Department of Anesthesiology

Anesthesiology is a medical specialty encompassing a broad range of medical and scientific activities. The clinical practice of anesthesiology includes:

1. assessment of, consultation for and preparation of patients for anesthesia and surgery;
2. provision of insensibility to pain during surgical, obstetric, therapeutic and diagnostic procedures;
3. monitoring and restoration of physiologic homeostasis during the perioperative period, as well as homeostasis in the critically ill or seriously injured patient;
4. diagnosis and treatment of painful syndromes; and
5. clinical management and teaching of cardiopulmonary resuscitation (CPR).

The realm of scientific investigation in anesthesiology also spans a broad range. Scientific efforts at the cellular and molecular levels are directed to understanding the molecular mechanisms of anesthesia and analgesia. Clinical research in anesthesiology includes broad epidemiological approaches to identifying indicators of outcome as well as prospective clinical studies examining new technologies, anesthetic agents and methods.

The Department of Anesthesiology (http://anest.wustl.edu) presents the student with the opportunity to:

1. acquire and apply pharmacologic knowledge related to anesthetic, narcotic, paralytic and sedative drugs and to drugs affecting the autonomic nervous system;
2. understand and apply the basic principles of airway management and mechanical ventilation;
3. understand and apply the principles of cardiopulmonary resuscitation;
4. understand and apply the technical skills and anatomic and pharmacologic knowledge used in performing regional nerve blocks;
5. learn and apply the fundamental principles of acute and chronic pain management; and
6. learn and apply the basic principles of critical care medicine.

Anesthesiology bridges the gap between basic science and clinical medicine. It provides experience in the clinical evaluation and management of patients, and in applied physiology and pharmacology. The Department of Anesthesiology offers student experiences in the operating room, the intensive care unit, the pain clinic and the laboratory.

Website: http://anest.wustl.edu

Degrees & Requirements

While the Department of Anesthesiology does not offer its own degree, some of the department's courses are open to students in the MD and MSTP (MD/PhD) programs. Further information about the MD and MSTP degrees can be found in the Degrees & Programs Offered (http://bulletin.wustl.edu/medicine/degrees) section of this Bulletin.

Research

Research Electives in Anesthesiology

Special electives in basic science research as it applies to anesthesiology can be arranged with the principal investigators in the Department of Anesthesiology (http://anest.wustl.edu), in the Anesthesiology Research Unit and the Washington University Pain Center under the direction of Rob Gereau, PhD, or the Division of Clinical and Translational Research under the direction of Michael Avidan, MBBC.

These laboratories focus on various aspects of molecular neurobiology, including ion channel structure and function; G-protein molecular biology; molecular mechanisms of anesthetic action; genetics of anesthetic responsiveness; and the molecular, cellular and genetic basis of acute and chronic pain and itch. Arrangements for these special electives are made through the specific investigators: Walter A. Boyle III, MD; Zhou-Feng Chen, PhD; Alex S. Evers, MD; Narasimhan Gautam, PhD; Richard S. Hotchkiss, MD; Christopher J. Lingle, PhD; Gustav Akk, PhD; Michael Bruchas, PhD; Yu-Qing Cao, PhD; Robert W. Gereau, PhD; DP Mohapatra, PhD; or Jose Moron-Concepcion, PhD. In addition, opportunities exist for clinical research under the direction of Michael Avidan, MBBC, or Ben Palanca, MD, PhD.

Faculty

Department Chair
Alex S. Evers, MD

Department Vice Chair
Ellen M. Lockhart, MD

Visit our website for more information about our faculty (http://anest.wustl.edu/about/faculty) and their appointments.

