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# DEPARTMENT OF ANESTHESIOLOGY

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The Department of Anesthesiology teaches the compassionate and scientific care of patients undergoing surgery, critically ill patients, and patients suffering acute and chronic pain from any cause. Involvement in the operating room, intensive care units, and clinics provides a wide range of challenging clinical problems that require an understanding of the human psychological and physiological responses to multiple forms of stress. Faculty of the Department are involved early in medical student education through lectures on the pharmacology of anesthetic drugs in the pharmacology course and on cardiac and respiratory physiology in the physiology course. The clinical relevance of applied basic science to define therapeutic strategies for both the underlying diseases and any associated pain in caring for acutely ill patients is emphasized.

A clinical rotation in anesthesiology for fourth-year students is available through Surgical Specialties/Anesthesiology Clerkship. This rotation teaches the evaluation of the preoperative patient for the anesthetic and surgical procedure, management of the intraoperative anesthetic, and recognition and treatment of postoperative anesthetic complications. Emphasis is placed on those basic skills and aspects of anesthetic evaluation, consultation, and management of patients that are useful in the practice of general medicine or other medical specialties.

Research opportunities are available in the Department at various times throughout medical school. These include research electives, summer research, or longer periods of research opportunity possibly leading to a graduate degree. A wide variety of basic and clinical research is being conducted with the Department.

The Anesthesiology Residency Program covers the full spectrum of anesthetic care, including fellowship training in pain management and intensive care medicine. Through didactic lectures and seminars, individual clinical teaching by attending faculty in the operative room, care of patients requiring a wide variety of surgical and intensive care intervention, and participation in clinical and basic science research, the anesthesiology resident develops increasing skill and is given wider responsibilities and autonomy. Graduating residents will be prepared for involvement in a rapidly changing specialty and will know how to incorporate new advances into their medical career, whether it is in private practice or academic medicine.

## Faculty of the Department of Anesthesiology

**James L. Robotham** . . . *Professor of Anesthesiology, Pediatrics and Chair*. A.B. Boston University, 1970; M.D. 1970. Assistant Professor of Pediatrics and Anesthesiology, Johns Hopkins, 1977–79; Associate Professor of Pediatrics and

Anesthesiology, University of Texas Health Science Center at San Antonio, 1979–83; Associate Foundation Scientist, Southwest Foundation for Research and Education, San Antonio, 1980–83; Associate Professor of Physiology, University of Texas Health Science Center, 1981–83; Associate Professor, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins, 1983–91; Associate Professor of Pediatrics, 1987–1992; Joint Appointment in Medicine, 1990–97; Professor, Department of Anesthesiology and Critical Care Medicine, 1991–97; Professor of Pediatrics, 1993–97; Professor of Anaesthetics and Intensive Care, Royal Postgraduate Medical School, London, 1997–2000; Chairman and Head of Department of Anaesthetics and Intensive Care, Vice-Chairman and Deputy Head of the Division of Surgery, Anaesthetics and Intensive Care, Imperial College School of Medicine, London, 1997–2000; Visiting Senior Scientist, Imperial College, 2000; Professor of Anesthesiology, and Pediatrics, 2001–; Chair of the Department of Anesthesiology, University of Rochester School of Medicine and Dentistry, 2001–.

**James E. Szalados** . . . *Clinical Associate Professor and Vice Chair*. B.S. McGill, 1981; M.S. University of Ottawa, 1982; M.D. American University of the Caribbean, 1986.

**Alan E. Curle** . . . *Clinical Associate Professor, Associate Chair and Chief of Anesthesiology at Highland Hospital*. B.S. Southwestern at Memphis (Rhodes College) 1982; M.D. University of Tennessee, 1986.

### Professors

**Peter L. Bailey**. B.A. Rutgers, 1973; M.D. Albany Medical College, 1979.

**Robert H. Dworkin**, and Oncology and Psychiatry. B.A. Pennsylvania, 1971; Ph.D. Harvard, 1977.

**Ronald A. Gabel**, Emeritus. B.S. Miami University (Ohio), 1956; M.D. Case Western, 1962.

**Alastair J. Gillies**, Emeritus. B.S. University of Edinburgh (Scotland), 1947; M.B.Ch.B. 1948.

**Niels Lund**. B.M. University of Göteborg (Sweden), 1966; M.D. 1971; Ph.D. University of Linköping (Sweden), 1979.

**Denham S. Ward**, and Electrical and Computer Engineering and Biomedical Engineering. B.S.E.E. University of Maine, 1969; M.S. University of California (Los Angeles), 1971; Ph.D. University of Miami (Florida), 1975; M.D. 1977.

