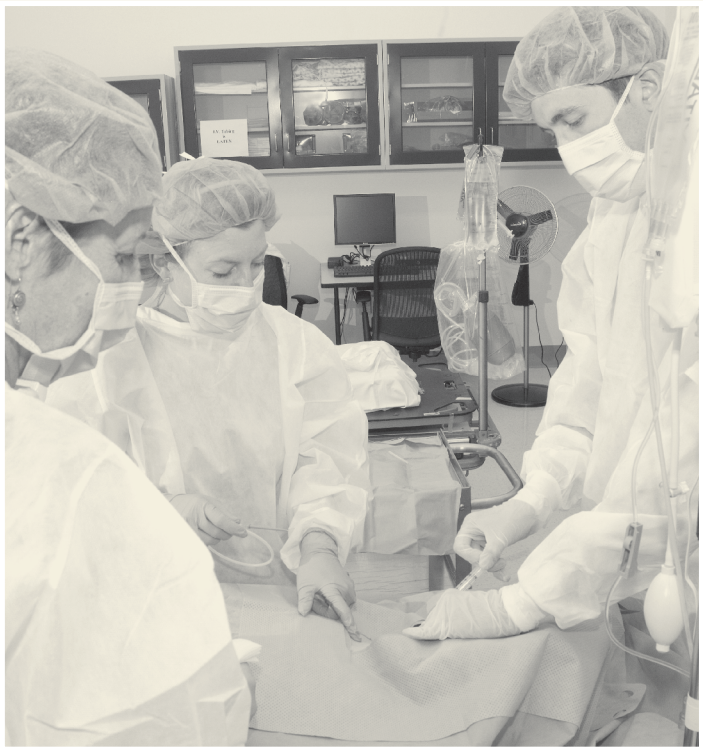


SOM 11-13

Academic Departments

Three decades ago, UMMS held commencement ceremonies for its first class. Since then, more than 2,900 students have graduated to become health care professionals in virtually all fields of medicine and research. As an institution dedicated to the highest academic and ethical standards, we expect our students to be effectively prepared for the world of health care, which is changing at an unprecedented rate. To help students hone those skills required in the complex health care environment of the 21st century, UMMS has assembled a superior, dedicated faculty, supported by a strong foundation of academic departments that are continually evolving to meet the needs of our medical students, so they may realize their full potential as practitioners and researchers.

Anesthesiology
Biochemistry & Molecular Pharmacology
Cancer Biology
Cell Biology
Emergency Medicine
Family Medicine & Community Health
Medicine
- Cardiovascular Medicine
- Dermatology
- Diabetes
- Endocrinology & Metabolism
- Gastroenterology
- General Internal Medicine
- Geriatric Medicine
- Hematology/Oncology
- Hospital Medicine
- Infectious Disease & Immunology
- Medicine/Pediatrics
- Palliative Medicine
- Preventive and Behavioral Medicine
- Pulmonary, Allergy & Critical Care
- Renal Medicine
- Rheumatology
- Transfusion Medicine

Microbiology & Physiological Systems
Molecular Medicine
Neurobiology
Neurology
Obstetrics & Gynecology
Ophthalmology
Orthopedics & Physical Rehabilitation
Otolaryngology
Pathology
Pediatrics
Psychiatry
Quantitative Health Sciences
Radiation Oncology
Radiology

Surgery
- Bariatric Surgery
- Cardiothoracic Surgery
- General Surgery
- Minimally Invasive Surgery (Endosurgery)
- Neurosurgery
- Organ Transplantation
- Pediatric Surgery
- Plastic & Reconstructive Surgery
- Surgical Oncology
- Thoracic Surgery
- Trauma and Surgical Critical Care Services
- Urology
- Vascular Surgery

Information in this section is provided by the departments and the Office of Faculty Affairs; it is current as of January 2011.

Anesthesiology

Anesthesiology's research efforts include studies into the:

- treatment of septic shock and acute respiratory distress syndrome and strategies to reduce catheter-related bloodstream infections;
- near-infrared spectroscopic measurement of hematocrit and of tissue pH, P02 and oxygen saturation to use as guides for resuscitation;
- biofilm formation on implanted medical devices;
- use of ultrasound for regional anesthesia; and
- history of anesthesia.

Members of the Department of Anesthesiology are involved in teaching first- and second-year students basic sciences, pharmacology and physiology.

The Department of Anesthesiology provides both third- and fourth-year medical students with a variety of educational experiences related to the perioperative management of patients. These include pre-operative evaluation, intra-operative management and post-operative care, including care in the SICU, in which the department is actively involved.

Rotations for third- and fourth-year students provide a practical experience in the fundamentals of airway management, endotracheal intubation, regional anesthetics and invasive monitoring. These rotations also focus on the pharmacology and physiologic alterations associated with the administration of an anesthetic. Students are exposed to the techniques of general anesthesia administration as well as to a range of regional anesthetic procedures, including spinal, epidural, intravenous and peripheral nerve blocks. Students learn ancillary methods of patient management during surgery, such as fluid and electrolyte replacement, acid base balance, controlled hypotension and cardiopulmonary bypass.

Third-year students gain experience at the University Campus, where they are exposed to trauma, cardiac, vascular, orthopedic, pediatric and off-site anesthesia cases, among others. Basic lectures on pre-operative patient assessment, choice of anesthesia and techniques of administration are presented to students who elect to take the anesthesiology rotation during the third-year surgery Core Clinical Experience.

Fourth-year elective rotations are designed to meet the needs of the medical student. In addition to required rotation time at the University Campus, students are given the option of rotating at any or all of our other residency training sites, in order to gain an exposure to a wide variety of anesthesia clinical settings. Sites include the UMass Memorial Medical Center Hahnemann Campus for ambulatory/regional anesthesia experience, the Memorial Campus for obstetric anesthesia and chronic pain management experience and the University Campus SICU.

A fourth-year student rotation focused on the management of critically ill surgical patients is also available. In addition, students have the option to participate in basic science investigations on biofilm formation by bacteria that are the common causes of device-related infections; clinical studies that investigate the use of near-infrared spectroscopy to monitor tissue pH, oxygen saturation and P02 in critically ill patients; and various experimental therapies in the treatment of the acute respiratory distress syndrome and sepsis.

Third- and fourth-year students have worked with various faculty members to conduct research and have presented their research findings at regional and national meetings.

We welcome students to spend time with us and learn about the intricacies of anesthesiology as well as the multiple career paths available within the specialty.

Anesthesiology Faculty

Mahmoud Aliouche, assistant professor; MD, University of Algiers, 1992

Arnel Almeda, assistant professor; BS, University of California, 1998; MD, Tufts University School of Medicine, 2004

Gustavo Angaramo, assistant professor; MD, Buenos Aires Medical School, 1988

***Antonio Aponte-Feliciano,** assistant professor; BS, University of Puerto Rico, 1995; MD, University of Puerto Rico Medical School, 2003

Rana Badr, assistant professor; MD, Tabriz University of Medical Science, 1993

Nicholas J. Barnard, assistant professor; BS, Guy's Hospital Medical School, 1970; MBBS, 1973

Arthur A. Bert, adjunct assistant professor; AB, Brown University, 1977; MD, Mount Sinai School of Medicine, 1981

Agatha Anna Boland, assistant professor; MD, Warsaw Medical Academy, 1982

Mark P. Bosch, assistant professor; MD, University of Michigan, 1985

Richard Jay Breed, assistant professor; BS, Massachusetts Institute of Technology, 1973; MD, University of Massachusetts Medical School, 1979

Richard A. Browning, adjunct assistant professor; SCB, Brown University, 1975; MD, 1978

Terri A. Camesano, adjunct research assistant professor; BS, University of Rochester, 1995; MS, University of Arizona, 1997; PhD, Pennsylvania State University, 2000

Andrew J. Cocchiarella, assistant professor; BA, Bates College, 1995; MD, University of Massachusetts Medical School, 2005

Bronwyn Cooper, assistant professor; AB, Harvard/Radcliffe University, 1986; MD, Albany Medical College, 1991

Elifce O. Cosar, assistant professor; MD, Cukurova University School of Medicine, 1990

Mark Dershwitz, vice chair and professor; BA, Oakland University, 1974; MD, Northwestern University, 1982

Manisha S. Desai, clinical associate professor; MBBS, Baroda Medical College, 1982

David L. Drexler, assistant professor; BS, Atlantic Union College, 1979; PhD, Loma Linda University, 1986

Eleanor M. Duduch, clinical associate professor; BS, Stonehill College, 1979; MD, University of Massachusetts Medical School, 1984

Khaldoun Faris, clinical associate professor; MD, University of Aleppo Medical School, 1991

Gilbert A. Fishbein, assistant professor; BA, Boston University, 1978; MD, Boston University School of Medicine, 1982

Russell M. Flatto, assistant professor; BS, Emory University, 2001; MD, Pennsylvania State University, 2005

Peter J. Foley, associate professor; BA, University of New Hampshire, 1980; MS, Ball State University, 1982; PhD, Purdue University, 1986

Monica S. Ganatra, assistant professor; AB, Harvard College, 1999; MPH, Tufts University, 2003; MD, Tufts University School of Medicine, 2003

** joint appointment*

Farajallah Habib, clinical associate professor; MD, Alexandria University, 1972

Stephen O. Heard, chair and professor; BS, Princeton University, 1975; MD, University of Texas, 1978

Robert B. Hennessy, clinical associate professor; BS, Tufts, 1976; MD, University of Massachusetts Medical School, 1980

Chandra S. Joshi, assistant professor; MBBS, Christian Medical College, 1980

Stephen P. Kapaon, assistant professor; BA, Brandeis University, 1980; MD, Saint Louis University, 1984

***David A. Kaufman,** clinical associate professor; BS, McGill University, 1974; MS, University of Calgary, 1976; MD, Queen's University, 1980

Shubjeet Kaur, vice chair and clinical professor; BS, University of Delhi, 1978; MBBS, Mualana Azad Medical College, 1983

***Issam Khayata,** assistant professor; MD, Aleppo University, 1992

Diana I. Kouznetsov, assistant professor; BS, Grodno Medical School, 1994; MD, Moscow Medical Institute, 1998

Gabriella Kovi, assistant professor; MD, Pecs University Medical School, 1983

Gordan Nicholas Kuhar, assistant professor; BA, Boston University, 1987; MD, Albany Medical College, 1987

Robert E. Lee, assistant professor; BA, Boston University, 1994; MD, St. George's University, 2004

***Jack L. Leonard,** professor; BA, California State University, 1971; PhD, University of California at Berkley, 1976

J. Lance Lichtor, professor; AB, The University of Chicago, 1973; MD, Pritzker School of Medicine, The University of Chicago, 1977

Astrid E. Liland, assistant professor; MD, University of Bergen Medical School, 1967

***Craig M. Lilly,** professor; MD, Oregon Health Sciences University, 1984

Talal Makkaoui, assistant professor; MD, Universita degli Studi di Bologna, 1979

Robert Malinowski, assistant professor; BS, Oakland University, 1980; MD, Wayne State University School of Medicine, 1984

Eileen E. Maltais, assistant professor; BA, Boston College, 1989; MD, Boston University School of Medicine, 2002

Carlos C. Maramag Jr., assistant professor; MD, Tufts University School of Medicine, 2001

Theofilos P. Matheos, assistant professor; BA, Boston University, 1999; MD, University of Massachusetts Medical School, 2005

Raimis Matulionis, assistant professor; MD, Vilnius University, 1989

William G. McGimpsey, adjunct research professor; BS, Brock University, 1978; MS, 1981

***Susanne Muehlschlegel,** assistant professor

Christian P. Mueller, assistant professor; MD, Rostock University Medical School, 1993

Mohammed Mushtaque, assistant professor; MBBS, Dow Medical College, 1975

Costin C. Negroiu, assistant professor; BA, B. P. Hasdeu National College, 1994; MD, Carol Davila University of Medicine & Pharmacy, 2000

Alan Orquiola, assistant professor; BA, College of the Holy Cross, 1993; MD, De La Salle University, 1998

M. Richard Pavao, assistant professor; BS, University of Massachusetts, 2001; MD, University of Massachusetts Medical School, 2005

Danna B. Peterson, professor; MHA, Clark University, 1999; MB CHB, University of Edinburgh, 1967

David Isaac Pomerantz, assistant professor; MD, University of Massachusetts Medical School, 1998

Andrew A. Proos, assistant professor; BA, University of New Hampshire, 1979; MD, University of Massachusetts Medical School, 1983

John Pullerits, clinical associate professor; MD, University of Toronto, 1975

Fred A. Rotenberg, adjunct assistant professor; AB, Washington University, 1973; MS, University of Rhode Island, 1976; MD, Brown University, 1981

Ronald B. Rubin, assistant professor; BS, University of Massachusetts, 1984; MD, University of Massachusetts Medical School, 1988

Steven D. Salt, assistant professor; BS, Rensselaer Polytechnic Institute, 1976; MD, University of Massachusetts Medical School, 1981

Mark A. Schlanger, assistant professor; BS, Adelphi University, 1984; DO, New York College of Osteopathic Medicine, 1990

Anthony L. Schwagerl, assistant professor; BS, Fordham University, 1989; MS, Boston College, 1992; MD PhD, Boston University School of Medicine, 2006

Carl Schwartz, adjunct instructor; BS, Case Western Reserve University, 1978; MD, St. George's University, 1982

Julie B. Selbst, assistant professor; BA, University of Michigan Honors College, 1982; JD, University of Michigan Law School, 1985; MD, University of Illinois at Chicago College of Medicine, 1997

Albert Shahnarian, research assistant professor; AE, Worcester Junior College, 1961; MS, Worcester Polytech Institute, 1973; PhD, 1983

Shaheen F. Shaikh, assistant professor; MBBS, Byramjee Jeejeebhoy Medical College, 1987; MD, 1990

Mark Shulman, adjunct clinical associate professor; MD, State University of New York at Upstate, 1977

Zafar I. Siddiqui, assistant professor; BS, Gorakhpur University, 1977; MBBS, King George Medical College, 1982

Sudershan Singla, clinical assistant professor; MD, Dayanand Medical College, 1983

Raymond G. Sohl, assistant professor; MD, University Autonoma De Guadalajara, 1998

Babs R. Soller, professor; BS, Union College, 1975; MA, Princeton University, 1977; PhD, 1980

Spiro G. Spanakis, assistant professor; BA, College of the Holy Cross, 1996; DO, University of New England College of Osteopathic Medicine, 2002

***Steven Treistman,** adjunct professor; BA, State University of New York at Binghamton, 1967; PhD, University of North Carolina at Charlotte, 1972

Borovann Ung, assistant professor; BS, Miami University of Ohio, 1988; MD, Miami University of Ohio, 1992

Anil M. Vyas, assistant professor; MBBS, Government Medical College of Miraj, 1972

Jens M. Walz, assistant professor; MD, University of Tuebingen - Germany, 1999

Nicholas C. Watson, assistant professor; BS, University of Michigan, 1997; MD, 2003

Rebecca A. Zanconato, assistant professor; BS, University of Massachusetts, 1998; MD, University of Massachusetts Medical School, 2004

Maksim Zayaruzny, assistant professor; BS, Brookline College, CUNY, 1996; MD, Johns Hopkins University School of Medicine, 2000

Alexander G. Zilber, assistant professor; RN, Odessa College, 1993; MD, 1999

** joint appointment*

Biochemistry & Molecular Pharmacology

Biochemistry & Molecular Pharmacology's notable faculty include:

- two Howard Hughes Medical Institute investigators;
- a recipient of the Schering-Plough Award from the American Society for Biochemistry and Molecular Biology;
- a Pew Scholar and W. M. Keck Foundation Distinguished Young Scholar;
- two recipients of the Burroughs Wellcome Fund Career Awards in Biomedical Sciences;
- investigators awarded a second five-year, $8.5 million NIH program grant focused on drug resistance in HIV protease and rational inhibitor design;
- a recipient of the Young Investigator Award from the American Society for Biochemistry and Molecular Biology;
- a recipient of the William C. Rose Award from the American Society for Biochemistry and Molecular Biology; and
- a chair elected to a two-year term as president of the Protein Society.

The Department of Biochemistry & Molecular Pharmacology provides medical students with an understanding of the molecular mechanisms underlying normal and disease processes in humans as well as of the fundamental principles and biochemical and physiological bases of drug action. This is accomplished through the offering of two first-year courses: the Building Working Cells and Tissues course and the Principles of Pharmacology course.

The Building Working Cells and Tissues course is designed to incorporate the fundamental concepts of biochemistry in a series of lectures, clinical correlations, medical vignettes, problem-solving sessions and problem-based cases. These concepts are integrated with those from cell physiology and histology to provide students with a comprehensive understanding of the structure and function of cells and tissues.

The Principles of Pharmacology course familiarizes students with basic pharmacology concepts (pharmacokinetics, pharmacodynamics, drug metabolism, toxicology) and introduces drugs affecting the autonomic nervous system (muscarinic, nicotinic and adrenergic drugs). These drugs are also used to explore the concepts of mechanism of action, clinical use and adverse effects, thereby providing a framework for the learning of additional drugs in subsequent courses.

Biochemistry & Molecular Pharmacology Faculty

Akbar Ali, research assistant professor; PhD, Humboldt-University Berlin, 2001

***Graham F. Barnard,** associate professor; BS, Southampton University, 1972; PhD, 1975

Balaji Bhyravbhatla, assistant professor; BS, Delhi University, 1986; MS, Delhi University, 1988; PhD, Brandeis University, 1997

Osman S. Bilsel, research associate professor; BA, University of Rochester, 1986; PhD, Washington University, 1991

Daniel N. Bolon, assistant professor; PhD, California Polytechnic State University, 2002

Sumner H. Burstein, professor *emeritus*; BS, Massachusetts Institute of Technology, 1953; MS, Brandeis University, 1955; PhD, Wayne State University, 1959

Hong Cao, research assistant professor; BS, Tsinghua University, 1984; MS, 1987; PhD, Hiroshima University, 1996

Anthony Carruthers, professor; BS, University of Manchester, 1977; PhD, University of London, 1980

Weijun Chen, research assistant professor; PhD, University of Science & Technology of China, 1999

Seong-Kyu Choe, research instructor; BS, Kyungpook National University, 1995; MS, Central Connecticut State University, 1998; PhD, University of Massachusetts Medical School, 2003

***Michael P. Czech,** chair and professor; BA, Brown University, 1967; MA, Duke University, 1969; PhD, Brown University, 1972

** joint appointment*

Spotlight on community



"We really want to emphasize the extremely generous nature of the faculty, staff, students, family and friends associated with the Medical School, who donated to the auction and bid so enthusiastically," said Matthew Janko, one of the members of the Class of 2014 who organized the event.

Student auction supports local clinics

The School of Medicine Student Body Committee (SBC) raised more than $12,000 to support Worcester Free Medical Clinics at a charity auction they planned in conjunction with UMass Medical School's annual Commonwealth of Massachusetts Employees Charitable Campaign. Items ranged from a sushi dinner to an unusually large Puma basketball shoe.

For more news about UMass Medical School, visit: www.umassmed.edu/news

UMass MedNow

***Roger J. Davis,** *Howard Hughes Medical Institute Investigator, the H. Arthur Smith Chair in Cancer Research*, professor; BA, Queens College, 1979; MPhil, 1980; PhD, 1983

Job Dekker, associate professor; BS, Utrecht University, 1993; MS, 1993; PhD, 1997

***Mark Dershwitz,** vice chair and professor; BA, Oakland University, 1974; MD, Northwestern University, 1982

***Stephen J. Doxsey,** professor; BS, University of Connecticut, 1977; PhD, Yale University, 1987

J. P. Flatt, professor *emeritus*

Alice J. A. Gardner, adjunct assistant professor; BS, Fontbonne College, 1990; PhD, Saint Louis University, 1998

Quentin H. Gibson, distinguished professor

Otto S. Gildemeister, instructor; MS, Universidad Santa Maria La Antigua, 1982; PhD, Louisiana State University, 1991

James Reid Gilmore, vice chair and professor; BS, University of New Mexico, 1973; MS, University of Illinois, 1976; PhD, 1980

***Heinrich Gottlinger,** professor; MD, Ludwieg Maximilians Universitat, 1983

***Michael R. Green,** *Howard Hughes Medical Institute Investigator, the Lambi and Sarah Adams Chair in Genetic Research,* professor; BS, University of Wisconsin, 1974; MD, Washington University School of Medicine, 1981

Gang Han, assistant professor; BS, Nanjing University, 1999; MS, Nanjing University, 2002; PhD, University of Massachusetts at Amherst, 2007

***Lawrence Hayward,** professor; BS, Washington University, 1982; PhD, Baylor College of Medicine, 1987

***Yicktung T. Ip,** associate professor; BS, National Defence University, 1984; PhD, University of Iowa, 1989

Kendall L. Knight, professor; BA, Clark University, 1975; PhD, University of California, 1981

William R. Kobertz, associate professor; BS, University of California, 1991; PhD, Massachusetts Institute of Technology, 1998

Andrei A. Korostelev, assistant professor; BS, Moscow State University, 1997; MS, 1997; PhD, Florida State University, 2003

***Omanand Koul,** research associate professor; BS, Jammu and Kashmir University, 1966; MS, Banaras Hindu University, 1968; PhD, 1974

***David Lambright,** professor; BS, University of Massachusetts at Lowell, 1984; PhD, Stanford University, 1992

***Jose R. Lemos,** professor; BA, Occidental College, 1970; PhD, Wesleyan University, 1979

John Leszyk, research assistant professor; BS, State University of New York, 1984; PhD, Clark University, 1987

***Shan Lu,** professor; MHA, Clark University, 1991; MD, Nanjing Medical College, 1982

Elisabet Mandon, research associate professor; PhD, National University of Laplata, 1987

Martin G. Marinus, professor; BS, University Otago, 1965; PhD, 1968

Francesca Massi, assistant professor; PhD, Boston University, 2001

Charles Robert Matthews, *the Arthur F. and Helen P. Koskinas Professor in Biochemistry and Molecular Pharmacology,* chair and professor; BS, University of Minnesota, 1968; MS, Stanford University, 1969; PhD, 1974

John R. McCullough, professor; BA, Brooklyn College, 1970; PhD, State University of New York at Downstate, 1980

***Haley E. Melikian,** associate professor; BS, University of Massachusetts at Amherst, 1983; PhD, Emory University, 1995

Stephen C. Miller, assistant professor; BS, University of Wisconsin, 1991; PhD, University of California at San Francisco, 1998

Melissa J. Moore, *Howard Hughes Medical Institute Investigator*, professor; PhD, Massachusetts Institute of Technology, 1994

Mary Munson, associate professor; BA, Washington University, St. Louis, 1989; PhD, Yale University, 1996

Madhavi Nalam, instructor

Jeffry Nichols, adjunct research assistant professor; BS, Texas Tech University, 1988; PhD, Rice University,

Thoru Pederson, *the Vitold Arnett Professor in Cell Biology*, professor; BA, Syracuse University, 1963; PhD, 1968

***Craig L. Peterson,** vice chair and professor; BS, University of Washington, 1983; PhD, University of California, 1988

Brian G. Pierce, research assistant professor; BS, Duke University, 2000; PhD, Boston University, 2007

Tariq M. Rana, adjunct professor; BS, Islamia University, 1983; MS, Quaid-I Azam University, 1986; PhD, University of California at Davis, 1990

Oliver Rando, associate professor; BA, Harvard, 1995; MD/PhD, Stanford, 2002

Nicholas R. Rhind, associate professor; BS, Brown University, 1989; PhD, University of California, 1995

Alonzo H. Ross, professor; BA, Cornell University, 1972; PhD, Stanford University, 1977

William E. Royer, professor; BS, Pennsylvania State University, 1976; PhD, Johns Hopkins University, 1984

Sean P. Ryder, associate professor; BS, University of New Hampshire, 1995; PhD, Yale University, 2001

Charles G. Sagerstrom, associate professor; BA, Macalester College, 1987; PhD, Stanford University, 1993

Celia A. Schiffer, professor; BA, University of Chicago, 1986; PhD, University of California, 1992

Victor Y. Serebrov, instructor; MS, Moscow State University, 1996

Scott A. Shaffer, research professor; BS, Northern Arizona University, 1986; DPhil, University of Washington, 1995

Inna V. Shcherbakova, instructor; MS, Moscow State University, 1993; PhD, Russian Academy of Sciences, 2002

***Joshua Jay Singer,** professor; BS, Massachusetts Institute of Technology, 1966; SB SM EE, 1966; PhD, Harvard University, 1970

***Lawrence Stern,** professor; BA, Cornell University, 1983; PhD, Massachusetts Institute of Technology, 1989

Thom Vreven, research assistant professor

***John Vincent Walsh,** professor; AB, Boston College, 1964; MD, Harvard Medical School, 1970

Zhiping Weng, professor; BS, University of Science & Technology, 1992; PhD, Boston University, 1997

Troy W. Whitfield, research assistant professor; PhD, Boston University, 2002

Scot Wolfe, associate professor; BS, California Institute of Techology, 1990; MA, Harvard University, 1992; PhD, 1996

Zuoshang Xu, professor; MD, Shanghai Medical College, 1982

Phillip D. Zamore, *Howard Hughes Medical Institute Investigator, the Gretchen Stone Cook Chair in Biomedical Sciences,* professor; AB, Harvard College, 1986; PhD, Harvard University, 1992

Konstantin B. Zeldovich, assistant professor; PhD, Moscow State University, 2001

Jill A. Zitzewitz, research associate professor; BA, Carthage College, 1986; MS, Washington State University, 1988; PhD, 1991

** joint appointment*

Cancer Biology

The Department of Cancer Biology is the nexus of cancer research at the medical center. Faculty members are engaged in research on fundamental mechanisms that lead to the onset, progression and dissemination of cancer and on the translation of these mechanisms to improve the prevention, detection and treatment of human cancers. The goal is to integrate the powerful and innovative biology that derives from the study of model organisms with the complex behavior of human tumors.