A

Enyo Ama Ablordepepey, M PH, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
M PH University of Pittsburgh 2007
MD University of Pittsburgh 2007

Joanna Abraham, PHD
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
PHD Pennsylvania State University 2010
BS SRM Easwari Engineering Colleg 2001

Siraquddin Agha, MBBS
Assistant Professor of Anesthesiology (primary appointment)
MBBS Liaquat Medical College 1969

Gustav Akk, PHD
Associate Professor of Anesthesiology (primary appointment)
PHD State Univ of NY Buffalo 1997
BS Moscow State University 1991

Ream Al-Hasani, PHD
Adjunct Assistant Professor of Anesthesiology (primary appointment)
PHD University of Surrey 2009

Zekeriyya Alanoglu, MD, MED
Instructor in Anesthesiology (Pending Dean’s Approval) (primary appointment)
MD Ankara University 1993
MED Ankara University 2000

Umeshkumar Athiraman, MD
Assistant Professor of Anesthesiology (primary appointment)
MD M.G.R. Medical University 2013

Jacob D Aubuchon, MD
Assistant Professor of Anesthesiology (primary appointment)
BA University of MO Kansas City 2005
MD University of MO Kansas City 2008

Michael Simon Avidan, MBBCH
Professor of Anesthesiology (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
MBBC University of the Witwatersra 1991

Sennaraj Balasubramanian, MD, PhD
Instructor in Anesthesiology (Pending Dean’s Approval) (primary appointment)
BS Tirunelveli Medical College 1992
MD All-India Inst of Medical Sci 1998
PHD College of Anesthesiology 2008

Devin M Barry, PHD
Instructor in Anesthesiology (primary appointment)
PHD University of MO St Louis 2012

Suresh Basnet
Instructor in Medicine (Pending Executive Faculty Approval) (primary appointment)

Holger Matthias Baumann, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Free University of Berlin 1988

Arbi Ben Abdallah, PHD
Assistant Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2011

Amber Christine Benhardt, MD
Instructor in Anesthesiology (Pending Dean’s Approval) (primary appointment)
MD Texas A&M University 2013
BA Texas A&M University 2009

George Richard Benzinger III, MD, PHD
Associate Professor of Anesthesiology (primary appointment)
MD University of Chicago 2000
PHD University of Chicago 1998

Wayland W. Cheng, PHD, MD
Instructor in Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2012
MD Washington Univ in St. Louis 2012
BS Wheaton College 2005

Kelly Lynne Chilson, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of MO St Louis 1999

James Close, MD
Associate Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD Washington Univ in St. Louis 1984
BA Washington Univ in St. Louis 1980

Albert Murray Cohen, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Baylor University 1977

Bryan A Copits, PHD
Instructor in Anesthesiology (primary appointment)
PHD Northwestern University 2012

Susan Carlin Cosgrove, MD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD New York Medical College 2012
BA New York University 2008

Thomas E Cox, MD
Professor of Anesthesiology (primary appointment)
BA Johns Hopkins University 1981
MD University of Virginia 1985

Michael John Cuipa, MD
Instructor in Clinical Anesthesiology (primary appointment)
BS Tufts University 1988
MD University of Massachusetts 1994

Aaron Benjamin Dahl, MD
Instructor in Clinical Anesthesiology (primary appointment)
MD University of Washington 2012

Bakul Dave, MD1, MD
Assistant Professor of Anesthesiology (primary appointment)
MD1 University of Toledo 1997
MD BJ Medical College 1984

Thomas Allen Davis, MD
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Tenn Memphis 1969

Charl Johan De Wet, MBCHB
Professor of Anesthesiology (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
MBCHB University of Pretoria 1990

David Brenden DeCresce, MD
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
BS Carleton College 2007
MD Rush University 2012

Julianne Elizabeth Donnelly, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD University of Kansas 2009

Anne Meredith Drewry, MD
Associate Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2006

Julie Kosto Drobish, MD
Assistant Professor of Anesthesiology (primary appointment)
BS Pennsylvania State University 2006
MD Washington Univ in St. Louis 2009

Nicole Marie Durko, DOST
Assistant Professor of Anesthesiology (primary appointment)
DOST Midwestern University 2001
BS St Xavier University 1995

Pablo Michael Echeverria, MD
Instructor in Clinical Anesthesiology (primary appointment)
MD Universidad Central del Ecuador 2002

Daniel Emmert, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Alex S Evers, MD
Henry E Mallinckrodt Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974
MD New York University 1978