### Clinical Professors

**John C. Kulli**. A.B. Harvard, 1967; M.D. University of Southern California, 1976.

**Lata U. Sabnis**. M.D. University of Bombay, 1977.

### Associate Professors

**Ashwani Chhibber**, and Pediatrics. B.S. D.A.V. College (Ambala City, India), 1971; M.B.B.S. Medical College (Rohtak, India), 1978; D.C.H. (Diploma in Child Health), College of Physicians and Surgeons (Bombay), 1981.

**Lindsey C. Henson**. M.S. Cornell, 1974; M.D. University of California (Los Angeles), 1980; Ph.D. 1986.

**Stewart J. Lustik**. B.S. Washington, 1983; M.B.A. 1983; M.D. Rochester, 1988.

**Peter J. Papadacos**. B.A. New York University, 1979; M.D. Mt. Sinai, 1983.

**Michael G. Richardson**. B.A. Cornell, 1985; M.D. Chicago, 1989.

**Richard J. Rivers**. A.S. Community College of the Finger Lakes, 1975; B.S. Clarkson, 1977; M.D. Medical College of Ohio, 1983; Ph.D. Virginia, 1990.

**Pratima M. Shah.** M.B.B.S. University of Bombay (India), 1961.

**Janine R. Shapiro.** M.D. University of Montreal, 1981.

**Richard N. Wissler,** and Obstetrics and Gynecology. A.B. Hamilton, 1974; M.S. Yale, 1976; M.D. Columbia, 1983; Ph.D. Cornell, 1989.

**Jay Yang,** and Pharmacology and Physiology. B.S. Brown, 1977; M.S. 1980; Ph.D. 1982; M.D. Washington University, 1986.

#### Clinical Associate Professors

**Paul E. Bigeleisen.** B.A. Oberlin, 1975; M.S. University of California (Berkeley), 1978; M.D. University of California (Davis), 1984.

**Thel G. Boyette.** B.S. North Carolina State, 1971; M.D. University of North Carolina, 1975.

**Sanjeev Chhangani.** H.S.S.C. St. Francis Desales' Jr. College (India), 1979; M.B.B.S. Government Medical College (India), 1985; M.B.A. Loyola (Chicago), 2001.

**Sheldon A. Isaacson.** B.S. Rochester, 1981; M.D. SUNY (Upstate), 1985.

**Jeffrey W. Kolano.** B.S. Purdue, 1979; M.D. Mt. Sinai, 1987.

**Sriyalatha I. Nadaraja.** M.B.B.S. University of Ceylon, 1963.

**William Simmons.** B.A. Goethe Institute, 1974; M.D. Mayo Medical, 1981.

**David H. Stern.** B.A. Rochester, 1973; M.S., University of Wisconsin, 1978; M.D. 1978.

**James Viapiano.** B.S. D'Youville, 1978; M.D. Vermont, 1988; M.B.A. St. Bonaventure, 1998.

**Jacek A. Wojtczak.** M.D. Medical Academy of Lublin (Poland), 1970.

**Barry L. Zimmerman.** A.B. Wittenberg, 1968; M.D. Pennsylvania State, 1972.

#### Assistant Professors

**Audrey S. Alleyne.** B.A. University of California (Berkeley), 1989; M.D. University of California (Los Angeles), 1993.

