures and organizations.

Course 6

Prof. Marc Baldo	baldo@mit.edu	Electrical and exciton transport in organic materials, energy transfer, metal-organic contacts, heterogeneous integration of biological materials, and novel organic transistors
Prof. Vladimir Bulovic	bulovic@mit.edu	nanostructured organic materials, opto-electronic structures, LEDs, solar cells, photodectors, memory cells, chemical sensors, thin films, self-assembled materials
Prof. Anantha P. Chandrakasan	anantha@mit.edu	Energy efficient implementation of digital integrated circuits and systems such as wireless sensors and multimedia devices, protocols, and algorithms for wireless communication, and CAD tools for emerging technologies.
Prof. John Kassakian	jgk@mit.edu	Power electronics; power supplies; dc/dc converters, inverters; controlled rectifiers and motor drives; power semiconductor devices; automotive electronics and electrical systems; nonconventional electricity for motor vehicles; thermophotovoltaics
Prof. James Kirtley	kirtley@mit.edu	Electromechanics; High efficiency and performance electric machinery; electric power systems; renewable and dispersed generation; vehicle technology; propulsion and traction drives
Prof. Sanjay Mitter	mitter@mit.edu	theory of stochastic dynamical systems; nonlinear filtering; stochastic and adaptive control; mathematical physics and its relationship to system theory; image analysis and computer vision; and structure, function, and organization of complex systems
Prof. David J. Perreault	djperrea@mit.edu	Electronic circuit design, power electronics and energy conversion, control. Applications to industrial, commercial, scientific, transportation, and biomedical systems.
Prof. Joel E. Schindall	joels@mit.edu	Development of nanotube-enhanced ultracapacitor as an improved electrical energy storage device (and potential electrochemical battery replacement), design methods for complex fault-tolerant systems (including steer-by-wire), improving automobile performance through electronics, application of time interval domain processing to electrocardiograms and encephalograms.

Course 7

Prof. Gerald Fink	fink@wi.mit.edu	Engineering yeast transcription machinery for improved ethanol tolerance and production
Prof. Anthony Sinskey	asinskey@mit.edu	metabolic engineering; focusing on the fundamental physiology; biochemistry and molecular genetics of important organisms

Course 8

Prof. Miklos Porkolab	porkolab@psfc.mit.edu	Controlled fusion; radio frequency heating of plasma; experimental studies of plasma turbulence; and basic plasma physics, including magnetic reconnection
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Course 10

Prof. Robert Armstrong	rca@mit.edu	polymer fluid mechanics; rheology of complex materials; energy
Prof. Paul I. Barton	pib@mit.edu	dynamic modeling, simulation and optimization; hybrid and embedded systems; mixed-integer and global optimization theory and algorithms; design and operation of micro-scale chemical processes; systems biology; energy systems engineering
Prof. János M. Beér	jmbbeer@mit.edu	clean fossil energy electric power generation; turbulent combustion of gaseous, liquid and solid fuels; reduction of pollutant emission from flames by combustion process modification
Prof. Tonio Buonassisi	buonassisi@mit.edu	adoption of renewable energy technologies, and photovoltaics in particular, via breakthroughs in efficiency, cost reduction, de-bottlenecking, and increased materials utilization.
Prof. Charles Cooney	ccooney@mit.edu	Biochemical engineering; biochemical product recovery
Prof. William H. Green, Jr.	whgreen@mit.edu	chemical kinetics; molecular simulation; free radical reactions
Prof. Paula Hammond	hammond@mit.edu	nanoscale design of biomaterials; applications in e.g. fuel cells and batteries
Prof. Klavs Jensen	kfjensen@mit.edu	Microsystems for chemical and biological applications; materials synthesis and processing; multiscale simulation of reactive processes