James J Fehr III, MD
Professor of Anesthesiology (primary appointment)
Professor of Pediatrics
MD Davenport University 1988
BA Davenport University 1984

Steven Edward Felt, MD
Assistant Professor of Anesthesiology (primary appointment)
BA Indiana State University 1978
MD University of MO Columbia 1982

Jing Feng, PHD
Instructor in Anesthesiology (primary appointment)
PHD Wuhan University 2014
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>University/Institution</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitchell Evan Fingerman, MD</td>
<td>Associate Professor of Anesthesiology</td>
<td>MD University of Connecticut</td>
<td>2004</td>
</tr>
<tr>
<td>Rosemary Foster, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MD Saint Louis University</td>
<td>2013</td>
</tr>
<tr>
<td>David Alan Friedman, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MD University of Kansas</td>
<td>1985</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS University of Kansas</td>
<td>1981</td>
</tr>
<tr>
<td>Narasimhan Gautam, MS, PHD</td>
<td>Professor of Anesthesiology (primary appointment)</td>
<td>MS School Not Listed</td>
<td>1979</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS School Not Listed</td>
<td>1977</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD University of Bombay</td>
<td>1985</td>
</tr>
<tr>
<td>Preeta George, MBBS</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MBBS Bangalore University</td>
<td>1998</td>
</tr>
<tr>
<td>Robert W Gereau, PHD</td>
<td>Professor of Anesthesiology (primary appointment)</td>
<td>Dr Seymour and Rose T Brown</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professor of Neuroscience</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD Emory University</td>
<td>1995</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS Southwest Missouri State University</td>
<td>1991</td>
</tr>
<tr>
<td>Erin A Gibbons, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MD University of North Carolina</td>
<td>2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS University of North Carolina</td>
<td>2003</td>
</tr>
<tr>
<td>Jason R Gillihan, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>BS University of Southern Indiana</td>
<td>2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MD Southern Illinois University</td>
<td>2006</td>
</tr>
<tr>
<td>Yehuda Ginosar, MD</td>
<td>Professor of Anesthesiology (primary appointment)</td>
<td>MD University of London</td>
<td>1986</td>
</tr>
<tr>
<td>Thomas James Gobltisch, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MD Loyola University Chicago</td>
<td>1985</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS University of Notre Dame</td>
<td>1980</td>
</tr>
<tr>
<td>Judith P Golden, PHD, MA</td>
<td>Assistant Professor of Anesthesiology</td>
<td>PHD Saint Louis University</td>
<td>1994</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MA Hofstra University</td>
<td>1986</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS Hofstra University</td>
<td>1984</td>
</tr>
<tr>
<td>Vivian Maria Gonzalez-Perez, PHD</td>
<td>Instructor in Anesthesiology (primary appointment)</td>
<td>PHD University of Valparaiso</td>
<td>2009</td>
</tr>
<tr>
<td>Thomas J Graetz, MD</td>
<td>Associate Professor of Anesthesiology</td>
<td>MD Saint Louis University</td>
<td>2005</td>
</tr>
<tr>
<td>Stephen H Gregory, MD</td>
<td>Instructor in Anesthesiology (primary appointment)</td>
<td>MD Saint Louis University</td>
<td>2012</td>
</tr>
<tr>
<td>Russell J.I. Groener, MBCHB</td>
<td>Associate Professor of Anesthesiology</td>
<td>MBCHB University of Cape Town</td>
<td>1983</td>
</tr>
<tr>
<td>Anthony Herbert Guarino, MA, MD</td>
<td>Associate Professor of Anesthesiology</td>
<td>MA Yale University</td>
<td>1988</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MD University of Maryland</td>
<td>1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BA Yale University</td>
<td>1986</td>
</tr>
<tr>
<td>Ryan C Guffey, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>Wayne State University</td>
<td>2007</td>
</tr>
<tr>
<td>Katharine Nicole Gurba, PHD</td>
<td>Instructor in Anesthesiology (Pending Dean's Approval)</td>
<td>PHD Vanderbilt University</td>
<td>2013</td>
</tr>
<tr>
<td>Charles B Hantler, MA, MD</td>
<td>Professor of Anesthesiology (primary appointment)</td>
<td>MA Davenport University</td>
<td>1973</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MD Davenport University</td>
<td>1977</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS Davenport University</td>
<td>1971</td>
</tr>
<tr>
<td>Courtney Alan Hardy, MD</td>
<td>Associate Professor of Anesthesiology</td>
<td>MD Loyola University Chicago</td>
<td>2000</td>
</tr>
<tr>
<td>Simon Haroutounian, PHD, MA</td>
<td>Assistant Professor of Anesthesiology</td>
<td>PHD Hebrew University</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MA Hebrew University</td>
<td>2005</td>
</tr>
<tr>
<td>Daniel Luke Helsten, MD</td>
<td>Associate Professor of Anesthesiology</td>
<td>BS University of Kentucky</td>
<td>1997</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MD University of Kentucky</td>
<td>2001</td>
</tr>
<tr>
<td>Mohammad Anas Helwani, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>PHD Damascus University</td>
<td>1998</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assistant Professor of Surgery (Cardiothoracic Surgery)</td>
<td></td>
</tr>
<tr>
<td>Omokhaye M Higo, MBBS</td>
<td>Associate Professor of Anesthesiology (Pending Executive Faculty Approval)</td>
<td>BS University of Ibadan</td>
<td>1984</td>
</tr>
</tbody>
</table>
MBBS University of Ilorin 1990