**Kathryn A. Bailey.** B.S. East Carolina, 1976; M.D. North Carolina, 1984.

**Carol A. Diachun.** B.S. SUNY (Buffalo), 1990; M.D. Stanford, 1994.

**Joseph W. Dooley.** B.A. Middlebury College, 1983; M.D. University of Rochester, 1987.

**Michael P. Eaton.** B.A. Michigan, 1981; M.D. Michigan State, 1990.

**Mary S. Frame.** B.A. Missouri-Columbia, 1980; Ph.D. 1990.

**Laurent G. Glance.** B.A. Dartmouth, 1981; M.D. Cornell, 1985.

**Fannie R. Schapiro.** B.A. Brandeis, 1986; M.D. Rochester, 1990.

**Paul W. Shabaz.** B.S. University of Michigan, 1982; M.D. 1991.

**Rajbala Thakur.** M.D. University Patiala (India), 1981.

**Samuel E. Wilson.** B.S. Morehouse, 1981; M.D. Medical College of Pennsylvania, 1985.

#### Senior Instructors

**Colette M. Curtis.** M.D. SUNY Health Science Center (Brooklyn), 1994.



**Steven M. Finkelstein.** B.A. SUNY (Buffalo); M.D. 1995.

**M. Cristina Roosen-Marcos.** M.D. Universidad Central of Venezuela, 1993.

**Raymond A. Zollo.** B.S. Rochester, 1990; M.D. 1994.

#### Clinical Senior Instructor

**Mary G. S. Cheeran.** M.D. Jawaharial Institute (India), 1974.

#### Clinical Assistant Professors

**Satish Acharya.** M.B.B.S. Medical College of Bombay, 1976.

**Catherine Battaglia.** B.S. University of Toronto, 1973; M.A. University of Rochester, 1979; M.D. 1981.

**David A. Bowman.** A.B. Rutgers, 1977; M.D. New Jersey Medical School, 1981.

**Robert F. Cafarell.** B.S. Massachusetts College of Pharmacy, 1978; Pharm.D. University of Southern Carolina, 1980; M.D. SUNY (Buffalo), 1987.

**Michael A. Carafos.** B.S. Haverford, 1982; M.D. Rochester, 1986.

**Frank A. Catanzaro.** B.A. New York University, 1986; M.D. Albany Medical, 1990.

**Scott Dawson.** B.A. Columbia, 1983; M.D. College of Physicians and Surgeons, 1987.

**Michael C. DeTraglia.** B.S. Syracuse, 1973; M.S. Rochester, 1978; Ph.D. 1980; M.D. University of Miami (Florida), 1983.

**Theodore G. Ford, Jr.** A.B. Oberlin, 1957; M.D. Rochester, 1962.

**Diana E. Garneau.** B.S. St. John Fisher, 1978; M.D. Universidad Cetec (Dominican Republic), 1982.

**Christopher J. Grammer.** A.B. Harvard, 1979; M.D. SUNY (Buffalo), 1986.

**Paul A. Guadagnino.** B.S. Siena College, 1983; M.D. SUNY Health Science, 1987.

**Althea M. Hamilton.** A.B. Princeton, 1981; M.D. Tufts, 1985.

**Stuart P. Hanau.** B.S. City College of New York, 1979; M.D. Rochester, 1981.

**Joanne I. Hessney.** B.S. Brigham Young, 1978; M.D. Utah, 1985.

**Robert M. Johnson.** B.A. SUNY (Binghamton), 1983; M.D. SUNY (Stony Brook), 1989.

**Gary M. Kawczynski.** B.S. Rochester, 1985; M.D. 1989.

**Bruce M. Kleene.** B.A. University of Wisconsin (Madison), 1969; M.D. 1976.

**Alan F. Lanni.** B.S. St. John Fisher, 1977; M.D. SUNY (Upstate), 1983.

**Fred R. McCrumb.** B.A. California State University, 1987; M.D. Rochester, 1992.

**Margaret A. McShane.** B.S. St. John Fisher, 1981; D.O. Chicago Osteopathic College, 1989.

**David Monsour.** B.S. St. Lawrence, 1984; M.D. Rochester, 1988.

**Kariappa Narayan.** M.B.B.S. Bangalore University (India), 1970.

**Ajai Nemani.** B.S. RIT, 1985; M.S. SUNY (Buffalo), 1989.

**Gaseem Z. Oskoui.** M.D. University of Tehran (Iran), 1966.

**Harshadrai C. Patel.** M.B.B.S., TN. Medical College (India), 1972.

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**Vito J. Potenza.** B.S.M.E. Union, 1980; M.D. Rochester, 1984.