Prof. Gregory J. McRae	mcrac@mit.edu	atmospheric processes responsible for oxidant formation; acid deposition and global climate; particulate dynamics; chemical transport and transformations in multimedia; environments environmental science and engineering; process modeling; numerical analysis and optimization
Prof. Kristala Jones Prather	kljp@mit.edu	Metabolic engineering, biochemical engineering, bioprocess engineering, synthetic biology
Prof. Kenneth Smith	kas@mit.edu	fluid mechanics; heat and mass transfer; environmental modeling ,emphasizing the role of polycyclic aromatic hydrocarbons (PAH) in the atmosphere.
Prof. Michael Strano	strano@mit.edu	Optical modulation of nanostructures for sensor applications; chemistry of single-walled carbon nanotubes; chemical separation of carbon nanotubes; molecular interactions with nanoelectronic sensor arrays
Prof. Gregory Stephanopoulos	gregstep@mit.edu	Metabolic and biochemical engineering; biotechnology; bioinformatics
Prof. Jefferson W. Tester	testere@mit.edu	environmental remediation and control technology; chemical processes in supercritical fluids; technologies for renewable and geothermal energy systems; gas hydrates in natural environments
Prof. Bernhardt Trout	trout@mit.edu	Nucleation of clathrate hydrates; molecular-level design of products and processes; emissions control and sustainable development

Course 11

Prof. Karen Polenske	kpr@mit.edu	Energy and environmental Modeling; comparative analyses of energy use, pollution generation, and industrial-technology options; effects of regional and industrial restructuring on physical and social infrastructure; regional implications of fuel use on food security.
Prof. Lawrence Susskind	susskind@mit.edu	Professor Susskind is working on a range of issues. As part of the MIT-USGS Science Impact Collaborative (web.mit.edu/dusp/epg) he is studying more effective ways of ensuring that "good science" is taken into account in environmental decision-making. At the MIT-Harvard Public Disputes Program at Harvard Law School (web.mit.edu/publicdisputes), he is studying the use of mediation to resolve complex public disputes. At the not-for-profit Consensus Building Institute (www.cbuilding.org) he is involved in a range of complex environmental negotiations in various parts of the world including Latin America and the Middle East. At the Environmental Technology Program in DUSP (web.mit.edu/etpp) he is working through the Alliance for Global Sustainability to understand the ways in which "green technology" can be promoted. UROP students are invited to be part of all of these projects.

Course 12

Prof. Samuel Bowring	sbowring@mit.edu	hydrocarbons in the South Oman Salt Basin; changing composition of crude oil through geological time
Prof. Rafael Bras	rlbras@mit.edu	Hydrology; geomorphology; land-atmosphere interactions, ecohydrology
Prof. Daniel Burns	burns@mit.edu	Geophysics; fractured reservoirs; reservoir characterization and monitoring; borehole acoustics and rock properties
Prof. Dale Morgan	morgan@erl.mit.edu	Geoelectromagnetism; inverse methods; applied seismology; environmental geophysics
Prof. Ronald Prinn	rprinn@mit.edu	Chemistry, dynamics, and physics of the atmospheres of the Earth and other planets, and the chemical evolution of atmosphere
Prof. Nafi Toksoz	toksoz@mit.edu	Geophysics, parallel computing, advanced geophysical parallel computing
Prof. Robert van der Hilst	hilst@mit.edu	Seismic imaging; global seismology; mantle dynamics.
Prof. Maria Zuber	mtz@mit.edu	Theoretical modeling of geophysical processes; analysis of altimetry, gravity and tectonics to determine the structure and dynamics of the Earth and solid planets

Course 14

Prof. Michael Greenstone	mgreenst@mit.edu	Economic impacts of climate change; costs of environmental regulations; valuation of clean air; health impacts of air pollution
Prof. Jerry Hausman	jhausman@mit.edu	Telecommunications and energy economics, econometrics, taxation and labor supply.
Prof. Paul Joskow	pjoskow@mit.edu	Industrial organization; energy and environmental economics; competition policy; and government regulation of industry

Course 15

Prof. John Carroll	jcarroll@mit.edu	Group and individual decision making in organizational and legal settings; organization learning; management philosophies; mental models; safety culture; and human performance improvement; nuclear power, petrochemicals, healthcare
Prof. Denny Ellerman	ellerman@mit.edu	Coal; energy; environment (climate policy, emissions trading, environmental policy, environmental regulation and policy, global climate change); gas; oil.