Alexander Michael Hincker, MD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD Columbia University 2013

Jiggar Rashmikant Hindia, MD
Instructor in Clinical Anesthesiology (primary appointment)
BS Truman State University 2004
MD A T Still University 2007

Gary E Hirshberg, MD
Professor Emeritus of Anesthesiology (primary appointment)
BA Princeton University 1968
MD Hahnemann University 1972

Richard S Hotchkiss, MD
Professor of Anesthesiology (primary appointment)
Professor of Developmental Biology
Professor of Medicine
Professor of Surgery (General Surgery)
MD University of Virginia 1976

Hawpeng Stephen Hsu, MS, MD
Assistant Professor of Anesthesiology (primary appointment)
MS Emory University 1993
BA Georgia St University 1991
MD Taipei Medical University 1983

Hongzhen Hu, PHD
Associate Professor of Anesthesiology (primary appointment)
PHD Ohio State University 2004

Rocco Hueneke, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Martin-Luther-University 1996

Catherine Ifune, PHD, MD
Associate Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 1990
BS California Institute Technolo 1985
MD Washington Univ in St. Louis 1997

Zahid Iqbal, MD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
BS University of Miami 2009
MD University of Florida 2013

Selma E.h.o. Ishag, MD, PHD
Assistant Professor of Anesthesiology (primary appointment)
MD University of Khartoum 1987
PHD University of Khartoum 1996

York Jiao, MD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD University of Connecticut 2013
BS Washington Univ in St. Louis 2009

Jessica Justmann
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

K

Muthuraj Kanakaraj, MD
Instructor in Anesthesiology (primary appointment)
MD Madras Medical College 2005
BS Tirunelveli Medical College 1995

Ivan M Kangrga, PHD, MD
Professor of Anesthesiology (primary appointment)
PHD Iowa State University 1991
MD University of Belgrade 1982

Menelaos Karanikolas, MD1, MD
Associate Professor of Anesthesiology (primary appointment)
MD1 School Not Listed 1998
MD Athens University Med School 1988

Jan Kasal, MD
Associate Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD Charles University 1993

Jacob Brian Keeperman, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Loyola University Chicago 2006

Rainer Kentner, MD
Assistant Professor of Anesthesiology (primary appointment)
MD University of Tuebingen 1987

Paul William Kerby, MBBS
Assistant Professor of Anesthesiology (primary appointment)
MBBS King's College London 2004
BS King's College London 2001