**Gilbert Proper.** B.A. Brandeis, 1983; M.D. Rochester, 1988.

**Gary Ritzel.** B.S. Rochester, 1983; M.S. North Dakota, 1991.

**Stuart B. Sacks.** B.S. Pennsylvania State, 1986; M.D. SUNY (Upstate), 1990.

**Roberta C. Szczurek.** B.S. SUNY (Albany), 1977; M.D. SUNY (Buffalo), 1981.

**David A. Taylor.** A.B. Dartmouth, 1978; M.D. 1982.

**Jaimala Thanik.** B.S. Government College (Hissar, India), 1964; M.B.B.S. Armed Forces Medical College (Poma, India), 1969.

**George C. Turinsky.** B.S. Rensselaer, 1989; M.D. Albany Medical, 1991.

**Balkrishna Venkatesh.** M.B.B.S. University of Bombay, 1969.

**Savitri Venkatesh.** M.B.B.S. Gujarat University (India), 1971.

**Michael E. Villareale.** B.A. Rochester, 1968; Pharm.M. Syracuse, 1977; Ph.D. SUNY (Upstate), 1979; M.D. Monterrey (Mexico), 1983.

**Alison Vogt.** B.A. Williams, 1985; M.D. Dartmouth, 1991.

**Judit S. Wagner.** M.D. University of Budapest (Hungary), 1965.

**Joseph W. Walters, Jr.** B.S. Old Dominion, 1976; M.D. Eastern Virginia, 1979.

**Jeffery A. Wasserman.** B.S. SUNY (Albany), 1983; M.D. SUNY (Buffalo), 1987.

**Kurt J. Weissand.** B.S. Pennsylvania State, 1980; M.D. Rochester, 1984.

**Robert Witriol.** B.S. Brooklyn, 1970; M.D. SUNY (Upstate), 1976.

**Susan T. Wong.** B.A. University of Pennsylvania, 1982; M.D. Albany Medical, 1988.

**Robert J. Young.** B.S. Creighton, 1983; M.S. 1985; M.D. 1990.

**Georgianne Zigarowicz.** B.A. SUNY (Buffalo), 1977; M.D. 1981.

**Clinical Senior Instructor**

**Mehi Mohtashemi.** M.D. Medical School of Isfahan (Iran), 1969.

**Clinical Instructor**

**Paul P. Marocco.** B.S. Union, 1959; M.D. University of Bologna (Italy), 1966.

## DEPARTMENT OF BIOCHEMISTRY AND BIOPHYSICS

The primary emphasis is on advanced degree programs that lead to a Ph.D. in biophysics, a Ph.D. in biochemistry, or a Ph.D. in genetics. Formal graduate course requirements are fulfilled within the first two years in residence and usually include completion of a master's degree. Students may enter the Ph.D. programs from any of the Graduate Education in Biomedical Sciences clusters. Students may pursue research opportunities under the direction of any faculty having primary or secondary appointments in the Department and having space and resources available. The Department provides instruction for the first-year medical school curriculum and plays a major role in the teaching and administration of the curriculum leading to a B.S. with a concentration in biochemistry.

### RESEARCH OPPORTUNITIES

The faculty possess a broad spectrum of research interests, spanning the disciplines of biochemistry, molecular biology, molecular biophysics, and cellular biophysics. There are currently over 40 faculty (primary and secondary appointments) heading active research programs in areas that include: biological energetics, membrane structure and function, hormone receptors and hormone action cells, DNA synthesis and repair, radiation biophysics, RNA processing, regulation of protein synthesis, neurochemistry, gene expression, biological transport, cancer etymology, cancer therapy, protein structure, enzyme function, X-ray crystallography, mineral metabolism, microcirculation, network theory, nuclear magnetic resonance, computational biophysics, electron magnetic resonance, fluorescence spectroscopy, and cell signaling.

### POSTDOCTORAL PROGRAMS

Postdoctoral fellows are an important part of the research efforts of the Department and there are opportunities in virtually all areas. There are postdoctoral training grant programs available in oncology and other disciplines.

## Courses Offered by the Department of Biochemistry and Biophysics

### BCH 402. DNA Replication, Recombination, and Repair

Credit—three hours

Prerequisite: IND 410

Professors Bambara, Phizicky, and faculty

This course focuses on DNA replication, DNA repair, and chromosomal recombination in bacteria, eukaryotic