Prof. Rebecca Henderson	rhenders@mit.edu	Strategic problems of high technology companies, ways in which firms can use technology to drive significant growth, semiconductor capital equipment, automobiles, aerospace, branded consumer goods, pharmaceuticals, IT and telecommunications, energy supply, improved efficiency, opportunities in sustainability
Prof. Henry Jacoby	hjacoby@mit.edu	Applied economics; energy; environment (global climate change, economics and policy).
Prof. Gordon M. Kaufman	gkaufman@mit.edu	Statistical decision theory, probability assessment, oil and gas discovery process, energy studies, stochastic modeling of software bugs.
Prof. Donald R. Lessard	dlessard@mit.edu	Global strategic management and project management with an emphasis on managing in the face of uncertainty and risk and as applied to energy sector.
Prof. John Parsons	jparsons@mit.edu	Corporate finance; valuation; corporate strategy and policy; energy; environment (climate policy, emissions trading, environmental regulation and policy); environmental economics; risk management; hedging; financial engineering; financial markets; gas; oil; public utilities
Prof. Robert Pindyck	rdindyck@mit.edu	Environmental policy; financial markets; industrial organization; investment decisions; microeconomics
Prof. John Sterman	jsterman@mit.edu	managerial decision making in complex systems; experimental studies assessing public understanding of global climate change; socially responsible business

Course 16		
Prof. Hamsa Balakrishnan	hamsa@mit.edu	air traffic control, traffic flow management, airport operations scheduling, hybrid systems
Prof. Peter Belobaba	belobaba@mit.edu	air transportation economics and operations analysis; airline pricing and revenue management; airline and aerospace industry analysis
Prof. Leo Daniel	leo@mit.edu	aerospace materials, structural dynamics and aeroelasticity, nano composites, morphing and intelligent structures, spacecraft and rlv design
Prof. Olivier De Weck	deweck@mit.edu	lifecycle modeling and optimization, design for changeability and standardization, technology infusion in complex systems, modularity, offshore facility design with tie-in
Prof. Mark Drela	drela@mit.edu	aerodynamics, computational fluid dynamics, design methodology
Prof. Emilio Frazzoli	frazzoli@mit.edu	autonomous systems, air traffic control, cyber-physical systems, optimization, control theory, robotics.
Prof. Edward Greitzer	greitzer@mit.edu	turbomachinery; propulsion, silent aircraft, flow control, internal flow; university-industry collaboration; robust design of gas turbine engines
Prof. Jonathan How	jhow@mit.edu	navigation and control: gps sensing for navigation and control of formation flying vehicles, experimental and theoretical robust control, trajectory optimization and activity planning for multiple uavs
Prof. Paul Lagace	pal@mit.edu	composite materials and their structures, fracture, longevity, and damage tolerance, manufacturing, generic systems applications, engineering systems
Prof. Nancy Leveson	leveson@mit.edu	design for safety, system safety engineering, risk analysis and risk management, socio-technical systems policy and safety analysis, software and human safety, systems engineering and analysis of software-intensive systems, security, organization and safe
Prof. Youssef Marzouk	ymarz@mit.edu	fluid dynamics and chemically reacting flow in energy conversion/propulsion systems and in the environment; uncertainty quantification; computational simulation for design, prediction, and decision-making in complex uncertain systems; data assimilation an
Prof. Jaume Peraire	peraire@mit.edu	computational mechanics, high performance computing, aerodynamics, flapping
Prof. Raul Radovitzky	rapa@mit.edu	computational solid mechanics and fluid, structure interaction, mechanics of materials, multiscale modeling and simulation, high-performance and massively parallel computing
Prof. Zoltan Spakovszky	zolti@mit.edu	internal flows, turbomachinery, propulsion systems and control, aeroengine dynamic system modeling, aero-acoustics
Prof. Choon Tan	choon@mit.edu	Unsteady and three-dimensional flow in turbomachinery and propulsive devices; aerodynamic instabilities in aircraft gas turbine engines; propulsion systems
Prof. Ian Waitz	iaw@mit.edu	modeling and evaluation of climate, local air quality and noise impacts of aviation, including the assessment of technologies, alternative fuels, aircraft operating procedures, air transportation system
Prof. Brian Wardle	wardle@mit.edu	composite and layered materials; hybrid nanocomposite systems; mems power devices and energy harvesting; structural health monitoring systems; active materials and devices; fracture, fatigue, and damage mechanics; finite-element modeling; structural respo
Prof. Karen Willcox	kwillcox@mit.edu	aviation environmental system modeling; simulation, optimization and control of reacting flow; surrogate and reduced-order modeling; design of environmentally sensitive aircraft; uncertainty assessment of large-scale policy-making tools.
Prof. Brian Williams	williams@mit.edu	automated modeling; hybrid and autonomous systems control including intelligent infrastructure, intelligent buildings, and networks of autonomous air vehicles, satellites and underwater vehicles