Evan David Kharasch, PHD, MD
Adjunct Professor of Anesthesiology (primary appointment)
PHD Northwestern University Med 1983
MD Northwestern University Med 1984

Shahrdad Khodamoradi, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1990
BA Vanderbilt University 1985

Tessa Marie King, MD1, MD
Assistant Professor of Anesthesiology (primary appointment)
BA School Not Listed 1993
MD1 University of Kansas 1997
MD University of Kansas 1997
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justin Knittel, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>Case Western Reserve Univ 2009</td>
</tr>
<tr>
<td>Andreas Stefan Kokoerfer, PHD, MD</td>
<td>Instructor in Anesthesiology</td>
<td>Paracelsus Medical University 2015, Medical University Graz 2008</td>
</tr>
<tr>
<td>Helga Komen, MD</td>
<td>Instructor in Anesthesiology</td>
<td>University of Zagreb 1996</td>
</tr>
<tr>
<td>Joseph F Kras, DDS, MD</td>
<td>Associate Professor of Anesthesiology</td>
<td>Loyola University Chicago 1977, Loyola University Chicago 1982, Hahnemann University 1991</td>
</tr>
<tr>
<td>Catherine P Krucyklo, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>Rutgers University 1982, U Medical-Dental Of New Jersey 1986</td>
</tr>
<tr>
<td>Anand Lakshminarasimhachar, MBBS</td>
<td>Associate Professor of Anesthesiology</td>
<td>Bangalore University 1994</td>
</tr>
<tr>
<td>Chakrapol Lattanand, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>Hahnemann University 2000</td>
</tr>
<tr>
<td>Chris Cheng-Fu Lee, MD, PHD</td>
<td>Associate Professor of Anesthesiology</td>
<td>Hubi Medical University 1985, Beijing Medical University 1991</td>
</tr>
<tr>
<td>Christopher J Lingle, PHD</td>
<td>Professor of Anesthesiology</td>
<td>University of Oregon 1972, University of Oregon 1979</td>
</tr>
<tr>
<td>Qianjin Liu, PHD, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>Saint Louis University 1997, Nanjing Medical University 1983</td>
</tr>
<tr>
<td>Qin Liu, PHD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>Wuhan University 1998, Chinese Academy of Sciences 2004</td>
</tr>
<tr>
<td>Salvador Lo Bianco, MD</td>
<td>Instructor in Clinical Anesthesiology</td>
<td>Univ Autonoma de Guadalajara 1987</td>
</tr>
<tr>
<td>Eileen M Lockhart, MD</td>
<td>Professor of Anesthesiology</td>
<td>University of Texas Southwest 1993</td>
</tr>
<tr>
<td>George Alan Lodoly, MD</td>
<td>Instructor in Clinical Anesthesiology</td>
<td>Saint Louis University 1980, Saint Louis University 1984</td>
</tr>
<tr>
<td>Thomas Lynch, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>St. George's University 2011</td>
</tr>
<tr>
<td>Jackie Lee Martin, MA, MD, MBA</td>
<td>Adjunct Professor of Anesthesiology</td>
<td>Meharry Med College 1980, Meharry Med College 1984, Howard University 1976, John Hopkins University 2010</td>
</tr>
<tr>
<td>John D McAllister, MD</td>
<td>Professor of Anesthesiology</td>
<td>University of Manitoba 1982, University of Manitoba 1980</td>
</tr>
<tr>
<td>Jordan Gary McCall, PHD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>Washington Univ in St. Louis 2014</td>
</tr>
<tr>
<td>Molly Ann McCormick, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>University of MO Columbia 1987</td>
</tr>
<tr>
<td>Konrad Meissner, MBBS</td>
<td>Adjunct Instructor in Anesthesiology</td>
<td>University of Leipzig 1998</td>
</tr>
<tr>
<td>Allison Denise Mitchell, MD</td>
<td>Instructor in Anesthesiology</td>
<td>Texas Health Sci San Anto 2012, Howard University 2008</td>
</tr>
<tr>
<td>Durga Prasanna Mohapatra, PHD</td>
<td>Associate Professor of Anesthesiology</td>
<td>University of Erlangen 2011</td>
</tr>
<tr>
<td>David Thomas Monks, MD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD Birmingham Medical School 2018