The department is a key component of the UMass Memorial Cancer Center of Excellence and home to several translational programs that bridge basic science and clinical cancer care, including the breast cancer, gastrointestinal cancer, genomic instability and leukemia programs. One of the most valuable resources is the tissue bank of the UMass Memorial Cancer Center, which accrues specimens from a variety of human cancers and provides them to researchers throughout the medical center as well as to other institutions.

Training the next generation of cancer researchers is a fundamental mission of the department. The cancer biology PhD program of the Graduate School of Biomedical Sciences is based here. This program provides students with outstanding training in cancer biology as well as an appreciation and understanding of cancer as a disease and the importance of translational research. This program brings together faculty and students from most of the basic science and clinical departments at the Medical School, and it fosters the role of the department as the center of cancer-related activities on campus. We are also proud to have a training grant from the National Cancer Institute that funds both pre-doctoral students and post-doctoral fellows throughout the school.

Cancer Biology Faculty

Eric H. Baehrecke, professor; BS, University of Massachusetts at Amherst, 1986; MS, Texas A&M University, 1988; PhD, University of Wisconsin, 1992

Sharon B. Cantor, associate professor; BS, University of Michigan, 1990; PhD, Sackler School of Graduate Biology, 1997

***Lucio H. Castilla,** associate professor; MS, University of Buenos Aires, 1988; PhD, University of Michigan, 1995

David S. Garlick, adjunct instructor; BA, Brandeis University, 1980; DVM, Tufts Veterinary School, 1985

Hira Lal Goel, research assistant professor; MSc, Kurukshetra, 1998; PhD, NIPER, 2002

Steven R. Grossman, associate professor; AB, Princeton University, 1984; PhD, University of Chicago, 1989

***Jeanmarie Houghton,** associate professor; BA, Rutgers University, 1985; MD, University of Medicine & Dentistry of New Jersey, 1989

Chung-Cheng Hsieh, professor; BS, National Taiwan University, 1976; MPH, 1978; DSc, Harvard University School of Public Health, 1985

***Stephen N. Jones,** professor; BA, State University of Virginia Polytechnic Institute, 1982; PhD, Vanderbilt University School of Medicine, 1988

Michelle A. Kelliher, professor; BA, Smith College, 1981; MS, Yale University, 1985; PhD, Tufts University, 1991

***Irwin Leav,** adjunct professor; BA, Ohio State University, 1959; DVM, 1965

***Qin Liu,** assistant professor; BS, Shanxi Medical University, 1992; MS, 1995; PhD, Shanghai University, 1998

Hoi Pang Low, research assistant professor; BS, Campbell University, 1982; MS, University of Georgia, 1990; PhD, 1996

Stephen R. Lyle, associate professor; BA, University of Chicago, 1988; PhD, 1993

Paul W. Mak, research assistant professor; BS, Northeastern University, 1978; PhD, Boston University, 1984

Junhao Mao, assistant professor; BA, Zhejiang University, China, 1993; PhD, Rochester, 2002

Arthur M. Mercurio, chair *ad interim* and professor; BS, Rutgers University, 1975; MA, Columbia University, 1976; PhD, 1981

***Peter E. Newburger,** *the Ali & John Pierce Chair in Pediatric Hematology Oncology,* professor; BA, Haverford College, 1970; MD, Harvard Medical School, 1974

Seema Paliwal, instructor; PhD, Delhi University, 1999

Tomi Sawyer, adjunct professor; PhD, University of Arizona, 1981

Vishva M. Sharma, instructor

Leslie M. Shaw, associate professor; BS, Trinity College, 1987; PhD, Harvard University, 1994

Karl J. Simin, assistant professor; PhD, University of Utah School of Medicine, 2001

***Merav Socolovsky,** assistant professor; BS, University of Cambridge, UK, 1983; MB BS, University of College London, UK, 1986; PhD, University of Cambridge, UK, 1994

***Janet Stavnezer,** professor; BA, Swarthmore College, 1966; PhD, Johns Hopkins University, 1971

William C. Strohsnitter, adjunct assistant professor; MS, University of Massachusetts at Amherst, 1986; DSc, Boston University School of Public Health, 2003

***Jennifer F. Tseng,** associate professor; BS, Stanford University, 1990; MPH, Harvard School of Public Health, 2007; MD, University of California, 1995

Fang Xia, instructor; BA, Second Military Medical University, 1993; MS, 1996; MD, 1999

** joint appointment*



Cell Biology

The Department of Cell Biology is notable for:

- ranking within the top 12 percent nationwide for research among medical school cell biology departments for the last 15 years;
- faculty consistently recognized for excellence in medical education; and
- its position as the lead department for human embryonic stem cell research and interdepartmental research program grants investigating nuclear structure and cancer, and cell structure and musculoskeletal disease.

Research in the Department of Cell Biology combines the use of molecular, cellular and in vivo genetic approaches to address structure-function relationships associated with control of cell growth and cell differentiation. Signal transduction mechanisms, cell motility, tumor suppression and metastasis, chromatin structure, as well as subnuclear assembly of the regulatory machinery that mediates the developmental expression of proliferation and tissue-specific genes in lineage committed cells and human embryonic stem cells, are investigated. The department provides training for MD, PhD and MD/PhD students in the underlying genetic, molecular and cellular bases of diseases, including muscular dystrophy, cancer, diabetes, osteopetrosis, osteoporosis, central nervous system defects and kidney disease.

Faculty bring their expertise as teachers of gross anatomy, neuroscience, histology, cell biology and human genetics into the first-year curriculum—with all involving molecular, cellular and developmental concepts. They provide students with the opportunity to directly observe the normal structure of the human body at the gross and cellular levels and to relate this experience to normal function and clinical problem solving.

Throughout the four-year curriculum, faculty contribute to additional courses, clerkships and electives that further prepare students for clinical practice. Departmental research and teaching programs emphasize interdisciplinary collaborations with colleagues in clinical and in other basic science departments.

Cell Biology Faculty

Athena Andreadis, associate professor; BA, Harvard College, 1977; PhD, Massachusetts Institute of Technology, 1984

***Neil Aronin,** professor; BA, Duke University, 1970; MD, Pennsylvania State University College of Medicine, 1974

Stephen P. Baker, instructor; BS, Worcester State College, 1976; MS, University of Massachusetts at Amherst, 1983

***Zheng-Zheng Bao,** associate professor; BS, Fudan University, 1986; PhD, University of Illinois, 1993

***Daniel T. Baran,** adjunct professor; BS, Boston College, 1968; MD, University of Rochester Medical School, 1973

Zvi Bar-Shavit, adjunct associate professor; BS, Hebrew University of Jerusalem, 1973; MS, Weizmann Institute of Science, 1976; PhD, 1981

***Thomas K. Barthal,** instructor; BA, The Johns Hopkins University, 1989; PhD, Massachusetts Institute of Technology, 1999

Pamela Becker, adjunct associate professor; AB, Harvard-Radcliffe, 1979; PhD/MD, Harvard University, 1986

***Alexei Bogdanov,** professor; BA, Moscow State University, 1981; MS, Moscow State University, 1983; PhD, All-Union Cardiology Research Center, 1989

Maria C. Borowski, instructor; MA, Mount Holyoke College, 1998

Je-Yong Choi, adjunct instructor; BS, Kyungpook University, 1988; MSD, 1990; PhD, 1994

John M. Cooke, associate professor; AB, Providence College, 1966; PhD, University of Massachusetts at Amherst, 1976

Roger W. Craig, professor; BS, Sydney University, 1970; PhD, University of London, 1975

James Crandall, research associate professor; BS, University of Illinois, 1975; PhD, University of Florida, 1980

***Stephen J. Doxsey,** professor; BS, University of Connecticut, 1977; PhD, Yale University, 1987

Hicham M. Drissi, adjunct instructor; BS, University of Pennsylvania, 1992; MS, 1993; PhD, 1997

***Raymond M. Dunn,** professor; BS, Worcester Polytech Institute, 1978; MD, Albany Medical College, 1982

** joint appointment*

***Paul Fanning,** research assistant professor; BS, Merrimack College, 1986; PhD, Harvard University, 1999

***Andrew H. Fischer,** professor; BS, Cornell University, 1979; MD, Brown University, 1984

***Daniel Z. Fisher,** associate professor; BA, Swarthmore College, 1982; PhD; MD, The Rockefeller University; Cornell Medical School, 1987; 1988

Harvey M. Florman, professor; BA, Rutgers University, 1972; PhD, University of Pennsylvania, 1982

Susan B. Gagliardi, vice chair and professor; BA, Radcliffe College, 1965; PhD, Harvard University, 1971

Tripti Gaur, research assistant professor; MS, Pant University of Agriculture & Technology (India), 1996; PhD, University of Delhi, 2002

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***Yu-Li Wang,** professor; BS, National Taiwan University, 1973; PhD, Harvard University, 1980

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Merrill K. Wolf, professor *emeritus*; BA, Yale University, 1945; MD, Western Reserve University, 1956

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***Xiufeng Wu,** research assistant professor; PhD, Beijing Normal University, 2001

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***Zuoshang Xu,** professor; MD, Shanghai Medical College, 1982

Sayyed K. Zaidi, research assistant professor; BS, Punjab University, 1995; MS, 1998; PhD, 2003

Hong Zhang, assistant professor; PhD, Michigan State University, 1998

***Robert B. Zurier,** professor *emeritus*; BS, Rutgers University, 1955; MD, University of Texas, 1962

** joint appointment*

Emergency Medicine

The Department of Emergency Medicine holds the distinction of:

- being one of the beneficiaries of a dramatic $129 million renovation of the emergency department on the University Campus of UMass Memorial Medical Center, completed in 2006;
- hosting both air and ground ambulance services;
- caring for more than 185,000 patients annually;
- having several specialized divisions with fellows in Ultrasound, Disaster Medicine and Emergency Management, Toxicology, Prehospital Care, Global Health International Emergency Medicine; and
- having a strong basic science and clinical research program.

The knowledge of life supportive measures as well as the recognition and management of common medical emergencies are fundamental for all medical students. Emergency Medicine faculty are committed to these priorities by providing instruction through lectures, workshops and bedside teaching throughout the four year curriculum. Members of the department offer career guidance and support by acting as individual advisors and preceptors as well as holding panel discussions several times a year.

Emergency Medicine faculty direct a number of courses in the first- and second-year curriculum, including: a) Integrated Case Exercises, which provides clinical case presentations as they relate to the foundational sciences such as anatomy and microbiology; b) instruction in Basic Life Support; c) Physical Diagnosis II (PDII) whereby abnormal physical examination findings are taught bedside in the emergency department; and d) Enrichment Electives in wilderness medicine. The department also instructs with other disciplines in the Care for the Seriously Ill, Pharmacology, Anatomy and Cultural Awareness courses. In the third year, students spend a portion of their core surgery, inpatient medicine and pediatric outpatient experiences in the emergency department, participating in patient evaluations.

The department offers eight clerkships per month for fourth-year medical students to gain a broad understanding of acute care medicine. During this rotation, students play primary roles in patient assessment and care, and develop problem solving skills as well as learn a variety of procedures. Emphasis is placed on providing students with exposure to a wide range of conditions including those that are life-threatening and their immediate management. Prehospital experience, including paramedic ambulance rides, can also be included. The department also offers fourth-year electives in toxicology, emergency ultrasound and a research elective that pairs the student with one of our research faculty in the laboratory or clinical areas of interest. Beginning in 2013, a new course called Emergency Clinical Problem Solving will become a requirement for fourth years. This course will combine clinical time and didactics focusing on the approach to common but important presentations, essential procedural skills and simulation.

At any time during medical school, students can explore a career in Emergency Medicine with faculty who are Longitudinal Program Preceptors or advisors, or by attending informative events coordinated with the student Emergency Medicine Interest Group (EMIG). Hands-on experiences in the simulation lab and suturing, airway, phlebotomy and splinting workshops are offered during the academic year. Additionally, research and international emergency medicine opportunities are available.

Emergency Medicine Faculty

Richard V. Aghababian, professor; BA, Harvard College, 1970; MD, University of Massachusetts Medical School, 1974

Harry M. Arters, assistant professor; BA, Assumption College, 1990; DO, Kirksville College of Osteopathic Medicine, 1995

Steven B. Bird, associate professor; BS, Yale University, 1991; MD, Northwestern University, 1995

Mark Bisanzo, assistant professor; BA, Middlebury College, 1998; MD, Harvard Medical School, 2002

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Gideon Bosker, affiliate; BA, University of Pennsylvania, 1972; MD, Washington University School of Medicine, 1976

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Edward Boyer, professor; BA, Vanderbilt University, 1983; MA, Columbia University, 1984; PhD, 1988

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Paul A. Zgurzynski, clinical assistant professor; BS, Boston College, 1991; MD, Georgetown University, 1995

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Spotlight on service

"A little bit of money goes a long way in some countries," said Michael A. Godkin, PhD, director of International Medical Education and professor of family medicine & community health and medicine. "Last year, for example, we purchased a wheelchair for a patient in Leon, Nicaragua, for just $250 while also supporting a community development project in the village of El Porvenir in that country. And, for $750, we funded a nutrition program for Nicaraguan immigrants in Costa Rica."

Students hold international craft fair

Each summer, dozens of UMass Medical School students travel abroad through the UMMS Pathway on Serving Multicultural and Underserved Populations, a program that fosters international and domestic medical outreach to populations representative of recent immigrants to the United States. And each fall, those same students host the International Craft Fair to sell handcrafted goods they purchased during their travels as a way to support programs in the communities in which they served.

The craft fair is a much-anticipated event that furthers the impact our students have on communities around the world, while also connecting the local UMMS community to global cultures through beautiful and unique items made by skilled artisans.

For more news about UMass Medical School, visit: www.umassmed.edu/news

UMass MedNow

Family Medicine & Community Health

The Department of Family Medicine & Community Health's faculty are:

- recognized nationally and by the University for their commitment to public service and community health;
- pioneers in community-based medical education; and
- nationally renowned leaders in faculty development.

One of the founding departments of UMass Medical School, the Department of Family Medicine & Community Health offers students a wide variety of educational, research and service activities. The department was ranked 14th among the nation's medical schools by *U.S.News & World Report* in its "2010 America's Best Graduate Schools" issue. Family Medicine faculty include a large number of family physicians working in a variety of settings across Central Massachusetts, ranging from urban and rural health centers to more traditional private practice settings.

Health care provided to underserved populations is also a major focus of the department. In Community Health, faculty interests include population medicine, prevention, evidence-based medicine, health care for the homeless and health policy. A leader in providing primary care and community-based educational experiences for the Medical School, the department's undergraduate programs include involvement in several courses during the first and second years, such as the Doctoring and Clinical Skills course and the Determinants of Health course.

In addition to serving as student advisors, faculty members precept students in the Doctoring and Clinical Skills course, placing students with a practicing family physician in the community for several sessions each semester, allowing them to interact with patients and develop their interviewing skills. For students interested in learning more about family medicine, the department supports a student-run Family Medicine Interest Group, which meets several times each year.

Research opportunities in the department are varied, and student involvement is supported by several summer work study programs which have led to publication, national presentations and international experiences. Service opportunities include programs that link international health experiences with specialized educational tracks, designed to enhance cultural awareness.

The department's major predoctoral focus for the third year is sponsorship of the Family Medicine core clinical experience. This required experience places students in community-based practices. Sites include community health centers, family medicine residency training sites, HMOs and private practices. The department also sponsors the four-year Pathway on Serving Underserved and Multicultural Populations and the Rural Health Scholars Program as well as graduate training programs in family medicine, sports medicine, preventive medicine and primary care psychology.

A variety of fourth-year electives are available to students interested in exploring additional areas of family medicine and community health. These include preceptorships in urban underserved areas, rural medicine, student health, Indian Health Service and global health. A subinternship in Family Medicine is also available. Additionally, the department participates in the Senior Scholars Program, allowing students to choose from numerous areas of interest.

Family Medicine & Community Health Faculty

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Nancy Duval Berube, assistant professor; BS, Worcester Polytech Institute, 1981; MD, University of Massachusetts Medical School, 1985

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William J. Blake, instructor; MD, New York Medical College, 1947

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James B. Broadhurst, assistant professor; BA, Williams College, 1974; MHA, Virginia Commonwealth University, 1978; MD, Medical College of Virginia, 1982

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Kelton Miller Burbank Jr., instructor

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Carol S. Cancro, instructor

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Neil F. Cannon, affiliate; BS, Fairfield University, 1968; MD, University of Maryland, 1972

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***Matilde Castiel,** assistant professor; BS, California State University, 1977; MD, University of California at San Francisco, 1982

Sharon A. Cermak, adjunct professor; BS, Ohio State University, 1969; MS, Boston University, 1971; MD, Boston University School of Medicine, 1981

Atreyi Chakrabarti, assistant professor; MBBS, Netaji Subhash Chandra Bose Medical College, 1991

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Felix Chang, assistant professor; BA, San Jose La Salle College, 1977; MD, Universitad de Guayaquil (Ecuador), 1986

Arbinda Chatterjee, assistant professor; MD, University of Calcutta Medical College, 1976

Nita Chatterjee, instructor; MD, Srinagar (India), 1975

Vasilios Chrisotomidis, assistant professor; BA, College of the Holy Cross, 1996; DO, University of New England College of Osteopathic Medicine, 2000

Alan B. Chuman, assistant professor; BA, State University of New York at Binghamton, 1973; MA, University of Pittsburgh, 1975

Linda G. Clark, assistant professor; BA, Brandeis University, 1988; MD, Eastern Virgina Medical School, 1995

Robin E. Clark, associate professor; BA, Appalachian State University, 1974; MA, University of Connecticut, 1979; PhD, Brandeis University, 1991

***Marjorie A. Clay,** professor; BA, University of Oklahoma, 1969; MA, Northwestern University, 1971; PhD, State University of New York at Buffalo, 1981

Dean Cleghorn, associate professor; BA, Lee College, 1973; MS, University of Tennessee, 1977; EdD, 1978

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Gerald P. Corcoran, assistant professor; BS, Boston College, 1961; MD, University of Vermont College of Medicine, 1965

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Carol Curtin, research assistant professor; BA, Trinity College, 1980; MSW, Boston University, 1982

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Philip M. DeChavez, assistant professor; MPH, Harvard School of Public Health, 2004; MD, University of Pennsylvania, 1999

Silvia DeGirolamo, assistant professor; BA, Fairfield University, 1998; MHA, Suffolk University, 2007; PsyD, Chicago School of Professional Psychology, 2004

Konstantinos E. Deligiannidis, assistant professor; BA, Harvard College, 1997; MPH, Boston University School of Public Health, 2000; MD, University of Massachusetts Medical School, 2004

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Spotlight on tradition



UMMS launches annual White Coat Ceremony

The mantle of the medical profession, the white coat, took center stage in September 2010, during the Medical School's inaugural White Coat Ceremony. First-year School of Medicine students heard about the important symbolism of the white coat before taking to the stage, one by one, to allow their Learning Community mentors to help them into this universal identifier of the medical profession, officially starting their challenging educational journey. "That coat has some pretty incredible, almost magical properties," said keynote speaker Jordan M. Cohen, MD, professor of medicine and public health at George Washington University and president emeritus of the Association of American Medical Colleges.

One of those magical properties is the ability to engender trust from patients. But, he warned, "Trust is earned, not owed. Merely putting on that white coat does not entitle you, ipso facto, to be trusted. It is what you do with that coat that matters."

The White Coat Ceremony is a relatively new tradition at most medical schools. The Arnold P. Gold Foundation initiated the first White Coat Ceremony on Aug. 20, 1993, at the Columbia University College of Physicians & Surgeons, and today 90 percent of medical schools host similar events.

For more news about UMass Medical School, visit: www.umassmed.edu/news

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Wankin Joseph Yu, instructor; BA, Harvard College, 1979; MD, University of Rochester Medical School, 1983

Edmond J. Zaccaria, assistant professor

Sarah F. Zakaria, instructor; MD, Islamia University, 1995

Mary L. Zanetti, assistant professor; BS, North Adams State College, 1980; MEd, University of Massachusetts at Amherst, 1999

** joint appointment*

Medicine

The Department of Medicine consists of:

- Sixteen subspecialty and general medicine divisions, each of which is successful and growing in key areas, including clinical practice, teaching and research;
- more than 800 full- and part-time faculty members; and
- the major expansion of centers of excellence programs in cancer, heart and vascular, musculoskeletal disease and diabetes.

The Department of Medicine participates extensively in and promotes broadly the education of medical students in several venues and across the undergraduate curriculum by fostering faculty leadership as course directors, classroom teachers, inpatient and outpatient clinical educators, mentors and advisors, and as lecturers in clinical and basic research seminars.