Course 17		
Prof. Eugene Skolnikoff	ebskol@mit.edu	Interaction of science and technology with international affairs, e.g. climate change
Prof. Edward Steinfeld	edstein@mit.edu	Institutional drivers of economic behavior in the China; impact of globalization on Chinese industrial policy and structure
Prof. Nazli Choucri	nchoucri@mit.edu	International relations; international political economy with a special focus on conflict, connectivity, and global environment; uses of knowledge in transitions to sustainability

Course 20		
Prof. Angela Belcher	belcher@mit.edu	biomaterials, biomolecular materials, organic-inorganic interfaces and solid state chemistry

Course 22		
Prof. George Apostolakis	apostola@mit.edu	Methods for probabilistic risk assessment of complex technological systems; risk management involving several stakeholder groups; decision analysis, human reliability models; organizational factors and safety culture; software dependability; risk-informed, performance-based regulation; risk assessment and management of terrorist threats
Prof. Ronald Ballinger	hvyment@mit.edu	Environmental effects on materials behavior, electrochemistry, corrosion, advanced materials for fusion systems advanced statistical and experimental techniques for experimental analysis, nuclear fuel performance analysis
Prof. Jacopo Buongiorno	jacopo@mit.edu	Multi-phase flow and heat transfer; advanced reactor design; reactor thermal-hydraulic, neutronic and structural analysis; investigation of nanofluids for nuclear applications
Prof. Jeffrey Freidberg	jpfreid@mit.edu	Fusion energy; plasma physics
Prof. Michael Golay	golay@mit.edu	Systems analysis and optimization; software and human reliability; nuclear power technology innovation, fluid mechanics and heat transfer
Prof. Elias Gyftopoulos	dboomer@mit.edu	Nuclear plant dynamics; plasma physics; surface physics; direct energy conversion; thermodynamics and quantum thermodynamics; energy policy and technology
Prof. Kent Hansen	kfhansen@mit.edu	Energy policy creation/modification in the US.
Prof. Ian Hutchinson	hutch@mit.edu	Experimental plasma physics; controlled fusion; nuclear energy; plasma physics; and magnetic confinement fusion
Prof. Andrew Kadak	kadak@mit.edu	Work on advanced high temperature pebble bed gas reactor that appears to be the leading candidate for a new generation of nuclear energy plants. Work in the areas of reactor physics, thermal hydraulics, accident analysis, design of helium systems and components, and new nuclear fuel development are available. This project will result in the construction of such a plant in the future. In order to do that economic analyses, non-proliferation risk assessments and probabilistic safety assessments will need to be done as well as the impact of this type of technology on waste disposal. Pebble Bed Project Team http://web.mit.edu/pebble-bed/ CANES http://web.mit.edu/canes/
Prof. Mujid S. Kazimi	kazimi@mit.edu	Engineering and economic analysis of advanced fission reactors and fuel cycle facilities. Comparative analysis of the performance of alternative systems of energy production for sustainable economic and environmental development; analysis of radioactive waste storage and disposal options including transmutation of spent nuclear fuel. MIT Program on Nuclear Fuel Cycle Economics and Environmental Policy & MIT Center for Advanced Nuclear Energy Systems.
Prof. Richard Lester	rklester@mit.edu	Nuclear fuel cycle and waste disposal; electric power industry restructuring; productivity and innovation; industrial performance
Prof. Joseph Minervini	minervini@psfc.mit.edu	Applied superconductivity; electric power systems; fusion energy
Prof. Neil E. Todreas	todreas@mit.edu	Thermalhydraulic laboratory experiments and computer analyses on problems of importance to energy extraction and safety analysis in nuclear power reactors.
Prof. Bilge Yildiz	byildiz@mit.edu	Interplay between structure, properties, and performance in electrochemically active material interfaces in nuclear technologies. Of particular interest are the two areas of study: 1) conducting oxides for enhanced activity and durability in high temperature electrochemical cells for hydrogen production/utilization devices, and 2) alloy structures for improved resistance against corrosion in nuclear materials.
Prof. Sidney Yip	syip@mit.edu	Mechanical and thermal behavior of structural and functional materials, specifically problems of strength, deformation and toughness of metals and ceramics, dislocation core structure, interactions and mobility, environmental effects of hydrolytic weakening, and studies of electronic and thermal conductivities in nanostructures.