Michael C. Montana, MD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD Washington Univ in St. Louis 2012
BA University of Virginia 2003

Robert Paul Moore, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2004

Jose Moron-Concepcion, PHD
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD University of Barcelona 1998

Jimmy Lewis Moss, MD
Instructor in Clinical Anesthesiology (primary appointment)
BS Florida State University 2010
MD Florida State University 2015

David J Murray, MD
Carol B. and Jerome T. Loeb Professor of Anesthesiology (primary appointment)
MD University of Saskatchewan 1978
BS University of Saskatchewan 1973

Guido Musch, MD
Professor of Anesthesiology (primary appointment)
MD University of Milan 1993

Joan M Niehoff, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1982
BA University of MO Kansas City 1982

Daniel C Nieva, MD
Associate Professor of Anesthesiology (primary appointment)
BS University of Iowa 1998
MD University of Iowa 2003

Aaron John Norris, PHD, MD
Instructor in Anesthesiology (primary appointment)
BS Colorado St University 2001
PHD Washington Univ in St. Louis 2012
MD Washington Univ in St. Louis 2012

Sydney Marie Nykiel-Bailey, MD
Assistant Professor of Anesthesiology (primary appointment)
MD University of MO Kansas City 2005

BS Saint Louis University 2001

Patrick Ross O'Neill, PHD
Assistant Professor of Anesthesiology (primary appointment)
BS University of California 2004
PHD University of California 2010

Folasade Oladapo, MD
Assistant Professor of Anesthesiology (primary appointment)
MD U Medical-Dental Of New Jersey 2008

Lawrence Osei
Instructor in Clinical Anesthesiology (primary appointment)

Ben Julian Palanca, MD
Assistant Professor of Anesthesiology (primary appointment)
BS University of Washington 1997
MD Washington Univ in St. Louis 2005

Arvind Palanisamy, MD, PHD
Assistant Professor of Anesthesiology (primary appointment)
MD Tamilnadu Medical University 2000
PHD All-India Inst of Medical Sci 2003

Chris M Palmer, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD SUNY - Empire State College 2008
BS Virginia Tech 2004

Kyle Edward Parker, PHD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
PHD University of MO Columbia 2013

Pooja Patil, MD
Instructor in Clinical Anesthesiology (primary appointment)
MD Shai Medical College 2006

Patricia A. Penkoske, MD
Instructor in Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1974
BS Lindenwood University 1969

Mitchell R Platin, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Kent St University 1987

Adrienne Rae Poe, PHD
Instructor in Anesthesiology (primary appointment)
PHD Washington St University 2011

Debra D Pulley, MD, MME
Associate Professor of Anesthesiology (primary appointment)
MD Saint Louis University 1987
BS Vanderbilt University 1978
MME University of MO Columbia 1982
Carlos Angel Puyo, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Juan N Corpas School of Medici 1989

Lesley Kathryn Rao, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Saint Louis University 2006

Rashmi R Rathor, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of Illinois 2007

Jebadurai Ratnaraj, MD1, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD1 Northrhein Westfalen Medical 1985  
MD Madurai Kamaraj University 1979

Andrea Bulkley Reidy, MD  
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)  
BS Illinois Wesleyan University 2005  
MD Illinois Wesleyan University 2010

Eduardo Reina, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of Illinois Chicago 2011

Michael Todd Rice, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Univ of Texas San Antonio 2002

Clare H Ridley, MD  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)  
MD Washington Univ in St. Louis 2008  
BA Columbia College of Phy & Surg 2002

Pedro Rios-Morales, MD  
Instructor of Anesthesiology (primary appointment)  
MD University of Puerto Rico 2010  
BS University of Puerto Rico 2005

Stephen L. Ristvedt, MA, PHD  
Associate Professor of Anesthesiology  
Associate Professor of Psychiatry  
MA University of Pennsylvania 1983  
BA University of Minnesota 1981  
PHD University of Pennsylvania 1989