Department faculty teach students to develop a comprehensive and in-depth understanding of the pathophysiology of disease; techniques for history taking, physical examination and generation of a differential diagnosis and management plans; the impact of illness on the patient; and wellness promotion and disease prevention. Throughout the four-year curriculum, the department works to ensure that students are well-trained in general internal medicine, are exposed to key aspects of the subspecialties of Medicine, and are prepared clinically and academically for internship and residency in all disciplines.

The Department of Medicine introduces first-year students to medical interviewing and clinical problem-solving in the Doctoring and Clinical Skills course. In the Longitudinal Preceptorship Program, first-year students serve as observers in General Internal Medicine offices and participate in the first phase of Physical Diagnosis, which emphasizes normal physical findings and their relationship to anatomy and physiology.

Faculty members are involved extensively in the Foundations of Medicine curriculum. They direct and staff the Physical Diagnosis

2 course in which second-year students are taught the elements of history-taking and physical examination of patients with a variety of diseases. They direct and staff the Doctoring and Clinical Skills 2 course, wherein students begin to develop clinical skills, including the generation of problem lists, differential diagnoses, management plans, admission notes, medical orders and progress notes as well as critical analysis and use of medical literature. In addition, department faculty lead and teach in Foundations of Medicine 1 and 2 courses, including Building Working Cells and Tissues, Cancer Concepts, Infections and the Organ Blocks. Faculty members also teach in electives in caring for the seriously ill and therapeutics.

Third-year students participate in a comprehensive clinical experience in medicine. Inpatient rotations allow each student to experience tertiary care medicine at the University campus and care of more common medical problems at a community hospital. An ambulatory rotation allows students to work closely with primary care internists in office or outpatient clinic settings. A rigorous core curriculum is provided through regularly scheduled conferences and seminars. Selective opportunities are provided in medicine subspecialties as well. A senior geriatrician is director of the End of Core Clinical Experiences Assessment (ECCEA) program and directs curriculum integration in the UMMS Simulation Center.

The majority of fourth-year students select Medicine as the discipline for their required subinternship experience; this inpatient block provides students with more advanced, challenging and responsible roles in patient management than the third-year Core Clinical Experience. The department provides electives for fourth-year students in a variety of disciplines, including cardiovascular medicine, dermatology, diabetes, endocrinology, gastroenterology, general medicine/primary care, geriatric medicine, hematology/oncology, infectious diseases, preventive/behavioral medicine, pulmonary medicine, renal medicine and rheumatology, as well as in intensive care medicine. Research opportunities are provided in medical subspecialties and general medicine through the Senior Scholars Program. The department encourages students to participate in laboratory-based and clinical research projects during their time in medical school.

Medicine Faculty

Annie Abraham, assistant professor; MD, Christian Medical College, 1971

George Abraham, clinical associate professor; MPH, Hopkins Academy, 2002; MBBS, Christian Medical College, 1988

Konstantin Abramov, assistant professor; MD

Philip Adamo, assistant professor; BS, Fordham University, 1978; MPH, University of Wisconsin, 1997; MD, Universidad Del Noreste, 1982

Abigail Adams, clinical associate professor; BS, University of Massachusetts at Boston, 1975; MD, University of Massachusetts Medical School, 1980

Sarika Agarwal, instructor; PhD, Michigan Technological University, 1995

Sarika Aggarwal, assistant professor; MBBS, Grant Medical College, 1987

Payam Aghassi, assistant professor; MD, Tehran University Medical School, 1996

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Parmender Bagga, assistant professor

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** joint appointment*

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Kyle Ann Cooper, assistant professor; MD, University of Mexico, 1987

Marcus P. Cooper, assistant professor; MD, Johns Hopkins University, 1999

William F. Corbett, clinical associate professor; BA, Boston University, 1978; MD, University of Massachusetts Medical School, 1983

Mary E. Costanza, professor *emeritus*; AB, Radcliffe College, 1958; MA, University of California at Berkley, 1962; MD, University of Rochester Medical School, 1968

Eric P. Cotter, instructor; BS, University of Massachusetts at Amherst, 1974; MD, University of Massachusetts Medical School, 1978

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Jennifer Daley, professor

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John Darrah, assistant professor; BS, St. Josephs University, 1962; MD, University of Pennsylvania, 1966

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Venkat Davuluri, assistant professor; MBBS, Gunter Medical College, 1999

John A. Day Jr., assistant professor; AB, Harvard College, 1973; MD, Cornell University School of Medicine, 1981

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William J. Demarco, clinical associate professor; AB, College of the Holy Cross, 1980; DO, University of New England, 1984

Vikas Desai, adjunct assistant professor; MD, Government Medical College of Srinagar, 1984

Taniya N. DeSilva, assistant professor; MD

Suneel Dhand, assistant professor; MD, University of Wales College of Medicine, 2003

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Sharon P. Dilley, instructor; MD, Harvard Medical School, 1985

***James G. Dobson,** professor *emeritus*; BS, Central Connecticut State University, 1965; MA, Wesleyan University, 1967; PhD, State University of Virginia Polytechnic Institute 1971

Angela Dolganiuc, assistant professor; MD, Moldova State University of Medicine & Pharmacy, 1993

Christine Donahue, assistant professor; BA, Williams College, 1989; MD, University of Massachusetts Medical School, 1995

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Brenda Eze, instructor; BS, University of Wisconsin, 1977; MD, 1981

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James E. Fanale, associate professor; BS, Pennsylvania State University, 1973; MD, Chicago Medical School, 1976

Faheem M. Farooq, instructor; MB CHB, Alexandria University, 1967; MD, Osmania University, 1971

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Robert K. Ferguson, assistant professor; MD, Georgetown University, 1980

John A. Ferriss, clinical associate professor; BS, Nasson College, 1973; MD, Jefferson Medical College, 1977

John A. Ferullo, assistant professor; AB, Harvard College, 1972; MD, University of Vermont College of Medicine, 1976

Terry S. Field, associate professor; BA, Tufts University, 1967; MS, Instructional Systems Technology, 1971; DSc, Boston University, 1993

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** joint appointment*

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Thomas Gassert, assistant professor; MD, UMDNJ-Robert Wood Johnson Medical School, 1992

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Spotlight on awareness

Students stage blood drive as competition for House Cup

When medical student Dan Carr ’13 saw a flier seeking blood donors to ease an unexpected shortage, he quite literally rolled up his sleeves and donated a unit of whole blood at the UMass Memorial Blood Donor Center. While there, Carr learned that not only does the Blood Donor Center experience worrisome periodic shortages, but a great many of his fellow students—all potential donors—are simply unaware of the center and its need.

“There are nearly 500 medical students on this campus,” said Carr. “But many of them, like me, arrive here as first years with no knowledge of the Blood Donor Center and its importance to the hospital’s patients.” Carr struck upon the idea of using the House Cup to encourage students to donate. The House Cup is a new tradition among the Medical School’s five Learning Communities, or houses, and students earn points for their houses through service-oriented activities. The house with the most points at the end of the school year wins the cup and bragging rights. Carr proposed a point system for blood donation and worked with staff at the center to establish a recording system for donors. “We loved Dan’s idea of generating a little competition among the houses; the students can gain easy points for their houses while also establishing what we hope will be a lifelong habit of donating,” said Eileen Galvin Karr, RN, BSN, Blood Donor Center supervisor. For more news about UMass Medical School, visit: www.umassmed.edu/news

UMass Med Now

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Microbiology & Physiological Systems

Microbiology & Physiological Systems features:

- research focused on specific genes that regulate disease processes, host defense mechanisms and basic cellular controls;
- investigators who exploit classic, molecular and genomic approaches to the genetics of several model systems;
- a multifaceted research approach designed to understand normal and dysfunctional molecular and cellular mechanisms in human physiology and disease in all organs of the body;
- faculty members internationally known for their expertise in bacteriology, virology, molecular biology, immunology, neural science, reproduction, aging, cell growth and cancer, stem cell research, cardiovascular physiology, endocrinology, smooth muscle biology and contractile proteins; and
- excellence in integrative physiological and microbiological education of medical and graduate students that is essential to fostering translational research involving physicians and researchers and has been consistently recognized by numerous teaching awards.

Faculty in the Department of Microbiology & Physiological Systems are extensively involved in the leadership and teaching of microbiology and physiology, providing students with the basic knowledge necessary to understand and intervene in disease processes. Much of this teaching takes place in Foundations of Medicine 1 courses, in interdisciplinary collaboration with faculty in other basic science and clinical departments. A key underlying tenet of the department's educational approach is that the practice of medicine will be linked more and more closely with the expanding knowledge of basic biological phenomena.

Accordingly, in the Development Structure & Function course and the Building Working Cells and Tissues course, department faculty teach medical students the fundamental aspects of physiology. This knowledge serves as the foundation for understanding the functional basis of human health and disease—a foundation that students need as they prepare to become physicians and lifelong learners. Coursework emphasizes the physical and biochemical principles that govern the function of various cell types and organ systems—understanding these principles is far more important for understanding physiological and pathophysiological processes than rote memorization of facts. In the Foundations of Medicine curriculum, the teaching of human physiology strikes a balance between broad coverage and in-depth analysis of certain topics that are particularly illustrative of basic principles or methods.

In observance of the same principles, part of the Infections course covers the basic biology of bacteria and viruses, emphasizing the molecular mechanisms of microbial processes that are targets or potential targets for antibacterial or antiviral chemotherapy. In coursework, students learn about the pathogenic mechanisms employed by microbes to establish human infection, cause tissue damage and spread to other hosts. Finally, the acquired knowledge of the biology and pathogenic strategies of these microorganisms is used as a foundation for students to learn how to diagnose, treat and prevent human infectious disease.

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***Richard Glew,** vice chair and professor; AB, Harvard College, 1965; MD, Johns Hopkins University, 1969

Jon D. Goguen, associate professor; BS, Fitchburg State College, 1974; MS, University of Massachusetts at Amherst, 1977; PhD, 1980

***Douglas T. Golenbock,** professor; BS, University of Michigan, 1975; MD, 1980

H. Maurice Goodman, professor *emeritus*; AB, Brandeis University, 1956; MA, Harvard University, 1957; PhD, 1960

Peter Grigg, professor *emeritus*; BS, Rensselaer Polytech Institute, 1961; MS, Syracuse University, 1965; PhD, State University of New York at Upstate, 1969

Lawrence Hayward, professor; BS, Washington University, 1982; PhD, Baylor College of Medicine, 1987

Feng He, research assistant professor; BS, Beijing Agricultural University, 1985; MS, National Institute of Agronomy, 1988; PhD, 1991

Mitsuo Ikebe, professor; BS, Tokyo Institute of Technology, 1975; MS, 1977; PhD, Osaka University, 1982

Ronald M. Iorio, professor; BA, University of Massachusetts at Boston, 1969; MS, Boston College, 1972; PhD, 1979

Allan S. Jacobson, chair and professor; PhD, Brandeis University, 1971

Duane D. Jenness, associate professor; BS, Oregon State University, 1974; PhD, University of California at Berkley, 1980

Robert P. Johnson, adjunct associate professor; BS, Duke University, 1980; MD, Harvard Medical School, 1984

Julie A. Jonassen, professor; BS, University of Michigan, 1974; PhD, 1980

***John F. Keaney,** professor; MD, Harvard Medical School, 1989

Daniel L. Kilpatrick, associate professor; BA, University of California at San Diego, 1974; PhD, Duke University, 1980

Satoshi Komatsu, research assistant professor; BS, Tokyo Agricultural University, 1992; MS, 1994; PhD, Hiroshima University, 1997

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Jose R. Lemos, professor; BA, Occidental College, 1970; PhD, Wesleyan University, 1979

Jack L. Leonard, professor; BA, California State University, 1971; PhD, University of California at Berkley, 1976

John M. Leong, vice chair and professor; BA, Brown University, 1979; PhD, 1985

***Stuart M. Levitz,** professor; BA, New York University, 1975; MD, 1979

***Egil Lien,** associate professor; MS, Norwegian Institute of Technology, 1992; PhD, Faculty of Medicine, 1998

***John Mark Madison,** professor; BA, Carleton College, 1975; MD, Harvard Medical School, 1979

David Mangus, research assistant professor; BA, Ohio Wesleyan University, 1987; PhD, Indiana University, 1994

Dannel McCollum, professor; BS, University of Illinois, 1987; PhD, University of California at San Diego, 1993

Beth A. McCormick, professor; PhD

Trudy G. Morrison, professor; BA, Wellesley College, 1967; PhD, Tufts University, 1972

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***Peter E. Newburger,** *the Ali & John Pierce Chair in Pediatric Hematology Oncology,* professor; BA, Haverford College, 1970; MD, Harvard Medical School, 1974

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***Gregory J. Pazour,** associate professor; BS, South Dakota State University, 1986; PhD, University of Minnesota, 1991

***Daniel A. Pollen,** professor; AB, Harvard College, 1956; MD, Harvard Medical School, 1960

Anthony R. Poteete, professor; AB, Harvard College, 1973; PhD, Massachusetts Institute of Technology, 1977

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***Ann Rothstein,** professor; PhD, University of Pennsylvania School of Medicine, 1977

Michael Sanderson, professor; BS, University of Southampton, 1976; PhD, 1981

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***Neal S. Silverman,** associate professor; BA, University of California, 1989; PhD, Massachusetts Institute of Technology, 1996

Joshua Jay Singer, professor; BS, Massachusetts Institute of Technology, 1966; SB SM EE, 1966; PhD, Harvard University, 1970

** joint appointment*

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***Jeffrey S. Stoff,** professor; BS, Hobart College, 1964; MD, State University of New York at Buffalo, 1968

***John L. Sullivan,** professor; BS, Le Moyne College, 1968; MD, State University of New York at Upstate, 1972

Donald John Tipper, professor *emeritus*; BS, University Birmingham, 1956; PhD, 1959

Richard A. Tuft, research associate professor; BS, Pennsylvania State University, 1963; MS, Massachusetts Institute of Technology, 1966; PhD, Worcester Polytech Institute, 1972

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Ronghua Zhuge, associate professor; BS, Zhejiang University, 1983; MS, Nanjing Agricultural University, 1986; PhD, Iowa State University, 1995

** joint appointment*

Molecular Medicine

Molecular Medicine's stellar faculty includes:

- the co-recipient of the 2006 Nobel Prize in physiology or medicine;
- three Howard Hughes Medical Institute Investigators;
- the co-directors of the Diabetes and Endocrinology Research Center, funded by the National Institutes of Health;
- the co-recipient of the 2008 Lasker Award for Basic Medical Research;
- two members of the National Academy of Science;
- two foreign members of the European Molecular Biology Organization; and
- a fellow of the Royal Society.

Molecular Medicine is characterized by a diverse faculty of both basic biomedical scientists and physician-scientists. The program occupies its own modern 80,000-square-foot research building adjacent to the Medical School campus—Biotech Two—and includes additional faculty appointments in the Program in Gene Function and Expression, the Program in Cell Dynamics and the Program in Bioinformatics and Integrative Biology, located within the Lazare Research Building. The program's strategy for scientific development has been to assemble outstanding investigators with overlapping scientific interests who apply their unique knowledge to molecular mechanisms that underlie physiological processes and associated diseases. Areas of expertise include chemistry; structural biology; biochemistry; cell, developmental and molecular biology; cell signaling and regulation; genomics and proteomics; genetics; and immunology and virology. Molecular Medicine faculty are active in teaching these disciplines in both core and advanced courses to graduate and medical students.

The laboratory groups in the program are led by academic leaders in their respective fields of biology and medicine. Strong research programs related to cancer biology, AIDS, diabetes and obesity are also represented. The multidisciplinary nature of the program has led to scientific collaboration and diversity, providing an exceptional training ground for students and postdoctoral fellows alike.

Molecular Medicine Faculty

Usha Rajagopalan Jairaj Acharya, assistant professor; BS, University of Madras, 1985; MS, University of Madras, 1987; PhD, Indian Institute of Science, 1992

Victor R. Ambros, professor; BS, Massachusetts Institute of Technology, 1975; SB, Massachusetts Institute of Technology, 1975; PhD, Massachusetts Institute of Technology, 1979

Myriam Aouadi, research assistant professor; PhD, Institut Francais de Recherche pour l'Exploitation, 2005

Ingolf M. Bach, associate professor; PhD, University of Paris VII, 1993

Karl Dean Bellve, research assistant professor; BS, University of Massachusetts at Amherst, 1990; MD, University of Maryland Baltimore County, 1992

Jennifer A. Benanti, assistant professor; PhD, University of Washington, 2003

Rita B. Bortell, associate professor; BS, University of Florida, 1975; MS, University of Florida, 1981; PhD, University of Florida, 1987

Craig J. Ceol, assistant professor; BS, Yale University 1993; MS, Yale University, 1993; PhD, Massachusetts Institute of Technology, 2003

Michael S. Brehm, research assistant professor; BS, Philadelphia College of Pharmacology & Science, 1993; PhD, Pennsylvania State University, 1999

Michael H. Brodsky, assistant professor; BA, University of California, 1987; PhD, Massachusetts Institute of Technology, 1996

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Lucio H. Castilla, associate professor; MS, University of Buenos Aires, 1988; PhD, University of Michigan, 1995

Anil K. Chawla, research assistant professor; MS, Panjab University, 1980; PhD, City University of New York, 1988

Paul R. Clapham, associate professor; BS, University of London, 1974; MS, Reading University, 1978; PhD, University of London, 1990

Darryl Conte, research assistant professor; BS, Rensselaer Polytech Institute, 1992; PhD, State University of New York at Albany, 2000

Silvia Corvera, professor; BS, Madrid, 1975; MD, Autonoma (Mexico), 1982; MS, 1984

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Madhumita Das, instructor; PhD, Jadavpur University, 2001

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Stephen J. Doxsey, professor; BS, University of Connecticut, 1977; PhD, Yale University, 1987

Maria Jose Duenas Decamp, instructor; BS, Universidad Complutense de Madrid, 1997

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Kevin E. Fogarty, research assistant professor; BS, Worcester Polytech Institute, 1975; MS, Worcester Polytech Institute, 1978

Andrea S. Foulkes, adjunct assistant professor; BA, Brown University, 1994; DSc, Harvard University School of Public Health, 2000

Randall Friedline, instructor; PhD, University of North Carolina at Chapel Hill, 2001

Paul S. Furcinitti, assistant professor; BS, Worcester Polytech Institute, 1971; PhD, University of New Hampshire, 1975

Heinrich Gottlinger, professor; MD, Ludwieg Maximilians Universitat, 1983

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Dale L. Greiner, professor; BS, University of Iowa, 1974; PhD, University of Iowa, 1978

Weifeng Gu, research assistant professor; MD, Beijing Medical University, 1997

David A. Guertin, assistant professor; PhD, University of Massachusetts Medical School, 2002

Adilson L. Guilherme, research assistant professor; BS, University Do Estado Do Rio De Janeiro, 1989; PhD, University Do Estado Do Rio De Janeiro, 1994

** joint appointment*

Kirsten A. Hagstrom, assistant professor; BA, Oberlin College, 1989; MA, Princeton University, 1993; PhD, Princeton University, 1998

Yicktung T. Ip, associate professor; BS, National Defence University, 1984; PhD, University of Iowa, 1989

Jeffrey D. Jensen, assistant professor; PhD, Cornell University, 2006

Dae Young Jung, instructor; BS, Sangmyung, South Korea, 1989; PhD, 2001

Agata Jurczyk, instructor

Paul D. Kaufman, associate professor; BA, University of California, 1985; PhD, Massachusetts Institute of Technology, 1992

Norman J. Kennedy, research assistant professor; BA, Dartmouth College, 1990; PhD, University of Vermont, 1999

Jason Kim, professor; BS, University of California at Irvine, 1991; PhD, University of Southern California, 1996

Ellen Kittler, research assistant professor; BA, University of Arkansas, 1978; PhD, State University of Virginia Polytechnic Institute, 1989



Spotlight on service

Students team up at area flu clinic

Faculty and students of the School of Medicine and Graduate School of Nursing administered flu vaccines at Worcester's annual Community Immunity Day last fall. A joint program of the Worcester Department of Public Health and the Worcester District Medical Society that provides free flu vaccines to adults, Community Immunity has long benefitted from the support of UMass Medical School.

In this exemplary community collaboration, students gave injections to about 1,000 area residents and took part in a service learning experience that allowed them to observe the process for staging mass immunizations, participate in health teaching and documentation and practice their injection techniques, all in a public health outreach setting.

Fourth-year medical student Jeremy Robbins, who volunteered, said, "It is rewarding to be part of the next generation of physicians, nurses and health professionals who are stepping up and letting Worcester know they care. This event has certainly made me feel more closely entwined with the city and its people."

With its goal to immunize as many individuals in as short a time as possible, Community Immunity Day further serves as a test of the city of Worcester's emergency preparedness plan. Students honed their screening, history taking and injection administration skills, while also protecting the health of the public.

For more news about UMass Medical School, visit: www.umassmed.edu/news

UMass MedNow

Hwi-Jin Ko, instructor; BS, Sung Kyun Kwan, South Korea, 1994; MS, 1998; PhD, Seoul National, 2005

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Brian Lewis, associate professor; BS, University of California at Los Angeles, 1991; PhD, Johns Hopkins University, 1997

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Paul Peters, instructor; PhD, Purdue University, 1996

Craig L. Peterson, vice chair and professor; BS, University of Washington, 1983; PhD, University of California, 1988

Nancy E. Phillips, assistant professor; AB, University of California, 1974; PhD, University of Colorado, 1980

Serguei A. Popov, research assistant professor; MD, State Medical University, 1976

John S. Reece Hoyes, instructor; BS, James Cook, Australia, 1996; PhD, 2001

Aleksandr Repik, instructor; PhD, Russian Academy of Sciences, 1994

Joel Richter, professor; BA, Indiana University, 1974; MS, Arizona State University, 1976; PhD, Arizona State University, 1979

***Aldo A. Rossini,** professor *emeritus*; BS, University of Dayton, 1963; MD, Saint Louis University, 1968

Jovenal T. San Agustin, instructor; BS, Mindanao State University, 1972; MS, University of the Philippines, 1978; PhD, University of Wisconsin, 1988

Gary B. Schneider, professor; BS, University of Wisconsin, 1969; PhD, University of Massachusetts at Amherst, 1973

Masaki Shirayama, research assistant professor; PhD, University of Tokyo, 1995

Ernesto R. Soto Villatoro, instructor; BS/MS Universidad del Valle de Guatamala, 1999; PhD, Worcester Polytechnic Institute, 2005

Claire Louise Standen, instructor; BSc, Bath, United Kingdom, 1996; PhD, Kings College, London, 2002

Clive Standley, research associate professor; BSc, Imperial College, London, 1983; PhD, 1986

Juerg R. Straubhaar, research assistant professor; MS, University of Berne, 1980; PhD, Clemson University, 1991

John L. Sullivan, professor; BS, Le Moyne College, 1968; MD, State University of New York at Upstate, 1972

William E. Theurkauf, professor; BA, Brandeis University, 1980; PhD, Brandeis University, 1988

Heidi A. Tissenbaum, associate professor; BS, Concordia University, 1986; MS, Ottawa University School of Medicine, 1988; PhD, Harvard University, 1997

Rossella Tupler, research assistant professor; MD, University of Brescia, 1985

Fumihiko Urano, associate professor; MD, Tokyo, 1994; PhD, 1998

Yoshiko Usami, research instructor; PhD, Gifu University, 1993

Lambertus van den Berg, associate professor; MS, Utrecht, 1990; PhD, 1994

Joseph V. Virbasius, research assistant professor; BS, Worcester Polytech Institute, 1985; PhD, Northwestern University, 1991

Albertha J. Walhout, associate professor; BS, Utrecht University, 1992; PhD, Utrecht University, 1997

Yong Xu Wang, assistant professor; BS, Peking University, 1989; PhD, University of Iowa, 1999

Shinya Watanabe, instructor; BE, Soka University, 1997; MEd, Soka University, 1999; PhD, Soka University, 2002

Alexey Dmitriyevich Wolfson, research assistant professor

Lan Xu, associate professor; BS, School of Life Sciences at Fudan, 1990; MS, Dalhousie University, 1993; PhD, University of California at San Diego, 1998

Chaoxing Yang, instructor

Maria L. Zapp, assistant professor; BA, Wilson College, 1980; PhD, Baylor College of Medicine, 1989

Qionglin Zhou, instructor; BS, Jiangxi, 1982; PhD, London, 1996

Lihua Zhu, research associate professor; BS, China Agricultural University, 1990; MS, China Agricultural University, 1993; PhD, University of Wisconsin, 1999

Neurobiology

Neurobiology faculty conduct cutting-edge research into the:

- assembly and plasticity of synapses, the structures through which nerve cells communicate with each other;
- development and function of glia that may identify targets for pharmaceutical intervention in spinal cord injuries or neurodegenerative disease;
- mechanisms of neural circuitry formation and its impact on the developing brain;
- mechanisms of learning and memory in fruit flies and behavioral plasticity in worms, and their relevance to those of humans; and
- mechanisms of circadian rhythm generation in insects and mammals that are therapeutic targets for some sleep and psychiatric disorders.

Brain function embodies the very essence of the human experience, as well as that of our relatives in the animal kingdom, and its study represents one of the most exciting scientific endeavors. Established in 2001, the Department of Neurobiology is the driving force for basic neuroscience research on campus. The department's activities encompass the study of fundamental neural mechanisms, with implications for disorders ranging from Sudden Infant Death Syndrome to Alzheimer's disease.

Department faculty are focused on elucidating fundamental mechanisms of brain function using model genetic systems and unconventional models, such as the monarch butterfly. These research results will add to the understanding of the roles of genes and their protein products in normal neuronal and glial function, with the goal of finding innovative therapies to prevent, combat and cure neurological and neuropsychiatric disorders.

** joint appointment*

Neurobiology Faculty

Hong-Sheng Li, associate professor; BS, Wuhan University, 1991; PhD, Shanghai Brain Research Institute, 1996

Mark Alkema, assistant professor; BS, University of Amsterdam, 1985; MS, 1990; PhD, 1996

Claire Benard, assistant professor; BS, McGill University, 1996; PhD, 2003

Vivian Budnik, vice chair and professor; BS, University of Chile, 1983; PhD, Brandeis University, 1988

Patrick Emery-Le, associate professor; BS, University of Geneva, 1990; MS, 1992; PhD, 1996

Michael M Francis, assistant professor; BA, University of Virginia, 1992; PhD, University of Florida, 1998

Marc R Freeman, associate professor; BS, Eastern Connecticut State University, 1993; PhD, Yale University, 1999

Robert J Gegear, adjunct research assistant professor; BS, University of Western Ontario, 1992; MS, 1995; PhD, 2002

Tzumin Lee, affiliate; MD, National Yang-Ming Medical College, 1989; MS, 1992; PhD, Johns Hopkins University, 1996

Carlos Lois, associate professor; MD, The University of Valencia Medical School, 1991; PhD, The Rockefeller University, 1995

Steven Reppert, *the Higgins Family Professor in Neuroscience,* chair and professor; BS, University of Nebraska, 1973; MD, 1973

Scott Waddell, associate professor; BS, University of Dundee, 1991; PhD, University of London, 1996

David R Weaver, professor; BS, Michigan State University, 1981; PhD, 1985

Motojiro Yoshihara, assistant professor; BS, University of Tokyo, 1987; MS, 1989; PhD, 1992

Neurology

Our faculty experts are currently engaged in a number of funded research programs, including investigations into the:

- genetic defects that cause familial forms of Lou Gehrig's disease (amyotrophic lateral sclerosis, or ALS);
- molecular events that trigger non-familial forms of ALS and drug screening for small molecules that ameliorate ALS;
- genetic basis and approaches to therapy of selected other neuromuscular disorders, including a form of limb girdle muscular dystrophy (LGMD-2B, also known as Miyoshi myopathy), periodic paralysis, hereditary sensory and autonomic neuropathy (HSAN1) and a form of adrenoleukodystrophy (Lorenzo's Oil disease) known as adrenomyeloneuropathy;
- physiology of the visual cortex;
- pathology, genetics and biology of other neurodegenerative disorders, with a particular focus on Alzheimer's disease;
- molecular control of circadian functions and the molecular genetics of membrane channel function and dysfunction;
- pathophysiology of disorders of the central and peripheral autonomic nervous systems;
- therapeutic approaches to multiple sclerosis; and
- pathobiology of brain tumors.

Education

The University of Massachusetts Medical School's Neurology department is the largest training, research and clinical neurology facility in central New England. The Department of Neurology acquaints SOM students with diseases that affect the nervous system and equips them with fundamental skills in clinically relevant neuroscience, neurologic diagnosis and management. Because neurological disorders are common among patients in virtually every medical specialty, this instruction is designed for students entering all branches of medicine.

During the Foundations of Medicine curriculum, medical students learn neuro-anatomy and physical diagnosis in courses that stress clinical correlations of neuro-anatomic principles and are introduced to nervous system disorders, emphasizing observational methods, regional problems, specific diseases, clinical patterns and neuropathological correlates, as well as clinical neurological problems.

The major portion of clinical neurology instruction is carried out during the clinical years as a part of the neurology clerkship. Students experience clinical neurology through the inpatient, consult or ambulatory experiences at one of the teaching hospitals affiliated with the Medical School. Seminars and lectures discussing major clinical problems are conducted, and elective programs are offered in the department's clinical and basic research laboratories.

Students interested in careers in neurology are encouraged to join the Student Interest Group in Neurology (SIGN) or work as a summer trainee in the Multiple Sclerosis clinic.

In 2006, the department received national recognition by the Association of University Professors of Neurology (AUPN) for the highest portion of medical school class members entering neurology, as compared to all other medical schools in the United States.

The Neurology Residency Program is clinically and intellectually at the very center of our department, and the training of new neurologists is among our most important and most enjoyable responsibilities. Designed to encompass both the richness of traditional clinical neurology and the excitement of contemporary clinical neuroscience, our goal is to train superb clinical neurologists who are experienced in the principles of neurological disease and are also well-educated clinical neuroscientists informed about the structure, function and molecular physiology of the nervous system.

Research

This is an exciting time in neurology as powerful new technologies in basic neurobiology and the clinical neurosciences have rapidly improved our understanding of neurological illnesses. Prospects have never been better for finding effective new treatments for even the most devastating neurological disorders. While our program centers on a first-rate core clinical experience, our residents and faculty are encouraged to continually advance their training through customized residency programs, specialized fellowships and research opportunities. The laboratories of our skilled faculty explore the exciting and growing fields of neurology as new technologies accelerate our understanding of the central nervous system and the diseases that plague it.

Faculty basic research interests include the neurophysiology of vision; the biology of respiratory and circulatory control; the molecular genetics, structure and function of nerve and muscle ion channels; approaches to understanding the causes and therapies for neurodegenerative disorders, with an emphasis on ALS and Alzheimer's disease; the molecular basis of circadian rhythms and neural stem cell biology; stroke and penumbral survival; pathogenesis of human development disorders, especially brain dysfunction; and autonomic function pathogenesis. Clinical research interests include the neurology of aging and Alzheimer's disease and dementia, epilepsy, Parkinson's disease, multiple system atrophy, multiple sclerosis, neuro-oncology, neuromuscular disorders and cerebrovascular disease.

Neurology Faculty

Lloyd M. Alderson, associate professor; MD, University of Massachusetts Medical School, 1988

Ursula E. Anwer, clinical associate professor; BS, Justis-Liebig University, 1970; MS, Kansas State University, 1973; MD, Technical University of Munich, 1979

Zahra Ayub, adjunct affiliate; MBBS, Fatima Jinnah Medical College, 1987

Isabelita Bella, clinical associate professor; BA, Bryn Mawr College, 1985; MD, University of Pittsburgh, 1989

***Sheldon Benjamin,** professor; BS, University of Cincinnati, 1976; MD, University of Cincinnati, 1980

Daryl A. Bosco, assistant professor; PhD, Brandeis University, 2003

Robert H. Brown, chair and professor; AB, Amherst College, 1969; DPhil, Oxford University, 1963; MD, Harvard Medical School, 1975

David Chad, professor; BS, McGill University, 1970; MD, McGill University, 1974

Ellen M. Deibert, assistant professor; BS, Trenton State College, 1985; MD, Temple University, 1993

Brian K. Dessureau, clinical assistant professor; BA, Colgate University, 1993; MA, Clark University, 1997; PhD, Clark University, 2001

Steven P. Donhowe, assistant professor; BA, Carleton College, 1972; MD, University of Iowa, 1979

David A. Drachman, professor; AB, Columbia College, 1952; MD, New York Medical College, 1956

Jordan H. Eisenstock, assistant professor; BA, Georgetown University, 1998; MD, University of Massachusetts Medical School, 2002

Martha Ann Fehr, assistant professor; BA, Westminster College, 1978; MS, Colorado State University, 1982; MD, University of Colorado, 1986

Marc Fisher, professor; BS, Cornell University, 1970; MD, State University of New York at Syracuse, 1974

Nancy M. Fontneau, vice chair and clinical associate professor; AB, Bowdoin College, 1975; MS, Tufts University, 1978; MD, University of Massachusetts Medical School, 1984

***Susan B. Gagliardi,** vice chair and professor; BA, Radcliffe College, 1965; PhD, Harvard University, 1971

Fen-Biao Gao, professor; BS, Peking University; MS, Tsinghua University; PhD, Duke, 1995

Neeta Garg, clinical associate professor; MBBS, Sawai Man Singh Medical College, 1987

Mark R. Gibson, assistant professor; MD, Mayo Medical School, 2000

***Edward I. Ginns,** professor; BS, Rensselaer Polytech Institute, 1967; PhD, Rensselaer Polytech Institute, 1971

***Shirin Haddady,** assistant professor; MD, Tehran University Medical School, 1992

Wiley R. Hall, assistant professor; MD, MCP Hahnemann University, 1999

Lawrence Hayward, professor; BS, Washington University, 1982; PhD, Baylor College of Medicine, 1987

***Elizabeth W. Henrikson,** affiliate; BA, Barnard College, 1974; MEd, Columbia University, 1976; PhD, University of Massachusetts at Amherst, 1988

Sandra L. Horowitz, associate professor; BS, McGill University, 1972; MD, McGill University, 1976

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Carolina Ionete, clinical associate professor; MD, Carol Davila University of Medicine & Pharmacy, 1989

Gary R. Keilson, assistant professor; BS, University of Massachusetts at Amherst, 1974; MS, Harvard University, 1976; MD, University of VA Tech, 1987

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John Landers, associate professor; PhD, University of Pennsylvania, 1995

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Elliott M. Marcus, professor *emeritus*; BA, Yale University, 1954; MD, Tufts University, 1958

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***Paul C. Marshall,** associate professor; BS, Boston College, 1966; MD, Jefferson Medical College, 1970

Ann L. Mitchell, clinical associate professor; BA, Radcliffe College, 1974; MD, Mount Sinai School of Medicine, 1978

Majaz Moonis, professor; MBBS, University College, 1981

Jane G. Morris, assistant professor; BA, Smith College, 1996; MD, Oregon Health Sciences University, 2001

Susanne Muehlschlegel, assistant professor; MD, Philipps University, Germany, 2002

Thomas F. Mullins III, clinical associate professor; BA, College of the Holy Cross, 1967; MD, Jefferson Medical College, 1971

Shashidhara Nanjundaswamy, assistant professor; MBBS, Bangalore Medical College, 1985

Jaishree T. Narayanan, clinical associate professor; MBBS, University of Madras, 1989

Peter Novak, assistant professor; MD, Komensky, Slovak Republic, 1986; PhD, Czech Academy of Sciences, 1995

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David Paydarfar, vice chair and professor; BS, Duke University, 1980; MD, University of North Carolina at Chapel Hill, 1985

Jayant G. Phadke, clinical associate professor; MD, Mahatma Gandhi Medical College, 1977

Catherine A. Phillips, clinical associate professor; BA, Oberlin College, 1979; MD, University of California at San Francisco, 1983

Daniel A. Pollen, professor; AB, Harvard College, 1956; MD, Harvard Medical School, 1960

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Andrzej Przybyszewski, adjunct research assistant professor; MS, Technical Warsaw Universtiy, 1973; PhD, Warsaw Medical Academy, 1981

Lan Qin, assistant professor; PhD, Indiana University School of Medicine, 1995

Muhammad Ramzan, assistant professor; MD, Liaquat Medical College, 1989

Paula D. Ravin, clinical associate professor; BA, Yale University, 1974; MD, Wayne State University School of Medicine, 1980

Peter N. Riskind, clinical professor; MD, Southwestern Medical School, 1975

Elisabeth Salisbury, assistant professor; BA, Rollins College, 1984; MA, State Univ Of West Georgia, 1990; PhD, State Univ Of West Georgia, 1993

Ellen Salurand, assistant professor; BS, University of Toronto, 1979; MBA, York University, 1983; MD, Albany Medical College, 1992

Jane Cummin Sargent, clinical professor; MD, Hahemann Medical College, 1974

William J. Schwartz, professor; BS, University of California at Irvine, 1971; MD, University of California at San Francisco, 1974

***Thomas W. Smith,** professor; BS, Ohio State University, 1968; MD, Cornell University School of Medicine, 1972

Naren B. Sodha, assistant professor; MBBS, University Bombay, 1970

Andreja Strahonja, clinical assistant professor; MD, PHD, University of Zagreb, 1991

Banu Sundar, instructor; MD, Sri Ramachandra Medical College and Research Institute, India, 1993

Joan M. Swearer, clinical professor; BA, Macalester College, 1979; MA, New School For Social Research, 1985; PhD, New School For Social Research, 1991

Ashutosh Tiwari, adjunct research assistant professor; BS, All India Institute Medical Sciences, 1991; MS, Jamia Millia Islamia, 1993; PhD, Jawaharlal Nehru University, 1999

***Joseph M. Tonkonogy,** clinical professor; MD, Kirov Military Medical Academy, 1947

William A. Tosches, clinical associate professor; BA, College of the Holy Cross, 1967; MD, Stritch School of Medicine/Loyola University, 1971

** joint appointment*

Laurence J. Ufford, assistant professor; BA, Trinity College, 1990; MD, Mount Sinai School of Medicine, 2002

Mikhail Vydrin, assistant professor; MD, First Moscow Medical Institute, 1972

***Ajay K. Wakhloo,** professor; MD, Johannes Gutenberg Univeristat, 1984

***Merrill K. Wolf,** professor *emeritus*; BA, Yale University, 1945; MD, Western Reserve University, 1956



Spotlight on innovation

Learning Community mentors connect with students

When Learning Communities co-directors Mike Ennis, MD, and David Hatem, MD, began to recruit mentors in the summer of 2010 for the newly established Learning Communities, they weren't sure they could enlist enough interested faculty members to try this new way of teaching and guiding medical students. The Learning Communities are an essential element in the School of Medicine's redesigned curriculum, but Drs. Ennis and Hatem were concerned that the uncertainty of this new, untested role—plus the significant time commitment—might be a deterrent.

They worried needlessly. Forty experienced faculty members applied for the 20 available positions, and the challenge became choosing from an over-abundance of well-qualified applicants.

The motives of the mentor applicants were varied, but there was a common theme. "People who go into medicine have a desire to give back. They are interested in knowing, 'How can we support the development of the next generation of physicians?' " said Hatem. Some remembered their own mentors—usually found through their own initiative or by happenstance—who made significant differences in their medical school careers.

The overall purpose of the Learning Community mentors was also intriguing to the applicants. "They are going to shepherd these students through medical school, from matriculation to graduation. In that sense they are almost more like coaches," said Ennis.

For more news about UMass Medical School, visit: www.umassmed.edu/news

UMass Med Now

Obstetrics & Gynecology

The mission of the Department of Obstetrics & Gynecology is to deliver exemplary patient care in ambulatory and inpatient settings while providing excellent education and cutting-edge research in obstetrics, gynecology and human reproduction. The primary objectives of the department are to develop clinical care programs that are high quality and patient-focused; perform research that improves quality of future care for our community; provide services that improve the quality of life in the community; train residents and fellows to be future leaders in obstetrics and gynecology; and offer students exposure to the academic and practical aspects of obstetrics, gynecology and related sub-specialties. OB/GYN faculty are committed to medical student education and are involved in first-year Learning Communities, physician skills course, second-year reproductive medicine course, third-year clerkship and fourth-year electives. The faculty and residents in OB/GYN will demonstrate to students the rewards of this surgical specialty, which allows long-term, compassionate care of the women in our community.

The department provides students with the opportunity to gain the knowledge and clinical skills that are fundamental to the practice of women's health. The Reproductive Medicine course, overseen by OB/GYN faculty, is taught in the second year and prepares students to consider health issues for both genders throughout their reproductive years. Also, the Maternal-Child Health Program allows students to have a longitudinal experience with individual patients during their pregnancy, delivery and early infant period. First- and second-year students are welcome to spend time in the Labor and Delivery unit observing residents and faculty as they interact with obstetrical patients. The major clinical experience for medical students occurs during the third-year Core Clinical Experience in inpatient and ambulatory settings. Opportunities are also available for a continuing relationship with a single mentor during medical school through the preceptorship component of the Doctoring and Clinical Skills course. Fourth-year electives include general obstetrics and gynecology as well as intensive learning experiences in all of the subspecialty areas.

Students develop history-taking and physical examination skills in both obstetrics & gynecology and the field's four subspecialties. Communication, learning to be an educator and sensitivity to cultural issues are emphasized. The obstetric experience includes prenatal care, complicated pregnancy, normal and abnormal labor, childbirth and operative delivery. In gynecology, students learn about preventive reproductive health examinations, family planning and treatment of benign disease as well as cancers of the reproductive tract and infertility evaluations. The diagnosis and treatment of pelvic floor dysfunction and incontinence are also covered. The department offers fourth-year electives and clerkships in gynecologic oncology, urogynecology, reproductive endocrinology and infertility, maternal-fetal medicine, ambulatory obstetrics and gynecology, and a flexible elective that allows students to create their own experience in the field.

Students also participate in the educational components of the residency program. This program features innovative experiences in simulation; the gross anatomy laboratory for pelvic and perineal dissection; curricula in effective communication with patients and referring physicians, patients and staff; and Health Care Economics, which encompasses billing, coding and documentation, hospital and medical group economics, and state and federal health care policy and advocacy.

Obstetrics & Gynecology is actively engaged in research in the areas of cancers of the reproductive tract, infertility outcomes, pelvic floor disorders, urinary and anal incontinence, psychosocial stressors in pregnancy outcomes, weight gain and obesity in pregnancy, and risk of hormonal contraceptives. Students are welcome to participate in clinical research with OB/GYN faculty, residents and fellows.

Obstetrics & Gynecology Faculty

Alan J. Albert, assistant professor; BA, State University of New York at Binghamton, 1973; MD, University of Guadalajara, 1977

Karen Sue Ammerman, affiliate; BA, State University of New York at Cortland, 1977; MD, University of Rochester Medical School, 1981

Michael P. Aronson, professor; BA, Tufts University, 1973; MD, Tufts University School of Medicine, 1985

Patricia K. Aronson, assistant professor; AB, Brown University, 1980; MD, Eastern Virgina Medical School, 1983

Mark A. Aversa, instructor; MD, New York Medical College, 1982

Harrison G. Ball, professor; BS, Saint Joseph College, 1967; MD, Tufts University School of Medicine, 1972

Erin E. Barlow, assistant professor; BA, College of the Holy Cross, 2000; MD, University of Massachusetts Medical School, 2005

***Stephen A. Bean,** assistant professor; BA, Hamilton College, 1984; MS, Georgetown University, 1986; MD, 1990

Andrew W. Beckwith, clinical assistant professor; MD, Jefferson Medical College, 2001

***Francis J. Bednarek,** professor; BS, Kings College, 1966; MD, Loyola University, 1970

Petra H. Belady, assistant professor; BS, Cornell University, 1987; MD, University of Texas, 1991

Robert R. Benner, clinical assistant professor; BA, Washington & Jefferson College, 1981; MS, University of Pittsburgh, 1983; MD, 1988

Craig L. Best, clinical assistant professor; BS, Pacific Union College, 1982; MPH, Loma Linda University, 1987; MD, University of Loma Linda School of Medicine, 1987

Andrea M. Bodine, clinical assistant professor; BS, Hobart College, 1984; MD, University of Rochester Medical School, 1988

Shaila V. Chauhan, assistant professor; MD, Bombay University, 1965

Patricia D. Chernosky, instructor; BS, Union College, 1992; MD, Albany Medical College, 1995

Brian M. Clark, clinical associate professor; AB, Colby College, 1985; MD, University of Vermont College of Medicine, 1994

Peter C. Davidow, instructor; MD, Tufts University School of Medicine, 1986

Dina Deldon-Saltin, instructor; BS, Siena College, 1994; DO, New England College of Osteopathic Medicine, 2000

Ellen H. Delpapa, clinical associate professor; BS, College of St. Elizabeth, 1980; MD, New Jersey College of Medicine, 1984

Don P. Deprez, affiliate; BS, Cornell University, 1970; MD, Tufts University School of Medicine, 1977

Leonard G. DiGiovanni, assistant professor; DO, Kirksville College of Osteopathic Medicine, 1985

***Catherine E. DuBeau,** professor; MD, University of Connecticut School of Medicine, 1985

Paul S. Dunn, instructor; MD

John Farricy, instructor; BS, Boston College, 1969; MD, Georgetown University, 1973

** joint appointment*

***Marianne E. Felice,** chair and professor; BA, Carlow College, 1966; MD, Pennsylvania State University College of Medicine, 1972

Abraham Fischer, instructor; MD, University of Massachusetts Medical School, 1986

***Thomas J. Fitzgerald,** chair and professor; BS, University of San Francisco, 1975; MD, University of Massachusetts Medical School, 1980

Michael K. Flynn, associate professor; BA, Brown University, 1988; MHS, Duke University School of Medicine; MMM, University of Rochester, Simon School of Business, 2004; MD, Duke University School of Medicine, 1993

Mary Elizabeth Gamache, clinical instructor; CNM, University of Rhode Island, 2002

Karen W. Green, professor; BA, University of Rochester, 1968; MD, University of North Carolina at Charlotte, 1972

Finda Lee Guyton, assistant professor; BA, Boston University, 1993; MD, Albert Einstein College of Medicine, 1999

Brenda Hallenbeck, instructor; MD

Thomas F. Halpin, professor; BS, Boston College, 1959; MD, Harvard Medical School, 1963

***Janet R. Hardy,** assistant professor; BS, Concordia University, 1983; MPH, University of Miami, 1988; PhD, Yale University, 2004

Mary M. Herlihy, assistant professor; AB, Radcliffe College, 1982; MD, University of Massachusetts Medical School, 1994

Bonnie H. Herr, clinical assistant professor; MD, Duke University, 1976

Patrick P. Hogan, instructor; MBBS, University College, 1972

Sarah H Hughes, assistant professor; BA, Vassar College, 1996; MD, University of Connecticut School of Medicine, 2000

Todd W. Hunter, assistant professor; AB, Colby College, 1968; MD, Boston University School of Medicine, 1973

Julia V. Johnson, chair and professor; BS, University of California, 1976; MS, Emory University, 1977; MD, Medical College of Georgia

Herbert M. Kantor, clinical assistant professor; BA, Middlebury College, 1979; MD, East Tennessee State University, 1984

Julie M. King, clinical instructor; BA, Boston College, 2000; RN, University of Massachusetts Medical School, 2005

Kitsa Kondylis-deBlois, assistant professor; BA, Vassar College, MD, Boston University School of Medicine, 1994

David A. Klein, assistant professor; MD, Tufts University School of Medicine, 1993

Susan Kraft, affiliate; BS, University of Illinois, 1974; MD, 1978

Antonella Restivo Leary, assistant professor; Siena College, 1996; MD, Albany Medical College, 2000

Joelle J. Lieman, instructor; BS, McGill University, 1992; MD, Ross University School of Medicine, 1998

** joint appointment*

Joan E. Lister, clinical assistant professor; MD, Tufts University School of Medicine, 1977

Alison C. Madden, assistant professor; BA, Barnard College, 1991; MD, Cornell University School of Medicine, 1999

Dale B. Magee, clinical assistant professor; MS, Dartmouth College, 1998; MD, State University of New York at Upstate, 1975

Mark J. Manning, assistant professor; BS, University of Notre Dame, 1991; MMEL, University of New England, 2010; DO, University of New England College of Osteopathic Medicine, 2003

Hayley Marshall-Drohan, clinical assistant professor; DO, New York College of Osteopathic Medicine, 1994

William J. McLaughlin, assistant professor; BA, University of Vermont, 1971; MS, Wayne State University School of Medicine, 1973; MD, 1977

Aaron M. Mendel, assistant professor; BS, University of Michigan, 1981; MD, 1985

Jane A. Molinari, instructor; MD, University of Connecticut School of Medicine, 1991

Tiffany A. Moore Simas, assistant professor; BA, Clark University, 1996; MEd, University of Massachusetts, Boston, 2008; MPH, Harvard School of Public Health, 2006; MD, University of Massachusetts Medical School, 2000

Marie Narducci, instructor; MD, University of Connecticut School of Medicine, 1991

Brenda Anne Neary, assistant professor; BS, University of Massachusetts at Lowell, 1980; PhD, Sacklor School of Medicine, 1986

Sheila M. Noone, assistant professor; BS, Worcester State College, 1984; MPH, Boston University, 1986; PhD, Union Institute, 2000

Katharine K. O'Dell, assistant professor; BA, Graceland College, 1996; MS, Case Western Reserve University, 1997; PhD, Rochester Community College, 1975

Kerri E. Osterhaus, clinical instructor; BA, Harvard College, 1995; MD, University of Massachusetts Medical School, 1999

Debra M. Papa, assistant professor; BS, Siena College, 1979; MD, Georgetown University, 1983

Reshma Parikh, assistant professor; MD, University of Mumbai, Grant Medical College, Mumbai, India, 1998

Danielle Patterson, assistant professor; BA, The Ohio State University, 1999; MD, 2003

***James William Pellegrini,** assistant professor; BS, University of Massachusetts at Boston, 1982; MD, University of Massachusetts Medical School, 1986

***Alan Peter Picarillo,** assistant professor; BA, College of the Holy Cross, 1993; MD, University of Massachusetts Medical School, 1998

Diane Marie Pingeton, clinical instructor; BS, Fitchburg State College, 1982; MD, University of Massachusetts Medical School, 1994

Thomas B. Pokoly, assistant professor; MD, University of Toronto, 1965

***Phyllis Pollack,** clinical associate professor; BS, University of Michigan, 1972; MD, Harvard Medical School, 1977

June Ramsaran, instructor; BA, Boston University, 1982; MD, Royal College of Surgeons, 1988

Gabrielle M. Reine, assistant professor; BS, University of Massachusetts at Amherst, 1992; MD, University of Massachusetts Medical School, 1996

Robin S. Richman, assistant professor

***Jennifer L. Rylander,** assistant professor; BS, University of Vermont, 1988; MD, University of Connecticut School of Medicine, 1994

Jyot Saini, assistant professor; BA, Washington & Jefferson College, 1989; MD, University of Pittsburgh School of Medicine, 1993

Mary E. Scannell, instructor; MD, University of Massachusetts Medical School, 1984

Michael N. Schatz, affiliate; MA, Brandeis University, 1961; MD, New York University, 1965

Machelle M. Seibel, clinical professor; BA, University of Texas, 1971; MD, 1975

Steven Solano, instructor; DO, New York College of Osteopathic Medicine, 1994

Jami Star, associate professor; Brown University, Providence, RI, 1981; MD, State University of New York at Stony Brook, 1986

Dawn S. Tasillo, assistant professor; BA, Northwestern University, 1994; MD, State University of New York at Brooklyn, 1999

Katherine A. Van Savage, clinical instructor; BS, Boston College, 1990; MD, State University of New York at Syracuse, 1998

Cathy Violette, instructor; BSN, Worcester State College, 1998; MSN, University of Cincinnati, 2009

Hiral Warner, clinical assistant professor; MD, State University of New York at Brooklyn, 1998

***Joel H. Weiner,** clinical associate professor; BA, Northern Illinois University, 1975; MD, Chicago Medical School, 1980

***Stuart A. Weisberger,** assistant professor; BS, University of Michigan, 1970; MS, 1972; MD, University of Cincinnati, 1980

Brenna W. Wiberg, clinical instructor; BS, Ithaca College, 1999; MSN, University of Massachusetts Medical School, 2007

Patricia Yranski, instructor; BSN, Boston College School of Nursing, 1979; MS, Boston College, 1998

Susan Zweizig, associate professor; BA, University of California at Berkley, 1980; MD, Harvard Medical School, 1985

Samuel Zylstra, assistant professor; BS, Houghton College, 1970; MD, University of Antwerp, 1981

Ophthalmology

The Department of Ophthalmology is recognized for:

- combining basic, translational, and clinical research with clinical practice, including novel small molecules, gene therapy and stem cell therapy for retinal and optic nerve disorders; and
- leadership and expertise in vitreoretinal disorders, including the world's first investigator to use complement inhibitor molecules to treat patients.

The Department of Ophthalmology was re-established at UMass Medical School in 2009. The department includes state-of-the-art basic research laboratories where our staff perform biochemical research on novel small molecules, the molecular and cellular fate of misfolded proteins associated with retinal degeneration and related topics to better understand the causes of eye diseases and help develop new treatments and potential cures. Our department is also involved in several exciting clinical trials, including gene therapy trials for Leber congenital amaurosis and age-related macular degeneration and small molecule therapy for retinal degeneration. We encourage UMMS graduate students to join us in our basic and clinical research efforts.

Our department also provides comprehensive clinical ophthalmology services, specializing in vitreoretinal diseases, glaucoma, macular degeneration and vascular diseases of the retina. Our services include the latest technologies for imaging, perimetry and electrophysiology. We are also developing international research and clinical trial collaborations with colleagues at major eye hospitals.

Ophthalmology Faculty

George R. Asdourian, interim chair and professor; BS, American University of Beirut, 1966; MD, 1970

Mark D. Barsamian, assistant professor; BS, University of Michigan, 1988; DO, Midwestern University, Chicago College of Osteopathic Medicine, 2003

Michael J. Bradbury, assistant professor; BS, Brooklyn College, 1969; MD, Georgetown University, 1973

Andrew W. Danyluk, assistant professor; BA, Rutgers University, 1977; MD, Johns Hopkins University, 1981

Melvyn H. Defrin, affiliate; MD, State University of New York at Stonybrook, 1975

Richard M. Eisenberg, affiliate; BA, University of Pennsylvania, 1976; MD, Medical College of Pennsylvania, 1980

Denis J. Fitzgerald, affiliate; BA, Brown University, 1962; MHA, University of Colorado, 1989; MD, New Jersey College of Medicine, 1967

Jeffrey P. Gallo, affiliate; BA, University of Rochester, 1986; MD, University of Massachusetts Medical School, 1991

Robert Gise, affiliate; BA, Brown University, 1971; MD, Boston University School of Medicine, 1975

John Hatch, affiliate; BS, Boston University, 1982; ME, Dartmouth College, 1984; MD, University of Massachusetts Medical School, 1988

Diane P. Karalekas, assistant professor; BS, Massachusetts Institute of Technology, 1983; MD, Cornell University School of Medicine, 1989

Edward L. Kazarian, clinical associate professor; BA, Adelphi University, 1969; MD, Saint Louis University, 1973

Jeffrey D. Levine, affiliate; BA, Princeton University, 1970; MD, Catholic University of Louvain, 1977

Frank J. McCabe, assistant professor; BA, Bowdoin College, 1990; MD, University of Massachusetts Medical School, 1995

Glenn A. Meltzer, affiliate; BA, Clark University, 1962; MD, Cornell University School of Medicine, 1966

Alan P. Moss, assistant professor; BA, University of Vermont, 1969; MD, University of Vermont College of Medicine, 1973

Syed M. Noorwez, research assistant professor; PhD, University of Delhi, 2001

Fred Orlando, affiliate; BS, Fordham University, 1981; MD, Harvard Medical School, 1985

Amrik Pabley, associate professor

Nirali Y. Patel, clinical instructor; BS, Pennsylvania College of Optometry, 2006; OD, 2009

Pascale Perusse, assistant professor; MD, University of Sherbrooke, 1981

George B. Peters III, assistant professor; BS, Boston University, 1990; MS, University of Maine; MD, University of Vermont College of Medicine, 1996

Willard G. Rice Jr., affiliate; AB, Amherst College, 1964; MD, Tufts University, 1968

Charles R. Roberts, assistant professor *emeritus*; BA, Southern Methodist University, 1956; MD, Baylor University, 1960

Gregory D. Shouldice, affiliate; BS, Ottawa University School of Medicine, 1975; MD, 1979

William M. Tang, clinical assistant professor; BA, Baylor University, 1989; MD, Johns Hopkins University, 1993

Joseph M. Williams, assistant professor; BA, University of Rochester, 1978; MS, 1986; MD, University of Rochester Medical School, 1989

Orthopedics & Physical Rehabilitation

The Department of Orthopedics & Physical Rehabilitation features world-class, comprehensive and multidisciplinary subspecialty centers of excellence for central New England, including:

- Arthritis and Joint Replacement Center, a patient-centered program dedicated to arthritis and joint pain (Memorial Campus);
- Foot and Ankle Center, dedicated to treatment of the full range of foot and ankle conditions (Hahnemann Campus);
- Hand/Upper Extremity Center, dedicated to the treatment of a full range of hand and upper extremity conditions (Hahnemann Campus);
- Pediatric Orthopedic Center, dedicated to the treatment of the full range of pediatric orthopedic conditions and injuries (University Campus);
- Sports Medicine Center, dedicated to the prevention, diagnosis and treatment of all athletic injuries (Hahnemann Campus);
- Spine Center, a state-of-the-art facility offering expert care for congenital, degenerative and traumatic spinal disorders in adults (Memorial Campus); and
- Trauma and Fracture Center, dedicated to the diagnosis and treatment of orthopedic injuries and fractures (University Campus).

The elective program in the Department of Orthopedics & Physical Rehabilitation provides students with an opportunity to observe and participate in a clinical mentorship with orthopedic surgeons. Students attend conferences and participate in the surgical, office and emergency practices of preceptors who practice at UMass Memorial Medical Center or in other communities throughout the state.

UMMS offers two electives that require medicine and surgery clerkships. The first, recommended for fourth-year students who intend to pursue a residency in orthopedic surgery, is an in-depth course in musculoskeletal disorders, emphasizing inpatient and outpatient diagnosis and management of a wide variety of musculoskeletal disorders. Students will gain experience in diagnostic methods, surgical procedures, postoperative care and non-operative treatment of musculoskeletal conditions.

The second elective is recommended for fourth-year students who intend to pursue a residency other than orthopedic surgery, such as family practice, rheumatology, neurology, radiology, pediatrics, anesthesiology, physical medicine and rehabilitation, plastic surgery, emergency medicine, occupational medicine and infectious diseases. It is an in-depth and faculty-supervised overview of outpatient musculoskeletal problems that aims to develop skills in history taking, physical examination, and diagnosis and treatment of a broad spectrum of musculoskeletal diseases.

Orthopedics & Physical Rehabilitation Faculty

Amy E. Abbot, assistant professor; BA, Mount Holyoke College, 1989; MS, University of Washington, 1993; MD, Cornell University Medical College, 2000

***Carlton M. Akins,** associate professor; AB, Harvard College, 1962; MD, Harvard Medical School, 1966

Peter P. Anas, affiliate; BS, Tufts University, 1971; MS, Tufts University, 1971; MD, University of Massachusetts Medical School, 1975

David C. Ayers, *the Arthur M. Pappas, MD, Chair in Orthopedics,* chair and professor; BS, Tufts University, 1978; MD, University of Rochester Medical School, 1982

Daniel T. Baran, professor; BS, Boston College, 1968; MD, University of Rochester Medical School, 1973

Thomas K. Barthel, instructor; BA, Johns Hopkins University, 1989; PhD, Massachusetts Institute of Technology, 1999

Norman E. Beisaw, professor; AB, Bowdoin College, 1958; MD, New York University, 1962

Herbert O. Bote, clinical assistant professor; BS, Loyola University, 1987; MD, Stritch School of Medicine/Loyola University, 1991

Albert A. Bravo, affiliate; BS, Cornell University, 1980; DPM, Pennsylvania State University, 1984

** joint appointment*

Thomas F. Breen, associate professor; BA, Williams College, 1976; MD, University of Vermont College of Medicine, 1981

Michael A. Brown, assistant professor; BS, Massachusetts Institute of Technology, 1991; MD, Georgetown University, 1995

Brian D. Busconi, associate professor; AB, Harvard College, 1985; MD, Tufts University School of Medicine, 1989

Edward R. Calkins, assistant professor; BA, University of California at Los Angeles, 1976; MD, University of Southern California School of Medicine, 1980

Jeffrey P. Cella, clinical assistant professor; BS, Tufts University, 1978; MD, University of Pennsylvania, 1982

Raymond J. Chagnon, affiliate; BA, Assumption College, 1974; MD, University of Vermont College of Medicine, 1978

Patrick J. Connolly, clinical professor; BA, Montclair State University, 1977; MD, Northwestern University, 1984

Russell W. Cournoyer Jr., affiliate; BS, Massachusetts College of Pharmacology, 1974; DPM, Pennsylvania College of Podiatric Medicine, 1984

Nicola Anthony Deangelis, assistant professor; BA, Harvard College, 1993; MD, University of Massachusetts Medical School, 1998

Anthony E. DeFelice, clinical assistant professor; BS, Yale University, 1985; DO, College of Osteopathic Medicine, 1998

Andrew J. DeMaggio, clinical assistant professor; MD, Wayne State University School of Medicine, 1997

Christian P. Dipaola, assistant professor; BA, Cornell University College of ArtsSciences Ithaca, 1998; MD, Cornell University School of Medicine, 2003

Jason C. Eck, assistant professor; BS, The Catholic University of America, 1993; MS, Marquette University, 1996; DO, University of Health Sciences College of Osteopathic Medicine, 2002

Paul J. Fanning, assistant professor; BA, Merrimack College, 1986; PhD, Harvard Medical School, 2000

Patricia D. Franklin, professor; AB, College of the Holy Cross, 1979; MBA, University of Rochester, 1986; MD, University of Rochester Medical School, 1983

Lorenzo Gamez, assistant professor; BA, Rutgers College, Rutgers University, 1991; MD, Universidad Autonoma de Guadalajara, 2000

John E. George, affiliate; DPM, Ohio College of Podiatric Medicine, 1964

Thomas P. Goss, professor; AB, Dartmouth College, 1968; MD, Harvard Medical School, 1971

David M. Grygier, assistant professor; BM, Miami University of Ohio, 1977; MM, 1980; MD, State University of New York, 1990

Donald Hale Hangen, instructor; BA, Williams College, 1982; MD, Stanford University, 1987

Hwa Hsin Hsieh, assistant professor; MD, Kaohsiung Medical School, 1967

Bruce H. Hsu, instructor; BA, University of California at Berkley, 1997; MD, University of Connecticut School of Medicine, 2006

Israel S. Hurwitz, instructor; BA, Cornell University, 1952; MD, Tufts University School of Medicine, 1956

Kirk H. Johnson, clinical associate professor; BA, Tufts University, 1973; MD, University of Vermont College of Medicine, 1977

Marci D. Jones, clinical associate professor; BA, Johns Hopkins University, 1989; MD, University of Vermont College of Medicine, 1994

Mark S. Kaplan, clinical associate professor; BS, Massachusetts Institute of Technology, 1982; MD, New York Medical College, 1990

Marshall Katzen, affiliate; BA, Cornell University, 1968; MD, Tufts University School of Medicine, 1972

Mark T. Kraus, assistant professor; BA, Stanford University, 1993; MD, Case Western Reserve University, 1999

Philip J. Lahey Jr., assistant professor; BS, College of the Holy Cross, 1969; MD, Tufts University, 1973

Anthony S. Lapinsky, assistant professor; BS, Cornell University, 1983; MD, Syracuse University, 1987

Walter J. Leclair, clinical professor; AB, Boston University, 1975; MD, University of Massachusetts Medical School, 1979

David P. Magit, assistant professor; BA, Northwestern University, 1995; MD, Tufts University School of Medicine, 2001

Thu T. Malikowski, assistant professor; BS, Marquette University, 1997; MD, University of Wisconsin, 2001

David A. Mazin, assistant professor; BS, Trinity College, 1999; MD, New York Medical College, 2003

Jeffrey N. Metzmaker, assistant professor; BS, St. Louis University, 1970; MD, Baylor University, 1973

Kevin G. Mitts, clinical assistant professor; BA, Humboldt State University, 1985; MD, Uniformed Services University, 1989

Errol Mortimer, assistant professor; BS, McGill University, 1982; MD, 1986

Mathew J. Most, assistant professor; BA/BS, State University of New York at Buffalo, 1998; MD, State University of New York at Upstate, 2002

Francis O'Connell, assistant professor; BA, Harvard University, 1957; MD, Columbia University College of Physicians & Surgeons, 1961

Arthur M. Pappas, professor; AB, Harvard College, 1953; MD, University of Rochester Medical School, 1957

Abhay R. Patel, assistant professor; BA, Boston University, 1996; MD, Boston University School of Medicine, 2000

Jerome A. Philbin, assistant professor; BA, Harvard College, 1968; MD, University of Cincinnati, 1973

Mark D. Price, assistant professor; BS, Northwestern University, 1994; PhD/MD, Massachusetts Institute of Technology/Harvard Medical School, 2001/2003

Joseph M. Pugleasa, assistant professor; BA, University of Massachusetts, Boston, 1984; MD, St. Georges University School of Medicine, 1989

Steven H. Sewall, instructor; MD, Cornell University School of Medicine, 1965

William D. Shea, assistant professor; BS, St. Francis Xavier University, 1960; MD, Ottawa University School of Medicine, 1964

Yvonne A. Shelton, assistant professor; BA, Princeton University, 1979; MD, George Washington University School of Medicine, 1984

Judith A. Siegel, assistant professor; BS, Marietta College, 1995; MS, Ohio University, 1998; MD, Temple University School of Medicine, 2002

Jie Song, assistant professor; BS, Fudan University, Shanghai, China, 1995; PhD, Michigan State University, 1999

Markian D. Stecyk, instructor; BA, Boston University, 1978; MD, Tufts University, 1982

Harvey A. Taylor, instructor; MD, State University of New York, 1969

Henry M. Toczylowski Jr., affiliate; BS, US Military Academy, 1968; MD, University of Massachusetts Medical School, 1979

Joseph A. Veneziano, affiliate; BS, St. Johns University, 1963; MD, New York Medical College, 1967

Faren H. Williams, professor; BS, Albright College, 1972; MS, University of Maryland, 1973; MD, Wright State University, 1983

John J. Wixted, assistant professor; BS, United States Military Academy, West Point, 1990; MD, University of Massachusetts Medical School, 1997

Angela Z. Yang, assistant professor; MD, China Medical University, 1992

Joshua T. Yurfest, assistant professor; BS, University of Maryland, 1978; MD, St. George's University, 1982

Manuel F. Yvars, assistant professor; MD, Columbia University College of Physicians & Surgeons, 1965

Otolaryngology - Head and Neck Surgery

With its clinical partner, UMass Memorial Health Care, Otolaryngology features:

- a regionally renowned pediatric and adult cochlear implant program that provides complete evaluation screening, surgery and extensive rehabilitation services for patients with hearing disabilities;
- comprehensive multidisciplinary diagnosis and treatment of head and neck cancer;
- comprehensive surgical management of thyroid and parathyroid disease;
- state-of-the-art endoscopic sinus surgery;
- medical and surgical treatment of balance disorders;
- evaluation and management of tumors in the ear and temporal bone;
- evaluation and treatment of facial nerve paralysis;
- treatment of acute and chronic ear infection; and
- evaluation and surgical treatment of congenital ear malformations.

The Department of Otolaryngology strives to acquaint students with the many clinical issues affecting the ears, nose and throat, including head and neck surgery, pediatric otolaryngology, otology and neurotology.

Attending staff will supervise the students during all clinical activities. Students are allowed increasing responsibility in accordance with their level of skills and fund of knowledge. Students are encouraged to participate in the full spectrum of patient care encompassed within the practice of otolaryngology. The attending staff member determines the degree of supervision indicated during a student's participation in any given clinical situation to maintain the highest standards of patient care.

In the third year, students rotate through the otolaryngology clinics during the subspecialty portion of their Surgery core clinical experience. The faculty also presents

a didactic series on the principles of head and neck surgery. Included are lectures and case presentations highlighting the major subdivisions of general and pediatric otolaryngology, endoscopic sinus surgery, otologic and neurotologic and skull base surgery, cochlear implantation in children and adults, and head and neck oncologic surgery and reconstruction.

An elective fourth-year clerkship is also offered for interested students who intend to pursue a career in otolaryngology or who wish to enter other fields but develop and refine their otolaryngologic diagnostic skills. Students work in both the outpatient and inpatient setting, participating in diagnosis, treatment and management of otolaryngologic problems and in a wide variety of surgical procedures and postoperative management. Research electives are also available.

Students rotating through the Department of Otolaryngology have a chance to be introduced to the six competencies required during future residency training:

1. Patient care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health.
2. Medical knowledge about established and evolving biomedical, clinical and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
3. Practice-based learning and improvement that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.
4. Interpersonal and communication skills that result in effective information exchange and teaming with patients, their families and other health professionals.
5. Professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
6. System-based practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

Otolaryngology Faculty

Min S. Ahn, affiliate; BA, Harvard College, 1989; MD, George Washington University School of Medicine, 1994

John R. Bogdasarian, affiliate; BA, Harvard College, 1966; MD, Columbia University College of Physicians & Surgeons, 1970

Giulio I. Cavalli, assistant professor

Andrea C. Chiaramonte, affiliate; BA, Miami University of Ohio, 1990; MPH, New York Medical College, 1994; MD, 1994

Frank Fechner, affiliate; MD, Albert Ludwigs University School of Medicine, Germany, 1996

Richard R. Gacek, professor; BS, University of Notre Dame, 1952; MD, University of Buffalo, 1956

Natalie P. Higgins, affiliate; BS, University of Washington, 1997; MD, 2001

Neri Holzer, affiliate; BA, New York University, 1970; MD, State University of New York at Downstate, 1974

James P. Hughes, assistant professor; BS, University of Michigan, 1967; MBA, Clark University, 1992; MD, Wayne State University School of Medicine, 1971

Syed Y. Kamil, assistant professor; MD, Khyber Medical, 1985

Cheong H. Kim, affiliate; MD, Seoul National University, 1963

Daniel Y. Kim, clinical associate professor; BA, Boston University, 1976; MD, Rutgers Medical School, 1980

William G. Lavelle, chair and professor; BS, Marquette University, 1963; MD, University of California at San Francisco, 1967

John A. Loiodice, clinical assistant professor; BS, Long Island University, 1970; MD, Wayne State University School of Medicine, 1976

Joseph H. Oyer, affiliate; BS, Michigan State University, 1971; MD, 1975

Sarah Foster Poissant, adjunct assistant professor; BA, University of Vermont, 1992; MA, University of Connecticut, 1994; PhD, 1999

Todd B. Sauter, instructor; BS, University of Massachusetts at Amherst, 1996; MA, 1998

Weiru Shao, assistant professor; BA, University of California at Berkeley, 1994; MD, University of Utah, 1998

Jonathon Scott Sillman, affiliate; BS, Stanford University, 1981; MD, Harvard Medical School, 1985

Pathology

Pathology faculty have been widely recognized for their commitment to medical students through a number of UMMS teaching awards, including the:

- Lamar Soutter Award for Excellence in Medical Education;
- Educational Achievement Star Award;
- Retired and Outstanding Medical Educator Awards; and
- Faculty Marshall Award.

The Department of Pathology offers medical students their first formal encounter with disease through an integrated pathology curriculum. This includes an introduction to the basic manifestations of disease at the cellular and tissue levels and an analysis of specific diseases as they affect all organs and systems. This "organ system" approach to disease is taught in an integrated manner with diverse clinical and basic science departments in the Organ Blocks curriculum. This course provides students with an in-depth understanding of disease by correlating underlying molecular mechanisms with structural, functional and clinical aspects.

Diseases of the nervous system are also taught as an integrated course with contributing departments including psychiatry, neurology and cell biology. The Department of Pathology also plays a major teaching role in the integrated immunology curriculum, providing students with an understanding of the basic mechanisms that protect the body against infectious agents and how these mechanisms contribute to diseases, including autoimmunity, immune deficiency and transplantation rejection.

Elective opportunities in various areas of Pathology are available to medical students. Most of these electives occur in the medical student's fourth year and are usually about four weeks in duration. Research experience is also available; primarily in Immunology.

Laboratories in the department are investigating the immune response to viruses and cancers, antigen presentation, T-lymphocyte activation and T-cell

development. Clinical research is focused on the study of varied aspects of pathogenesis, disease and diagnostic pathology.

Pathology Faculty

Charles Abbott, adjunct clinical assistant professor; MD, University of Sheffield Medical School, 1997

Ali Akalin, assistant professor; MD, Ankara Univ School of Medicine, 1992; PhD, Virginia Commonwealth University School of Medicine, 2000

M. Rabie Al-Turkmani, instructor; MS, Northeastern University, 2004; PhD, 2007

Gamze Ayata, assistant professor; MD, Hacettepe University, 1992

Leslie J. Berg, professor; BA, Harvard University, 1980; PhD, University of California at Berkley, 1986

***Michael S. Brehm,** research assistant professor; BS, Philadelphia College of Pharmacology & Science, 1993; PhD, Pennsylvania State University, 1999

Jaime M. Calvo-Calle, instructor; BS, Universidad de los Andes, 1984; PhD, Sackler School of Graduate Biology, 2004

Daniel J. Carter, assistant professor; BA, Brown University, 1978; MD, Medical College of Wisconsin, 1984

Francis Ka Ming Chan, assistant professor; BA, University of California, 1991; PhD, 1996

Marcia B. Cohen, assistant professor; BS, Wayne State University, 1968; MS, 1970; MD, Wayne State University School of Medicine, 1974

Teri L. Cooper, assistant professor; BS, University of Louisville, 1977; MD, 1981

Ediz F. Cosar, assistant professor; MD, Cukurova University School of Medicine, 1988

April C. Deng, associate professor; MS, Henan Medical University, 1986; MD, 1983; PhD, University of Arkansas Medical Center, 1994

***Michael R. DiSiena,** clinical assistant professor; BS, Siena College, 1989; DO, New York College of Ostopathic Medicine, 1994

Richard W. Dutton, professor; BA, Cambridge University, Cambridge, England, 1952; MA, 1954; PhD, London Guildhall University, 1955

Richard J. Evans, instructor; BA, Assumption College, 1978; MD, University of Massachusetts Medical School, 1982

Andrew H. Fischer, professor; BS, Cornell University, 1979; MD, Brown University, 1984

Ethan A. Flynn, adjunct clinical assistant professor; MD, Louisiana State University, 1995

Armando E. Fraire, professor; BS, Colegio Civil, 1957; MD, Unl Faculty of Medicine, 1964

Marzena Galdzicka, clinical assistant professor; BS, Institute of ChemistryFood, 1979; MS, George Mason University, 1998; PhD, 2002

***Edward I. Ginns,** professor; BS, Rensselaer Polytech Institute, 1967; PhD, 1971; MD, John Hopkins School of Medicine, 1976

Suyang Hao, clinical associate professor; MS, Tianjin University, 1986; MD, 1983

Anne Whalen Higgins, assistant professor; BA, The George Washington University, 1986; PhD, Case Western Reserve University, 2000

Eric S. Huseby, assistant professor; BS, University of Washington, 1992; PhD, 2000

Lloyd Hutchinson, assistant professor; BS, University of Guelph, Guelph ON Canada, 1987; PhD, McMaster University, 1996

Amanda J. Jenkins, associate professor; BS, Leeds University, 1983; MS, Strathclyde University, 1984; PhD, University of Maryland, 1995

Zhong Jiang, professor; BA, Beijing College of Chinese Medicine, 1982; MS, Beijing Medical University, 1987; MD, 1982

***Krista S. Johansen,** instructor; BA, Wesleyan University, 1995; MD, University of Massachusetts, 2003

Rebecca L. Johnson, clinical professor; BS, Illinois State University, 1975; MD, Southern Illinois University, 1978

Matthew P. Juhascik, instructor; BS, University of Dayton, 1999; MS, University of Illinois, 2000; PhD, 2005

Dina H. Kandil, assistant professor; MD, Ain Shams University, 1998

Joonsoo Kang, associate professor; BS, University of Toronto, 1986; PhD, 1993

Ashraf Khan, professor; BS, Aligarh Muslim University, 1974; MBBS, 1979; MD, 1983

Charles R. Kiefer, associate professor; BS, University of Cincinnati, 1969; PhD, Medical College of Georgia, 1981

Nichole L. Korpi-Steiner, instructor; BA, Minisota State University, 2002; PhD, University of Wisconsin, 2006

Jessica D. Krochmal, clinical assistant professor; BA, University of Iowa, 1997; MD, 2002

Elizabeth Kurian, assistant professor; BS, University of Texas, 2000; MD, University of Texas Medical School, 2004

Irwin Leav, adjunct professor; BA, Ohio State University, 1959; DVM, 1965

Di Lu, clinical associate professor; MD, Shanghai Medical College, 1988

***Stephen R. Lyle,** assistant professor; BA, University of Chicago, 1988; MS, 1988; PhD, 1993; MD, 1995

Karl K. McKinstry, instructor; BS, University of Saskatchewan, 1999; PhD, 2005

***Alan D. Michelson,** adjunct professor; MBBS, University of Adelaide, 1973

Patricia M. Miron, clinical associate professor; BS, Yale University, 1983; PhD, Massachusetts Institute of Technology, 1991

Michael J. Mitchell, clinical associate professor; BS, Boston College, 1974; MD, Yale University School of Medicine, 1978

Nader A. Morad, clinical associate professor

Kamala Murali, affiliate; MBBS, University of Bombay, 1970

Joseph D. Musto, adjunct clinical associate professor; BS, Wagner College, 1961; MS, Stevens Institute of Technology, 1967; PhD, Northeastern University, 1975

***Rajneesh Nath,** clinical associate professor; MD, Banaras Hindu University, 1987

Yuri N. Naumov, research assistant professor; MD, Novosibirsk State University, 1983; PhD, Academy of Medical Science, 1988

Herbert E. Nieburgs, professor; MD, University of Bologna, 1938

Christopher Lee Owens, assistant professor; BS, Presbyterian College, 1997; MD, Medical College of Georgia, 2002

Lan Peng, assistant professor; MD, Hunan Medical University, 1995

Lokinendi V. Rao, clinical associate professor; BS, Osmania University, 1976; MS, 1978; PhD, Kurukshetra University, 1984

Kenneth L. Rock, chair and professor; BA, Washington University, 1974; MD, University of Rochester Medical School, 1978

Liisa K. Selin, professor; MD, Dalhousie University, 1979

Lianjun Shen, research assistant professor; MD, Second Military Medical University, 1985; PhD, University of Alberta, 1997

***Jerald Silverman,** professor; BS, Cornell University, 1964; MPS, New School For Social Research, 1985; DVM, Cornell University, 1966

Habib A. Sioufi, assistant professor; MD, Damascus University, 1978

Thomas W. Smith, professor; BS, Ohio State University, 1968; MD, Cornell University School of Medicine, 1972

Louis Michael Snyder, professor; BA, Brown University, 1957; MD, Chicago Medical School, 1962

Jerzy P. Sobota, instructor; MD, N. Copernicus Medical School, 1982

***Janet Stavnezer,** professor; BA, Swarthmore College, 1966; PhD, Johns Hopkins University, 1971

Lawrence J. Stern, professor; BA, Cornell University, 1983; PhD, Massachusetts Institute of Technology, 1989

Tara M. Strutt, instructor; BS, University of Saskatchewan, 1998; PhD, 2005

***John L. Sullivan,** professor; BS, Le Moyne College, 1968; MD, State University of New York at Upstate, 1972

Susan L. Swain, professor; BA, Oberlin College, 1968; PhD, Harvard University, 1974

** joint appointment*

Eva Szoniolanyi-Tsuda, associate professor; MD, Semmelweis Medical School, 1976

Vijay K. Vanguri, instructor; BS, George Washington University, 1999; MD, George Washington University School of Medicine, 2004

Raymond M. Welsh, professor; BS, University of Massachusetts at Amherst, 1967; PhD, 1972

Bruce A. Woda, vice chair and professor; BS, Brooklyn College, 1971; MD, State University of New York at Downstate, 1975

James P. Yang, assistant professor; BS, Union College, 1962; MD, Indiana University School of Medicine, 1966

Hongbo Yu, clinical associate professor; MD, Beijing Medical University, 1993; PhD, University of Rochester, 1974

Neng Yu, adjunct clinical assistant professor; MD, Shanghai Second Medical University, 1988

Pediatrics

Pediatrics is distinguished by:

- a special immunology clinic for children with HIV that provides access to state-of-the-art treatment;
- a cystic fibrosis center that treats more patients with the disease than any other facility in Central and Western Massachusetts;
- a 43-bed Newborn Intensive Care Unit that has earned benchmark status as a model for similar units worldwide; and
- a juvenile diabetes center that is the only program in Central and Western Massachusetts to be certified by the American Diabetes Association.

The Department of Pediatrics introduces students to the career of pediatrician. During the four years of medical school, students learn how to diagnose and manage acute and chronic illnesses that are commonly seen in infants, children and adolescents. Students are also exposed to the biopsychosocial and developmental aspects of pediatrics. The curriculum helps students acquire the necessary skills to establish rapport with children and their parents in order to obtain a meaningful history, conduct a thorough physical examination, manage clinical problems, and serve as a child and family advocate. As a result of their pediatric experiences, students should be able to make an enlightened career choice concerning this specialty.

During the Foundations of Medicine curriculum, faculty members participate in interdepartmental lectures and conferences on neuroanatomy, genetics, nutrition, microbiology, hematology, immunology and behavioral sciences that incorporate clinical correlations with the basic science topics the students are learning; the biopsychosocial aspects of health and disease in infants, children and adolescents are woven into this series.

Departmental faculty have specific teaching responsibilities in the Doctoring and Clinical Skills course and as longitudinal preceptors. In addition, Pediatrics has developed an elective seminar in Teen Pregnancy, which has been well received by students.

The third-year Pediatrics core clinical experience emphasizes clinical problem solving in both clinical situations and conferences. The experience includes inpatient pediatric settings and primary care offices. Students use this experience to become familiar with the primary care and subspecialty nature of the field and the important role that the pediatrician plays in the physical and emotional development of children of all ages.

During the Core Clinical Experience, students participate as members of a health care team in a variety of community outpatient and inpatient settings, allowing them to apply their interviewing and clinical problem-solving skills in the health care of children. In addition, the department provides an opportunity for approximately 30 students to participate in a 12-week combined obstetrics & gynecology and pediatric/maternal-child health elective during which the student is responsible for a woman's prenatal care, as well as the health supervision of her infant. Students who have a special interest in the welfare of children can also participate in an elective Special Interest Group in Pediatrics, which meets regularly to discuss such topics as the ethical issues of reproductive choice and severe prematurity, human sexuality, teenage pregnancy, sexual abuse, divorce and adoption. These seminars are developed by the students with the help of a faculty advisor.

Fourth-year students can choose to participate in the Senior Scholars Program, designed to provide in-depth clinical and/or research experience in an area of special interest. Electives are also available in pediatric subspecialties, general pediatrics, pediatric emergency service and pediatric or neonatal intensive care.

Pediatrics Faculty

Wendy Ackley, instructor; BA, Saint Anselm College, 1993; MS, Boston University, 1996

Robin H. Adair, assistant professor; BA, University of Vermont, 1975; MMHS, Brandeis University, 1995; MD, New York University, 1979

Seema Adhami, assistant professor; MBBS, Aligarh Muslim University, 1984; MD, 1988

Achal Aggarwal, affiliate; BS, Massachusetts Institute of Technology, 1987; MD, University of Massachusetts Medical School, 1991

***Carlton M. Akins,** associate professor; AB, Harvard College, 1962; MD, Harvard Medical School, 1966

Anthony J. Alario, professor; BA, Boston University, 1972; MD, University of Massachusetts Medical School, 1979

Donna Ambrosino, professor; AB, Harvard College, 1974; MD, Dartmouth Medical School, 1977

Mark Andrews, instructor; BA, University of Lowell, 1979; MPA, Suffolk University, 1984

Amanda Angelescu, assistant professor; MD, University of East Ramon Magasaysay Medical Center, 1987

Carrie C. Armsby, assistant professor; BA, Barnard College, 1993; MD, University of Pennsylvania, 1999

Onesky Aupont, assistant professor; MPH, Boston University School of Public Health, 1995; PhD, Brandeis University, 2000

Karen Back, instructor; BS, William and Mary, 1964; MD, Emory University, 1969

***John H. Backman,** assistant professor; BS, Franklin and Marshall College, 1957; MD, Harvard Medical School, 1961

Linda Bandini, associate professor; BS, University of Massachusetts at Amherst, 1975; MS, Massachusetts Institute of Technology, 1976; PhD, 1987

Robert D. Basow, instructor; MD, Baylor College of Medicine, 1989

Scot T. Bateman, clinical associate professor; AB, Dartmouth College, 1989; MD, Dartmouth Medical School, 1994

***Patricia H. Bazemore,** associate professor; AB, Radcliffe College, MD, Yale University School of Medicine, 1966

Stephen A. Bean, assistant professor; BA, Hamilton College, 1984; MS, Georgetown University, 1986; MD, 1990

Paula Beaver, instructor; AS, Fulton Montgomery Community College, 1981; BS, Assumption College, 1990; MS, Northeastern University Graduate School of Nursing, 1995

Sarah Wolk Bechta, assistant professor; BS, Brown University, 1988; MD, 1992

Robert Beckmann, affiliate; BS, State University of New York, 1987; MD, 1992

Francis J. Bednarek, professor; BS, Kings College, 1966; MD, Loyola University, 1970

Angela L. Beeler, assistant professor; BS, Massachusetts Institute of Technology, 1992; SB, 1992; MD, University of Utah School of Medicine, 1997

***Negar Beheshti,** assistant professor; BA, University of Minnesota, 1994; MD, University of Minnesota Medical School, 2001

***Leah Belazarian,** assistant professor; BS, Boston College, 1999; MD, University of Massachusetts Medical School, 2003

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Matthew Benz, instructor; BA, Middlebury, 1986; SM, MIT, 1993; MD, Tufts University School of Medicine, 1999

Vincent M. Biggs, affiliate; BS, University of Mass, Amherst, 1985; MD, University of Massachusetts Medical School, 1990

Diane R. Blake-Johnson, associate professor; BA, Smith College, 1986; MD, Johns Hopkins University, 1990

Lisa M. Blazejewski, instructor; BA, University of Delaware, 1995; MS, University of Minnesota, 1999

Kimberly D. Boullard, affiliate; BS, Western Michigan University, 1979; MS, Sargent College of Allied Health, 1984

Kathleen Braden, clinical associate professor; BA, Columbia University, 1971; MD, Albert Einstein College of Medicine, 1978

Jennifer Austin Bram, assistant professor; BA, University of Virginia, 2000; MD, University of Massachusetts Medical School, 2005

Richard A. Bream, assistant professor; BA, University of Minnesota, 1971; MD, 1976

***Michael A. Brown,** assistant professor; BS, Massachusetts Institute of Technology, 1991; MD, Georgetown University, 1995

Leo Buchanan, associate professor; BA, Howard University, 1964; MS, University of Wisconsin, 1971; PhD, 1977

Sharon Burdulis, instructor; MD, University of Massachusetts Medical School, 1995

***Brian D. Busconi,** associate professor; AB, Harvard College, 1985; MD, Tufts University School of Medicine, 1989

Theresa Callahan, clinical assistant professor; BS, Mount Holyoke College, 1987; MD, University of Massachusetts Medical School, 1991

Sheila C. Callahan-Butler, affiliate; BA, Anna Maria College, 1970; MA, 1978; MD, University of Massachusetts Medical School, 1982

Sharon M. Campion, affiliate; BA, Wellesley College, 1982; MD, University of Vermont College of Medicine, 1988

Ninfa M. Candela, assistant professor; BS, Saint Joseph College, 1997; MD, St. Georges University School of Medicine, 2003

Laura J. Cardello, assistant professor; BS, University of Rhode Island, 1997; MD, University of Massachusetts Medical School, 2003

Patricia Carlino, instructor; MD, University of California, 1989

***David Carlson,** assistant professor; BA, College of the Holy Cross, 1996; MD, University of Massachusetts Medical School, 2003

JoAnn Carson, assistant professor; BS, Yale, 1977; MPH, Connecticut, 2001; MD, Columbia University College of Physicians & Surgeons, 1981

Lisa E. Carson, affiliate; BSN, Fairfield University, 1987; MSN, Northeastern University, 1990

Fernando Catalina, clinical assistant professor; BA, Saint Anselm College, 1989; MD, Southwestern Medical School, 1997

***Oguz I. Cataltepe,** associate professor; MD, Hacettepe University, 1982

Marc Cerrone, instructor; MD, SUNY Brooklyn, 1996

Anne C. Chaffee, affiliate; BA, Wellesley College, 1977; MD, Tufts University, 1981

***Sarah H. Cheeseman,** professor; AB, Mount Holyoke College, 1969; MD, University of Wisconsin, 1973

Kathy L. Chrismer, affiliate; BA, Smith College, 1978; MD, University of Rochester Medical School, 1982

Ruth Yu Chu, affiliate; BS, Indiana University, 1982; MA, 1984; MD, Indiana University School of Medicine, 1987

Sang K. Chung, instructor; BA, Seoul National University, 1962; MD, 1966

Angela Ciamarra, instructor; BA, Harvard College, 1992; MD, University of Massachusetts Medical School, 1997

***Robert A. Ciottone,** affiliate; BA, Seton Hall University, 1963; MA, Catholic University of America, 1965; PhD, Catholic University, 1967

Linda Ciu, instructor; MD, University of Tirana, 1986

Kathleen M. Cleary, instructor; BS, St. Marys Hospital, 1980; MD, University of Massachusetts Medical School, 1984

Maureen Cochran, adjunct instructor; BS, Columbia University, MS, Boston College, PhD, Northeastern University,

Scott M. Cochrane, assistant professor; BS, California, 1974; MA, Stanford, 1976; MD, North Carolina, 1990

Rachel M. Coleman, assistant professor; BS, Milligan, 1996; MD, Florida, 2004

Anne Marie Comeau, associate professor; AB, Holy Cross, 1978; PhD, Brandeis University, 1985

***Michelle E. Conroy,** assistant professor; BA, John Hopkins University, 1994; MS, Boston University, 1997; MD, University of Massachusetts Medical School, 2003

Jose Correa, instructor; MD, Major Univ of San Marcos de Lima Fac of Medicine, 1977

Ingrid Cruse, assistant professor; MD, SUNY Buffalo, 1991

Idris Dahodwala, affiliate; MBBS, Jawaharlal Nehru Medical College, 1986

Michelle Dalal, assistant professor; BS, Cornell University, 1996; MD, State University of New York at Stonybrook, 2000

** joint appointment*

Michael J. Daley, assistant professor; BA, College of the Holy Cross, 1975; MD, Georgetown University, 1979

Jeffrey Dandurand, assistant professor; BA, Saint Anselm College, 2003; PharmD, Northeastern University, 2008

Garfield Danenhower, instructor; MD, South Carolina, 1968

Ghaleb H. Daouk, adjunct instructor; BS, Syracuse, 1979; SM, MIT, 1991; MD, American University of Beirut, 1984

Nicolina Cordaro Davis, assistant professor; BA, Colgate University, 1987; MD, Albany Medical College, 1991

Sherrill Davis, instructor; MD, University of Missouri, 1984

Debra C. Demers-Chaison, instructor; MSW, Boston College, 1997

Brian J. Dempsey, instructor; BA, University of Massachusetts at Boston, 1977; MD, University of Massachusetts Medical School, 1982

***Brian K. Dessureau,** clinical assistant professor; BA, Colgate University, 1993; MA, Clark University, 1997; PhD, 2001

Nancy W. Detora, affiliate; BS, Michigan State University, 1974; MD, 1977

Brooke Di - Anni, affiliate; BS, Florida, 1997; DO, Nova Southeastern College Osteopathic Medicine, 2002

Bradlee G. Drabant, instructor; BS, Boston College, 1996; MD, University of Massachusetts Medical School, 2002

***William V. Dube,** associate professor; BM, Boston Conservatory of Music, 1972; MA, Northeastern University, 1985; PhD, 1987

John A. Duggan, professor *emeritus*; BA, Boston College, 1944; MD, Harvard Medical School, 1947

** joint appointment*

Spotlight on education



For more news about UMass Medical School, visit: www.umassmed.edu/news

Mr. Potato Head exercise sharpens medical care

Take 100 medical students, 160 Mr. Potato Head toys, a half dozen stopwatches—and mix well. What might sound like a recipe for chaos is actually an amazing test of teamwork, problem-solving skills and "lean manufacturing strategies as applied to medical care," said Eric Dickson, MD, professor of emergency medicine and senior medical director for the UMass Memorial Medical Group. "When you think about what makes for good manufacturing practice—eliminating mistakes, using time and materials efficiently, and, above all, taking every opportunity to improve a process—you're also describing what can make for good medical care."

The exercise is simple: Teams of 10 students must assemble 16 different Potato Head toys to match exactly 16 photographs of the finished doll, aiming for a total time in the range of six minutes. Teams have two "implantation specialists" who deliver selected parts to the two "reimplantation surgeons," who assemble the toys; the other team members sort and organize eyes, ears, hats, feet, noses and accessories to try to keep the surgeons "fed" with the right parts.

"The patient safety interclerkship gives medical students who are being introduced to their intensive clinical experience the 'permission' to focus on issues of quality care, quality improvement and the primacy of the patient outcome," said Eric J. Alper, MD, associate professor of medicine and co-director of the Medical Error and Patient Safety Interclerkship.

For more news about UMass Medical School, visit: www.umassmed.edu/news

UMass MedNow

Carlos Duran, adjunct instructor; BA, MIT, 1994; MD, School of Med, State Univ of NY at Stony Brook, 1999

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Patricia Anne Dykstra, affiliate; AB, Smith College, 1979; MD, Emory University, 1983

Morris Earle Jr, assistant professor; BS, University of Vermont, 1979; MPH, Harvard University, 1991; MD, University of Vermont College of Medicine, 1983

Roger B. Eaton, associate professor; BA, University of Vermont, 1970; MS, State University of New York at Buffalo, 1978; PhD, 1981

***N. Lynn Eckhert,** professor; BA, Denison University, 1964; MSN, New York Medical College, 1966; MD, State University of New York at Buffalo, 1970

***Jessica B. Edwards George,** adjunct assistant professor; BA, Binghamton University, 1999; MS, Northeastern University, 2002; PhD, 2007

Leigh A. Emery, affiliate; BSN, Boston College, 1977; MSN, 1979

Lars Erickson, associate professor; BS, Brown University, 1979; SCB, 1979; MD, Duke University, 1984

Pegeen Eslami, assistant professor; BM, NE Conservatory of Music, 1984; MD, Harvard Medical School, 1991

Judith B. Evans, affiliate; BS, St. Bonaventure University, 1977; MD, New York Medical College, 1982

Michael A. Fabrizio, instructor; BA, Amherst College, 1968; MD, Royal College of Surgeons, 1974

Michael C. Fahey, assistant professor; BA, Dartmouth College, 1997; MD, Columbia University College of Physicians & Surgeons, 2002

Marianne E. Felice, chair and professor; BA, Carlow College, 1966; MD, Pennsylvania State University College of Medicine, 1972

Bruce S. Fieldman, instructor; BA, Boston University, 1970; DMD, Tufts University School of Medicine, 1974

Lloyd D. Fisher, assistant professor; BA, Vermont, 1998; MD, University of Massachusetts Medical School, 2003

***Thomas J. Fitzgerald,** chair and professor; BS, University of San Francisco, 1975; MD, University of Massachusetts Medical School, 1980

***Terence R. Flotte,** *the Celia and Isaac Haidak Professor of Medicine,* professor; BS, University of New Orleans, 1982; MD, Louisiana State University, 1986

Ann M. Foley, affiliate; BA, Saint Joseph College, 1976; MEd, Harvard Graduate School of Education, 1980

***Peter J. Foley,** associate professor; BA, University of New Hampshire, 1980; MS, Ball State University, 1982; PhD, Purdue University, 1986

Jay G. Fong, assistant professor; BSc, Fairfield, 1994; MD, Ross University School of Medicine, 1999

Heather Forkey, assistant professor; BS, Cornell University, 1989; MD, State University of New York at Buffalo, 1993

Deborah Elaine Francis, instructor; BA, Wellesley College, 1991; MD, University of Massachusetts Medical School, 1996

***Jean A. Frazier,** *the Robert M. & Shirley S. Siff Chair in Autism,* vice chair and professor; BA, Wellesley College, 1982; MD, Dartmouth Medical School, 1987

Christine Freemer, instructor; BA, Holy Cross, 1989; MD, Johns Hopkins University, 1993

Andrew L. Frelinger, adjunct research associate professor; BS, San Diego State University, 1975; PhD, Case Western Reserve University, 1984

***Geri S. Fuhrmann,** clinical associate professor; BA, Tufts University, 1977; PsyD, University of Denver, 1984

***Marzena Galdzicka,** clinical assistant professor; BS, Institute of ChemistryFood, 1979; MS, George Mason University, 1998; PhD, 2002

John Gallagher, instructor; BS, St. Johns University, 1989; MD, Albert Einstein College of Medicine, 1997

***Monica S. Ganatra,** assistant professor; AB, Harvard College, 1999; MPH, Tufts University, 2003; MD, Tufts University School of Medicine, 2003

Katharine M. Garnett, instructor; BS, Bates, 1997; MD, University of Vermont College of Medicine, 2002

William T. Garrison, professor; BA, State University of New York, 1972; MA, Cornell University, 1977; PhD, 1978

Robert Gedachian, affiliate; BA, Columbia, 1962; MD, University of Virginia Medical School, 1966

***Stephen H. Gehlbach,** adjunct professor; AB, Harvard College, 1964; MPH, University of North Carolina at Charlotte, 1973; MD, Case Western Reserve University, 1968

Laura L. Gibson, assistant professor; BA, Yale University, 1987; MD, University of Massachusetts Medical School, 1994

Timothy E. Gibson, assistant professor; BA, Tufts University, 1994; MD, University of Massachusetts Medical School, 1999

Edward I. Ginns, professor; BS, Rensselaer Polytech Institute, 1967; PhD, 1971; MD, Johns Hopkins University, 1976

Arthur A. Giuliano, assistant professor; MD, New York, 1973

Christopher P. Giuliano, clinical assistant professor; BA, Vassar College, 1996; MD, University of Massachusetts Medical School, 2000

James Gleason, instructor; BS, Boston, 1976; MS, 1982

Amy Goldberg, instructor; BA, University of Vermont, 1990; MD, Boston University School of Medicine, 1997

Amy B. Gonroff, affiliate; BA, Dartmouth College, 1982; MS, Georgetown University, 1983; MD, 1987

George Grady, professor; BS, Kentuky, 1955; MD, Vanderbit, 1959

Thomas C. Greenough, assistant professor; BA, Amherst College, 1981; MD, University of Rochester Medical School, 1987

Neil J. Grossman, professor; AB, Boston University College of Liberal Arts, 1973; MD, Boston University School of Medicine, 1976

Thomas J. Guggina, assistant professor; BA, University of Massachusetts at Boston, 1994; MD, University of Massachusetts Medical School, 1999

Neena R. Gupta, assistant professor; MD, Utkal University, 1987

Deborah Gurski, instructor; BS, University of Massachusetts at Amherst, 1984; MD, University of Massachusetts Medical School, 1992

Arnold Gurwitz, assistant professor; BS, University of Massachusetts at Amherst, 1953; MS, 1955; MD, Tufts University, 1962

***Farajallah Habib,** clinical associate professor; MD, Alexandria University, 1972

Patricia M. Hackett, instructor; BA, Catholic University, 1968; MSW, Boston College, 1987

Charles D. Hamad, associate professor; BA, Quinnipiac College, 1972; MA, Long Island University, 1974; PhD, University of Kansas, 1977

***Tatiana A. Hamawi,** instructor; BS, University of Massachusetts at Amherst, 1989; MD, Mount Sinai School of Medicine, 1994

Katy-Ann E. Hannigan, assistant professor; BA, University of Rochester, 1992; DO, Des Moines University, Osteopathic Medical Center, 1998

Olga T. Hardy, assistant professor; BS, Duke University, 1996; MD, University of California, 2000

***Nancy Harger,** instructor; BS, University of Michigan, 1969; MSLIS, Simmons College, 1991

Pamela L. Harges, assistant professor; BS, Brown University, 1976; MA, Duke University, 1979; MD, Bowman Gray School of Medicine, 1985

Muddana Haribabu, affiliate; MBBS, Rangaraya Medical College, 1971

***David M. Harlan,** *the William and Doris Krupp Professorship in Medicine,* professor; BS, University of Michigan, 1977; MD, Duke University School of Medicine, 1980

** joint appointment*

Alan N. Harris, instructor; AB, Stanford University, 1972; MPH, University of California at Los Angeles, 1980; MD, Mount Sinai School of Medicine, 1976

Lisa Hassler, assistant professor; BS, Northeastern University, 1986; MD, Pennsylvania State University College of Medicine, 1997

Beverly Hay, assistant professor; BA, University of California at San Diego, 1986; MD, Jefferson Medical College, 1996

Martha J. Henry, instructor; BA, Saint Anselm College, 1996; MA, Clark University, 2000; PhD, 2005

Ines Maria Hertz, instructor; BS, Saint Marys College of Meycauayan, 1971; MD, Tulane University School of Medicine, 1975

Karen A. Heveron, clinical assistant professor; BA, College of the Holy Cross, 1990; MD, University of Massachusetts Medical School, 1995

***Michael P. Hirsh,** professor; BA, Columbia College, 1975; MD, Harvard Medical School, 1979

William F. Horgan, affiliate; AB, College of the Holy Cross, 1978; DO, University of New England College of Osteopathic Medicine, 1983

Joseph F. Howard, instructor; MD, Duke University School of Medicine, 1986

Ho-Wen Hsu, assistant professor; AB, Princeton, 1979; MSc, Harvard, 1990; MD, Columbia University College of Physicians & Surgeons, 1984

Emma Hughes, instructor; BA, Brown University, 1991; MD, University of Connecticut School of Medicine, 1996

Barry M. Hugo, assistant professor; BS, University of Pennsylvania, 1996; MD, University of Massachusetts Medical School, 2000

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Xiufeng Wu, research assistant professor; MS, Shanxi, China, 1997; MD, Changzhi, China, 1986; PhD, Beijing Normal University, 2001

Falgun Patel Wylie, assistant professor; MD, Baylor College of Medicine, 2003

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** joint appointment*

Psychiatry

The Department of Psychiatry features:

- an emphasis on psychiatric problems that frequently arise in primary care medicine;
- the use of an integrative model of psychiatry emphasizing the biologic, psychodynamic, and social and behavioral aspects of treatment; and
- a broad research base in neuroscience, psychopharmacology, psychosocial rehabilitation, mental health policy, psychiatric treatment, and adult and child psychiatric subspecialties.

The Department of Psychiatry provides educational programs throughout all four years of the Medical School curriculum. Courses during the first three years encompass interviewing, diagnostic and etiologic issues as well as treatment and management modalities. Normal and abnormal development and psychological functioning are considered, and social, behavioral, biological and psychodynamic models are integrated throughout the curriculum.

During the Foundations of Medicine curriculum, the department participates in the interdisciplinary Doctoring and Clinical Skills course and The Brain: Nervous System and Behavior course, which surveys the major psychopathological syndromes and normal/abnormal aspects of development from birth through old age. Psychological problems that frequently arise in primary care medicine—grief, anxiety and reaction to illness—are also considered in detail. Small group learning is utilized extensively to reinforce the didactic material.

During the third year, a Core Clinical Experience gives students an opportunity to further develop the interviewing, reasoning and communication skills that are fundamental to psychiatric diagnosis and intervention. An integrative model is stressed, emphasizing the biological, psychodynamic, social and behavioral aspects of treatment in both inpatient and outpatient settings.

The department offers a Senior Scholars Program and a number of fourth-year electives, including advanced clinical rotations on inpatient or consultation units as well as experience in specialized areas such as law and psychiatry, addiction psychiatry, child and adolescent psychiatry, child maltreatment, community psychiatry, psychiatry for the homeless, women's mental health and neuropsychiatry.

Psychiatry Faculty

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Quantitative Health Sciences

The Department of Quantitative Health Sciences offers research expertise, comprehensive training programs and services that focus on:

- Biostatistics
- Epidemiology
- Health services research
- Health informatics
- Implementation science
- Health disparities
- Patient-reported outcomes measurement

Established in 2009, the Department of Quantitative Health Sciences (QHS) is enhancing the clinical and translational research enterprise at UMass Medical School. The department complements the recently established UMass Center for Clinical and Translational Science and is organized around four academic divisions: Biostatistics and Health Services Research; Epidemiology of Chronic Disease and Vulnerable Populations; Health Informatics and Implementation Science; and Outcomes Measurement Science.

By consolidating, linking and expanding resources for quantitative methods and study design at UMMS, QHS promotes team-based research programs across quantitative, clinical and basic-science disciplines. As a central strategy in the start up of this new department, QHS has recruited some 20 new junior and senior faculty to date. QHS academic faculty are independent investigators and also collaborative methodologists in joint projects with other investigators across campus.

QHS faculty lead or teach in programs such as the Master of Science in clinical investigation and the PhD in clinical and population health research. QHS faculty also serve as advisers and mentors for trainees at all levels, from medical students through junior faculty.

QHS is located in 22,500 square feet of new space in the Ambulatory Care Center in the same building as several UMass Memorial Health Care centers of excellence ambulatory clinics. This proximity lends itself to the development of unique clinical and translational research partnerships.

Quantitative Health Sciences Faculty

***Jeroan J. Allison,** vice chair and professor; MS EP, Harvard School of Public Health, 1997; MD, University of Alabama at Birmingham, 1989

Milena D. Anatchkova, assistant professor; BS, Sofia University, 1996; MA, Sofia University 'St. Kliment, 1998

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Radiation Oncology

The Department of Radiation Oncology:

- is one of the largest in New England, providing state-of-the-art clinical treatment service to cancer patients in Worcester County;
- delivers more than 35,000 external beam treatments to patients each year at the UMass Memorial Medical Center University and Memorial campuses and the HealthAlliance Hospital campus in Fitchburg. The department also partners with 21st Century Oncology at Harrington Hospital in South Worcester County and Holyoke Hospital in Worcester in providing radiation services;
- provides advanced technology procedures including IMRT, IGRT, HDR, SRT, SBRT, gating and RapidArc;
- houses an internal school for radiation therapy technology that has graduated 18 classes of highly specialized and actively recruited students since its inception in 1989;
- intiated a two-year Medical Physics Residency program designed to meet the growing demand for clinically experienced physicists and CAMPEP (Commission on Accreditation of Medical Physics Educational Programs) requirements for certification by the American Board of Radiology;
- sponsors co-leadership of a new course in the LInC Foundations of Medicine Year 1 curriculum;
- applies three-dimensional graphics/planning tools to delineate normal and abnormal anatomy for teaching medical students and residents across UMMS departments; and
- sponsors the UMMS RA 405 Radiation Oncology elective.

The Department of Radiation Oncology provides radiation medicine to the region's oncology patients and serves as the academic infrastructure for radiation science for UMMS.

Using image-guided platforms with three-dimensional treatment simulators for treatment planning and execution, the department provides extensive brachytherapy services including all facets of genitourinary and gynecological applications.

The Quality Assurance Review Center (QARC) is a sponsored program within Radiation Oncology. QARC is funded to provide research support to improve the quality of cancer clinical trials. QARC acquires, manages, reviews and archives imaging and radiation treatment objects on a pre-therapy basis to ensure protocol compliance for patients on clinical trials supported by NCI clinical cooperative groups and image-guided industry trials. The department chair is the director of QARC and PI on the NIH/NCI grant. QARC is housed in Lincoln, Rhode Island.

Radiation Oncology has several research interests, with particular emphasis on signaling pathways and cellular adhesion. Most of the targeted oncology therapies developed in the past five years include tyrosine kinase-based therapies that sensitize cancer cells to radiation therapy. Identifying the interactions between these therapies and radiation therapy are the focus of the translational research effort, with collaborations promoted through the departments of Cancer Biology and Cell Biology.

Medical Physics research efforts include development of advanced treatment planning techniques, radiobiological dose response and clinical database design for outcome modeling.

Radiation Oncology Faculty

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Janaki Moni, clinical associate professor; BS, Christian Medical College, 1984; MB, 1984; MD, University of Bombay 1987

***Richard P. Moser,** professor; MD, Loyola University, 1974

Richard S. Pieters, clinical associate professor; AB, Princeton University, 1970; MEd, Boston University, 1974; MD, Brown University, 1982

Joanna M. Sawicka, clinical associate professor; MBBSc, University Birmingham, 1972

Kenneth Ulin, clinical associate professor; AB, Harvard College, 1971; MS, Tufts University, 1979; PhD, 1984

Marcia M. Urie, professor; AB, Mount Holyoke College, 1969; MS, Cornell University, 1976; PhD, University of Florida, 1979

Tao Wang, research assistant professor; BS, Xiamen University, 1983; MSc, South China Institute, 1986; PhD, University of Memphis, 1997

Patricia E. Webster, assistant professor; BS, Lock Haven University, 1975; MS, Anna Maria College, 2005

***Susan Zweizig,** associate professor; BA, University of California at Berkley, 1980; MD, Harvard Medical School, 1985

** joint appointment*

Radiology

Radiology's expert faculty members include:

- physicians selected as members of "Best Doctors in America" and America's Registry of Outstanding Professionals: Jerry Balikian, MD and Ajay Wakhloo, MD, PhD;
- a faculty member on the UMMS team that performed pancreatic islet cell transplantation into the liver of a diabetic patient using catheter-based techniques, eliminating the patient's insulin dependency; and
- an internationally renowned group of researchers who have garnered the department a new, high National Institutes of Health ranking among U.S. radiology departments.

The Department of Radiology interacts with students at various times during their course of study at the Medical School.

In the Foundations of Medicine curriculum, the department employs a variety of imaging studies to illustrate sections of gross anatomy. In the Development, Structure and Function course, an introductory curriculum in radiology includes thoracic, abdominal, musculoskeletal, vascular and neurological systems.

Monthlong elective clerkship experiences are offered for fourth-year students at UMass Memorial Medical Center and affiliated hospitals. Students rotate through the sub-specialty areas, which include computed tomography; ultrasound magnetic resonance imaging; vascular interventional radiology; pediatric radiology; neuroradiology; gastrointestinal, musculoskeletal and thoracic imaging; and nuclear medicine.

Opportunities to observe the entire spectrum of imaging procedures, both diagnostic and interventional/therapeutic, are provided. Additional monthlong advanced clerkships are available in vascular interventional radiology, neuroradiology and pediatric radiology, as are other individually tailored sub-specialty rotations.

The Department of Radiology has recently been funded to acquire new technology, staff and operational support, including a clinical and research partnership with Massachusetts-based Philips Medical Systems; in 2005, UMass Medical School became a Philips show site for its potential customers. Additional enhancements include the installation of a fully electronic paperless service including a Picture Archiving System, computed radiography, voice recognition for reporting, and the establishment of state-of-the-art neuro-interventional and breast screening digital mammography services. The department has also completed construction and recruitment of scientists for its new Center for Innovative Imaging & Intervention (CI3), which contains a dedicated angiographic research suite and a 3.0 Tesla MR scanner.

Radiology Faculty

Susan A. Afonso, clinical associate professor; BS, Tufts University, 1981; MD, University of Massachusetts Medical School, 1985

Herlen J. Alencar, assistant professor; MD, University of Pernambuco, 1998

Steven J. Baccei, assistant professor; MD, New York Medical College

Jerry P. Balikian, vice chair and professor; BA, American University of Beirut, 1951; MD, 1955

Alexei A. Bogdanov, professor; PhD, Moscow State University, 1989

Keith A. Cauley, assistant professor; PhD, University of Michigan, 1989

Christopher A. Cerniglia, assistant professor; BS, Cornell University, 1995; ME, Worcester Polytech Institute, 1997; DO, Arizona College of Osteopathic Medicine, 2001

Andrew P. Chen, assistant professor; BA, University of Delaware, 2000; MD, Jefferson Medical College, 2004

Michael T. Corwin, assistant professor

Dennis Coughlin, assistant professor; MD, University of Massachusetts Medical School, 2001

***Seth T. Dahlberg,** associate professor; BA, Williams College, 1977; MD, Tufts University School of Medicine, 1981

Mini Das, assistant professor

Charu S. Desai, clinical associate professor; BS, Saravajanik College of Science, 1968; MBBS, Government Medical College of Miraj, 1972

Joyoni Dey, assistant professor; PhD, Carnegie Mellon University, 1999

Sathish K. Dundamadappa, assistant professor; MD, India University, 2002

Joseph T. Ferrucci, chair *ad interim* and professor; AB, Harvard College, 1959; MD, Tufts University School of Medicine, 1963

Howard C. Gifford, research assistant professor; BS, Harvey Mudd College, 1983; PhD, University of Arizona, 1997

Stephen J. Glick, professor; BS, University of Vermont, 1982; MS, Worcester Polytech Institute, 1988; PhD, 1991

Matthew J. Gounis, assistant professor; PhD, University of Miami, 2003

Donald J. Hnatowich, professor; BS, University of Manitoba, 1963; MS, 1964; PhD, Massachusetts Institute of Technology, 1968

Sarwat Hussain, vice chair and professor; MBBS, King Edward Medical College, 1970

Adib R. Karam, instructor; MD, Lebanese American University, 2001

Andrew Karellas, professor; BS, Worcester State College, 1979; PhD, California State University at Los Angeles, 1983

***Jeanne D. Keller,** assistant professor; AB, Radcliffe College, 1951; MD, Boston University School of Medicine, 1955

Young H. Kim, associate professor; BS, Hanyang University, 1982; MD, 1986

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Robert Licho, associate professor; BA, New York University, 1980; MD, Albany Medical College, 1985

James Lingley, clinical assistant professor; BA, Yale University, 1959; MD, Harvard Medical School, 1963

Guozheng Liu, research associate professor; BS, Hebei Teacher's College, 1982; MS, Beijing Normal University, 1992; PhD, 1996

Xinrong Liu, instructor; PhD, Peking University, 2003

Sue Ann Macmaster, assistant professor; BS, Dalhousie University, 1975; MD, Memorial University of Newfoundland, 1979

Joseph Makris, assistant professor; BS, Wentworth Institute of Technology, 1991; MD, University of Massachusetts Medical School, 1998

Santiago P. Miro, assistant professor; BS, Montreal, 1987; MD, 1992

Joyeeta Mitra, instructor

Lawrence J. Moss, associate professor; BA, University of Vermont, 1966; MD, University of Vermont College of Medicine, 1973

David A. Phillips, associate professor; BS, Alcorn A & M College, 1959; MD, Meharry Medical College, 1970

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Petrus H. Pretorius, associate professor; BS, University of Stellenbosch, 1980; PhD, University of Orange Free State, 1994

Farhana R. Riaz, assistant professor; BS, Rensselaer Polytech Institute, 1998; MD, Albany Medical College, 2000

Abhijit Roychowdhury, assistant professor; MBBS, Osmania Medical College, 1982

Mary Rusckowski, research associate professor; BA, Albertus Magnus College, 1975; PhD, Rutgers University, 1981

Daniel M. Schwartz, assistant professor; BS, Massachusetts Institute of Technology, 1993; MD, Washington University School of Medicine in St. Louis, 1997

John J. Shim, assistant professor; MD, University of California, 2003

Peter H. Simkin, clinical associate professor; BA, Williams College, 1968; MD, Tufts University School of Medicine, 1972

Hartley M. Sirkis, assistant professor; MD, Royal College of Surgeons, 2002

Edward H. Smith, professor and chair *emeritus*; AB, Columbia College, 1956; MD, State University of New York at Downstate, 1960

Eugenio L. Suran, clinical associate professor; MD, University of Buenos Aires Medical School, 1963

Padmaja Surapaneni, assistant professor; MD, Gunter Medical College, 1991

Patricia H. Sutman, assistant professor; MD, University of Miami School of Medicine, 1978

Deepak Takhtani, associate professor; MD, Armed Forces Medical College, 1983

Srinivasan Vedantham, assistant professor; PhD, Worcester Polytech Institute, 2002

Gopal R. Vijayaraghavan, assistant professor; MBBS, Madras University, 1974

Ellen D. Waitzkin, assistant professor; MD, Harvard Medical School, 1981

Ajay K. Wakhloo, professor; MD, Johannes Gutenberg Univeristat, 1984

Ellen C. Wallace, assistant professor; MD, Queen's University, 1983

Surong Zhang, instructor; BS, Xiangtan Teacher's, China, 1990; PhD, Beijing Normal, 1996

Larry Z. Zheng, assistant professor

Surgery

Along with the recruitment of exceptional faculty and the maintenance of its strong tradition in providing outstanding trauma services, the Department of Surgery continues its growth with:

- the development of a cardiovascular center of excellence;
- a focus on enhancing minimally invasive techniques in all disciplines; and
- an increasing concentration in surgical oncology.

The Department of Surgery has a long history of dedication to the education and mentorship of medical students. It is the aim of the department to provide a broad-based body of knowledge and basic technical skills that are applicable to all areas of medicine, with additional opportunities for more specialized study, based on individual student interest. These goals are accomplished in collaboration with several community hospitals throughout Massachusetts.

The third-year Core Clinical Experience in Surgery features general/vascular surgery, where students have an opportunity to become an active and integral member of the care team, including the day-to-day treatment of patients as well as regular participation in the operating room setting. This experience is complemented by attendance at surgical clinics and offices, where students are able to assist in providing outpatient care. The experience also provides exposure to a variety of surgical subspecialties, including thorough outpatient, inpatient and operating room experiences. Enhancement of learning opportunities occurs through student participation in regular conferences and lectures.

Fourth-year students are encouraged to enroll in a variety of monthlong general surgery or subspecialty electives in order to obtain more advanced knowledge. Students may choose an individual preceptor or design a more formal subinternship. Selected students who are interested in pursuing a career in surgery may also choose to participate in a two-month Senior Scholars

elective, accomplished under the guidance of a faculty preceptor and involving both clinical and research training.

Surgery Faculty

Joseph Frank Adolph, clinical instructor; BS, Massachusetts Institute of Technology, 1966; MD, Tufts University School of Medicine, 1970

Mustafa Akyurek, associate professor; MD, Hacettepe University, 1990

Karim Alavi, assistant professor; BS, George Washington University, 1990; MD, George Washington University School of Medicine, 1995

Edward L. Amaral, assistant professor; BS, Boston College, 1957; MD, Georgetown University, 1961

***Frederick Anderson,** research professor; BA, Tufts University, 1971; MS, Worcester Polytech Institute, 1975; PhD, 1984

***Antonio Aponte-Feliciano,** assistant professor; MD, University of Puerto Rico Medical School, 2003

Paul L. Arcand, clinical assistant professor; BS, Providence College, 1987; MD, Tufts University, 1991

Elias J. Arous, professor; MD, University of Aleppo Medical School, 1975

Gerald W. Austen, senior affiliate; BS, Massachusetts Institute of Technology, 1951; MD, Harvard Medical School, 1955

Konstantino A. Avradopoulos, clinical assistant professor; BS, University of Akron, 1984; MD, Northeastern Ohio University College of Medicine, 1988

Philip Ayvazian, clinical associate professor; BS, Tufts University, 1982; MS, 1989; MD, University of Massachusetts Medical School, 1988

Katherine Bailey, instructor; BSN, Fitchburg State College, 1979; MSN, University of Massachusetts at Lowell, 1997

Mitchell Hall Bamberger, clinical associate professor; BA, Emory University, 1978; MBA, Plymouth State College, 1999; MD, Albany Medical College, 1982

Giacomo P. Basadonna, professor; MD, University of Milan, 1982; PhD, 1993

Richard M. Basile, assistant professor; BS, Tufts University, 1973; MD, State University of New York at Buffalo, 1977

Paula Bellin, clinical assistant professor; BA, University of Rochester, 1984; MS, Sargent College of Allied Health, 1986; MD, Boston University School of Medicine, 1994

Robert S. Bennett, affiliate; AB, Dartmouth College, 1964; MD, Cornell University School of Medicine, 1970

Stuart H. Bentkover, affiliate; AB, Princeton University, 3000; MD, Mount Sinai School of Medicine, 1974

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Michael L. Blute, interim professor; BA, College of the Holy Cross, 1973; MD, Creighton University, 1982

Robert D. Blute Sr., assistant professor; AB, Boston College, 1943; MD, Tufts University School of Medicine, 1946

Robert D. Blute Jr., assistant professor; BS, Boston College, 1970; MD, Tufts University School of Medicine, 1974

Adel Bozorgzadeh, professor; BA, University of Massachusetts, 1987; MD, George Washington University School of Medicine, 1991

Michael J. Bradbury, assistant professor; BS, Brooklyn College, 1969; MD, Georgetown University, 1973

***Thomas F. Breen,** associate professor; BA, Williams College, 1976; MD, University of Vermont College of Medicine, 1981

Mitchell A. Cahan, assistant professor; BA, University of Maryland, 1984; MD, Johns Hopkins University, 1996

John M. Castle, clinical associate professor; BS, University of Rochester, 1985; MD, University of Rochester Medical School, 1989

Oguz I. Cataltepe, associate professor; MD, Hacettepe University, 1982

Aleksander Chudnovsky, assistant professor; BA, Brandeis University, 1995; MD, Boston University School of Medicine, 2001

Rocco G. Ciocca, associate professor; BA, Bowdoin College, 1982; MD, New York Medical College, 1986

Harvey G. Clermont, assistant professor; BS, College of the Holy Cross, 1961; MD, Harvard Medical School, 1965

Philip A. Cohen, assistant professor; BA, Boston University, 2001; MD, Boston University School of Medicine, 2001

Michael S. Cohn, assistant professor; BA, University of Pennsylvania, 1969; MD, State University of New York at Downstate, 1973

Timothy C. Counihan, associate professor; BS, University of Massachusetts at Boston, 1986; MD, University of Massachusetts Medical School, 1990

George A. Csank, assistant professor; MD, Pecs University Medical School, 1983

Hongyi Cui, assistant professor; MD, Beijing Medical University, 1990; PhD, University of Connecticut, 2000

Eugene L. Curletti, assistant professor; BS, Tufts University, 1969; MS, 1971; MD, University of Vermont College of Medicine, 1975

Bruce S. Cutler, professor; BA, Princeton University, 1962; MD, Harvard Medical School, 1966

Donald Czerniach, assistant professor; BA, Lehigh University, 1990; MD, University of Medicine & Dentistry of New Jersey, 1995

Melinda Darrigo, assistant professor; BS, Salem State College, 1991; MS, University of Massachusetts, 2003; PhD, University of Massachusetts, 2009

Michael R. DiSiena, assistant professor; BS, Siena College, 1989; DO, New York College of Osteopathic Medicine, 1994

Mark S. DiStefano, clinical instructor; BA, Saint Anselm College, 1974; MD, Georgetown University, 1979

Nancy A. Dragoon, assistant professor; BS, Union College, 1980; MD, State University of New York at Stonybrook, 1984

Department of Surgery Division and Section Chiefs

Cardiac Surgery - Stanley K. C. Tam, MD

Colorectal Surgery - Justin A. Maykel, MD

General Surgery - John J. Kelly, MD

Neurosurgery - Richard P. Moser, MD

Organ Transplantation - Adel Bozorgzadeh, MD

Pediatric Surgery - Michael P. Hirsh, MD

Pediatric Plastic Surgery - Janice F. Lalikos, MD

Plastic & Reconstructive Surgery - Raymond M. Dunn, MD

Surgical Oncology and Endocrine Surgery - Giles F. Whalen, MD

Thoracic Surgery - Geoffrey M. Graeber, MD

Trauma and Surgical Critical Care Services - Timothy A. Emhoff, MD

Urology - Michael L. Blute, MD - interim

Vascular and Endovascular Surgery - Louis M. Messina, MD

Cheng Du, research assistant professor; PhD, University of Nebraska, 1996

Raymond M. Dunn, professor; BS, Worcester Polytech Institute, 1978; MD, Albany Medical College, 1982

David L. Dykhuizen, assistant professor; BA, University of Vermont, 1970; MD, Ohio State University College of Medicine, 1975

Timothy A. Emhoff, clinical associate professor; BS, United States Air Force Academy, 1972; MD, George Washington University School of Medicine, 1976

Mohammad Eslami, associate professor; BS, State University of New York at Stonybrook, 1987; MD, Harvard Medical School, 1991

Robert D. Fanelli, assistant professor; BS, University of Richmond, 1982; MD, Medical College of Pennsylvania, 1986

***Khaldoun Faris,** assistant professor; MD, University of Aleppo Medical School, 1991

Susan C. Fiorillo, assistant professor; BA, Bryn Mawr College, 1976; DMD, University of Pennsylvania, 1980

Gordon A. FitzGerald, research assistant professor; AB, Princeton University, 1972; MS, Northeastern University, 1974; PhD, University of Massachusetts at Amherst, 1994

Jeffrey J. Fong, adjunct assistant professor; DPharm, State University of New York at Buffalo, 2003

Gary M. Fudem, clinical professor; AB, Stanford University, 1978; MD, Case Western Reserve University, 1982

Uri Galili, professor; MS, Hebrew University of Jerusalem, 1973; PhD, 1977

Gregory J. Gallivan, clinical assistant professor; BS, Tufts University, 1958; MD, Tufts University School of Medicine, 1962

Glenn R. Gaudette, research assistant professor; BS, University of Massachusetts at Dartmouth, 1989; MS, Georgia Institute of Technology, 1991; PhD, State University of New York at Stonybrook, 2002

Peter J. Gentile, instructor; BA, Northeastern University, 1983; MPAS, 1993

***Anne M. Gilroy,** associate professor; BA, University of Rhode Island, 1974; MA, San Jose State University, 1980

***Mitchell Jay Gitkind,** clinical associate professor; BA, University of Massachusetts at Amherst, 1981; MD, University of Massachusetts Medical School, 1985

Wayne B. Glazier, clinical assistant professor; BA, Case Western Reserve University, 1970; MD, State University of New York at Buffalo, 1974

Geoffrey M. Graeber, professor; BA, Yale University, 1967; MD, State University of New York, 1971

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***Michael R. Green,** *Howard Hughes Medical Institute Investigator, the Lambi and Sarah Adams Chair in Genetic Research,* professor; BS, University of Wisconsin, 1974; MD, Washington University School of Medicine, 1981

Subhash C. Gulati, assistant professor; MD, D.A.V. College, 1966

Abraham W. Haddad, clinical assistant professor; BA, Boston University, 1963; DMD, Tufts University School of Medicine, 1967

Paul M. Haidak, associate professor; BS, Union College, 1967; MD, Albany Medical College, 1971

***Wiley R. Hall,** assistant professor; MD, MCP Hahnemann University, 1999

Stephen O. Heard, chair professor; BS, Princeton University, 1975; MD, University of Texas, 1978

Michael P. Hirsh, professor; BA, Columbia College, 1975; MD, Harvard Medical School, 1979

Frederick H. Hooven, research assistant professor; BA, Connecticut College, 1982; MMHS, Brandeis University, 1984; PhD, University of Massachusetts at Amherst, 2005

Timothy B. Hopkins, clinical associate professor; BA, University of South Dakota, 1967; MD, Harvard Medical School, 1970

Philip J. Howard Jr., assistant professor; BS, Bowdoin College, 1956; MD, University of Michigan, 1961

Margaret M. Hudlin, assistant professor; BS, Simmons College, 1979; MHCM, Harvard School of Public Health, 2010; MD, Harvard Medical School, 1992

Jeffrey S. Isen, affiliate; BA, State University of New York at Albany, 1973; MD, State University of New York at Buffalo, 1980

Stuart R. Jaffee, assistant professor; BS, Tufts University, 1951; MD, Tufts University School of Medicine, 1955

Leon G. Josephs, clinical assistant professor; BS, Boston College, 1980; MD, Boston University School of Medicine, 1984

***David A. Kaufman,** clinical associate professor; BS, McGill University, 1974

John R. Kearns, clinical assistant professor; BS, Fordham University, 1968; MD, Albany Medical College, 1972

David W. Kelly, affiliate; BS, Boston College, 1969; DMD, Tufts University School of Medicine, 1973

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***Issam Khayata,** assistant professor; MD, Aleppo University, 1992

Nam Heui Kim, assistant professor; BS, University of California at Berkeley, 1985; MS, 1989; MD, Yeshiva University, 1993

Karen M. Kodys, research instructor; BA, University of New Hampshire, 1976

** joint appointment*

Mohan K. Korgaonkar, affiliate; BS, Wilson College, 1963; MBBS, Armed Forces Medical College, 1969

Janice F. Lalikos, section chief associate professor; BA, Case Western Reserve University, 1984; MA, Johns Hopkins University, 1989; MD, 1988

Laura A. Lambert, assistant professor; BA, Bowdoin College, 1988; MD, Harvard Medical School, 1996

Anne Larkin, associate professor; BM, University of Missouri, 1987; MD, Columbia University College of Physicians & Surgeons, 1992

Andrew B. Lederman, assistant professor; BS, Yale University, 1990; MD, University of Virginia, 1997

Eugene W. Leibowitz, clinical professor; MD, Albany Medical College, 1966

You Fu Li, instructor

Jianming Li, research professor; MD, Shanghai First University, 1955; PhD, 1966

***Craig M. Lilly,** professor; MD, Oregon Health Sciences University, 1984

Demetrius Litwin, *the Harry M. Haidak Distinguished Professor in Surgery,* chair and professor; MBA, University of Tennessee, 2002; MD, University of Saskatchewan, 1979

Larry Lockerman, instructor; BA, Yeshiva University, 1973; DDS, College of Dentistry, 1977

Divakar Mandapati, clinical associate professor; MBBS, Armed Forces Medical College, 1983

***Raimis Matulionis,** assistant professor; MD, Vilnius University, 1989

Justin A. Maykel, assistant professor; BS, Tufts University, 1993; MD, Tufts University School of Medicine, 1998

Frank J. McCabe, assistant professor; BA, Bowdoin College, 1990; MD, University of Massachusetts Medical School, 1995

***Vinetta Marie McCann,** assistant professor; MS, University of Massachusetts, 1997; DNP, University of Massachusetts Graduate School of Nursing, 2010

Theodore P. McDade, instructor; BS, Clarkson University, 1985; MS, Massachusetts Institute of Technology, 1989; MD, Jefferson Medical College, 1996

Patrick Michael McEnaney, assistant professor; AB, College of the Holy Cross, 1994; MD, University of Massachusetts Medical School, 1998

Gerald T. McGillicuddy, assistant professor; AB, Harvard College, 1977; MD, Tufts University School of Medicine, 1981

John K. McIlwaine, assistant professor; BS, Northwest Missouri State University, 1992; DO, Kansas City University of Medicine and Biosciences, 1999

Louis M. Messina, professor; BA, Fordham University, 1973; MD, State University of New York at Downstate, 1978

Basil M. Michaels, clinical assistant professor; BA, Columbia College, 1983; MD, College of Physicians & Surgeons, 1987

***Alan D. Michelson,** adjunct professor; MBBS, University of Adelaide, 1973

Peter J. Miotto, assistant professor; BA, Yale University, 1985; MD, University of California Irvine, 1989

Robert D. Moore, assistant professor; BS, Bates College, 1994; MS, Saba University School of Medicine, 1999; MD,

Richard P. Moser, professor; BS, Loyola University of Chicago, 1970; MD, 1974

***Susanne Muehlschlegel,** assistant professor

***Dominic J. Nompleggi,** associate professor; AB, Georgetown University, 1972; MS, 1974; PhD, 1977

David T. Noyes, assistant professor; BA, Cornell University, 1972; MD, University of Vermont College of Medicine, 1976

Fadi Nukta, assistant professor; MD, University of Damascus Medical School, 1998

Nsidinanya Okike, professor; MD, Karl-Eberhard University, 1969

Sonia Ortiz-Pagan, assistant professor

Michael A. O'Shea, assistant professor; MD, National University of Ireland, 1972

Mohan Prasad Pahari, instructor; BS, Trivhuban University Institute of Medicine, 1991; MD, Shanghai Second Medical University, 2001

Bhalchandra G. Parulkar, assistant professor; MD, University of Bombay, 1987

Nilima Patwardhan, professor; BS, Elphinstone College, 1961; MBBS, Seth G.S. Medical College, 1965

Frederik A. Pennings, assistant professor; MD, University of Leyden Medical School, 1995

Richard A. Perugini, assistant professor; BS, Yale University, 1990; MD, University of Connecticut School of Medicine, 1994

Julie G. Pilitsis, assistant professor; BS, Rensselaer Polytech Institute, 1996; MD, Albany Medical College, 1998; PhD, Wayne State University, 2002

Francis Podbielski, associate professor; BA, University of Chicago, 1984; MS, 1986; MD, Northwestern University, 1990

Cynthia M. Poulos, affiliate; BA, New York University, 1981; MD, State University of New York, 1985

Syed M. Quadri, assistant professor; BS, Queen's University, 1995; MS, University of Toronto, 2003; MD, McMaster University, 1999

Robert Quinlan, professor; BS, College of the Holy Cross, 1966; MD, Cornell University School of Medicine, 1970

Charanjit S. Rao, affiliate; MBBS, Amritsar Medical College, 1971

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William P. Robinson, assistant professor; BA, Davidson College, 1996; MD, Southern Illinois University, 2000

William E. Rockett, assistant professor; BA, Harvard College, 1985; MD, Tufts University School of Medicine, 1990

Douglas M. Rothkopf, professor; BA, Amherst College, 1976; MD, New York University, 1980

Parviz J. Sadighi, professor; BS, Daralfonoon College, 1956; MD, Tehran University Medical School, 1962

Reza F. Saidi, assistant professor; MD, Tehran University Medical School, 1997

Rodrigo Santamarina, assistant professor; BS, Francisco Marroquin University, 1990; MD, 1995

***Jane Cummin Sargent,** clinical professor; MD, Hahemann Medical College, 1974

Andres Schanzer, assistant professor; BS, Harvard College, 1996; MD, New York University, 2000

Norman Harmon Schulman, adjunct clinical professor; BS, Tufts University, 1961; MD, Tufts University School of Medicine, 1965

Shimul A. Shah, associate professor; BS, Pennsylvania State University, 1995; MD, Jefferson Medical College, 1997

James M. Shenko, assistant professor; BA, Rutgers College, 1987; MD, Robert Wood Johnson Medical School, 1991

John V. Shufflebarger, clinical associate professor; BA, West Virginia University, 1983; MD, West Virginia University School of Medicine, 1987

Richard T. Silverman, clinical associate professor; AB, Dartmouth College, 1981; MD, Pennsylvania State University College of Medicine, 1985

Paul R. Silverstein, assistant professor; BA, New York University, 1969; MD, New York Medical College, 1974

Bruce J. Simon, associate professor; BA, New York University, 1975; MD, New York Medical College, 1979

***Edward H. Smith,** professor and chair emeritus; AB, Columbia College, 1956; MD, State University of New York at Downstate, 1960

***Babs R. Soller,** professor; BS, Union College, 1975; MA, Princeton University, 1977, 1980

***Sheila O. Stille,** assistant professor; BA, University of Rochester, 1986; DMD, University of Connecticut, 1992

Mark E. Stoker, assistant professor; BS, Nichols College, 1979; MD, Louisiana State University, 1983

Paul R. Sturrock, assistant professor; BS, Villanova University, 1998; MD, MCP Hahnemann University, 2001

***Mary E. Sullivan,** assistant professor; BS, Fitchburg State College, 1976; MS, University of Massachusetts Medical School, 1994; DNP University of Massachusetts Graduate School of Nursing, 2010

Arno S. Sungarian, assistant professor; BS, Columbia University, 1993; MD, Brown Medical School, 1997

Richard S. Swanson, associate professor; AB, Harvard College, 1976; MD, Harvard Medical School, 1980

William B. Sweeney, associate professor; BS, University of Scranton, 1979; MD, Hahnemann College, 1983

Stanley Tam, associate professor; MA, Brandeis University, 1977; MD, University of Massachusetts Medical School, 1981; MBA Columbia University, 2010

Melinda F. Taylor, instructor; AS, Quinsigamond Community College, 1982

Michael David Thompson, clinical assistant professor; BS, University of Massachusetts at Lowell, 1983; MS, University of South California School, 1985; MD, University of Massachusetts Medical School, 1993

Ulises Torres Cordero, assistant professor; MD, Universidad Nacional Autonoma De Honduras, 1998

Stephen E. Tosi, clinical associate professor; AB, Dartmouth College, 1966; MD, Cornell University School of Medicine, 1970

Jennifer F. Tseng, associate professor; BS, Stanford University, 1990; MPH, Harvard School of Public Health, 2007; MD, University of California, 1995

Marc E. Uknis, adjunct associate professor; BA, Temple University, 1986; MD, 1990

Karl Fabian L. Uy, assistant professor; BS, University of Santo Tomas, 1985; MD, Manila Central University, 1989

***Ajay K. Wakhloo,** professor; MD, Johannes Gutenberg Univeristat, 1984

***Jens M. Walz,** assistant professor; MD, University of Tuebingen - Germany, 1999

***Nicholas C. Watson,** assistant professor; MD, University of Michigan, 2003

John P. Weaver, associate professor; BS, Bucknell University, 1978; MS, Case Western Reserve University, 1980; MD, University of Texas, 1986

Michael D. Wertheimer, adjunct professor; BA, Swarthmore College, 1967; MD, University of Pennsylvania, 1971

Giles Whalen, professor; BA, Harvard College, 1976; MD, Duke University, 1980

Richard H. Whitten, assistant professor; BS, Tufts University, 1968; MD, Tufts University School of Medicine, 1972

***Louis J. Wojcik,** assistant professor; BA, Fordham University, 1988; MD, Vanderbilt University School of Medicine, 1992

Michael R. Wollin, clinical associate professor; BA, Washington University, 1978; MD, Penn State College of Medicine, 1982

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