Evan Ward Roller, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of Cincinnati 2010

Adnan Sadiq, MD  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)  
BS State Univ of NY Buffalo 1996
BS University of MO Columbia 1998
MD University of MO Columbia 2003

**Tracey Wagner Stevens, MD**
Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2008

**Sanjay Subramanian, MD**
Associate Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD Christian Medical College 1994

**Robert A Swarm, MD**
Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1983
BA Oberlin College 1978

**Martha Zorko Szabo, MD**
Assistant Professor of Anesthesiology (primary appointment)
MD Medical College of Ohio 1990

**Rene Tempelhoff, MD**
Professor of Anesthesiology (primary appointment)
Professor of Neurological Surgery
MD University of Lyon 1974

**Raghu P Terkonda, MD**
Assistant Professor of Anesthesiology (primary appointment)
BS University of MO Columbia 1983
MD University of MO Columbia 1987

**Douglas Royce Thompson, MD**
Associate Professor of Anesthesiology (primary appointment)
BS University of CA San Diego 1998
MD University of CA San Diego 2003

**Swarup Varaday, MBBS**
Assistant Professor of Anesthesiology (primary appointment)
MBBS Andhra University 1989

**Anandhalakshmi Varadarajan, MBBS, MD**
Instructor in Clinical Anesthesiology (primary appointment)
MBBS Siriramachandra Medical College 2000
MD St. Lukes 2007

**Molly Rose Vila, MD**
Instructor in Anesthesiology (primary appointment)
MD U Medical-Dental Of New Jersey 2011

**Gershon Ram Volotzky, MD**
Assistant Professor of Anesthesiology (primary appointment)
MD Tel-Aviv University 1979

**Coridalia Wald Chen, MD**
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

**MD University of Panama 2006**

**Ashley Brooke Weinhold, MD**
Assistant Professor of Anesthesiology (primary appointment)
MD University of Arkansas 2011

**Timothy P Welch, MD**
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Pediatrics
MD University of Cincinnati 2004

**Brian T Wessman, MD**
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Emergency Medicine in Medicine
BS College of William and Mary 2000
MD Commonwealth College 2005

**Troy S Wildes, MD**
Associate Professor of Anesthesiology (primary appointment)
BS Illinois Wesleyan University 1998
MD Washington Univ in St. Louis 2002

**Brett D Wolff, MD**
Associate Professor of Anesthesiology (primary appointment)
BA Indiana University Bloomington 1981
MD Indiana University Bloomington 1985

**Xiaoming Xia, PHD, MS**
Assistant Professor of Anesthesiology (primary appointment)
PHD Vollum Institute OHSU 1998
BS Fudan University 1984
MS Shanghai Jiao Tong University 1987

**Branden Edward Yee, MD**
Assistant Professor of Anesthesiology (primary appointment)
MD Tufts University 2008
BS Tufts University 2004

**Xiaobin Yi, MD**
Associate Professor of Anesthesiology (primary appointment)
MD Hunan Medical University 1985

**Yu Zhou, MS, PHD**
Instructor in Anesthesiology (primary appointment)
BS Wuhan University 1996
MS Zhejiang Medical University 1999
of pediatric anesthesiology and pain management. It features

This clinical elective is designed to teach the theory and practice

M10 Anesth 812 Pediatric Anesthesia

sessions of CTA and the Department of Anesthesiology. A

and postoperative hemodynamic, pulmonary and coagulation

well as a more systematic approach to the management of intra-

parameters in clinical decision making during anesthesia. At

pulmonary artery catheters. Students will learn how to use these

lines and invasive monitoring lines, including radial artery and

endotracheal intubation as well as the placement of intravenous

this rotation, the student will also gain practical experience in

of cases will be honored as time and availability dictate. The

rotation will include three clinical simulator sessions using a

simulator mannequin for practical management of airway

problems, resuscitation and trauma emergencies. By the end of

the rotation, the student should be able to independently (under

supervision) provide anesthesia for uncomplicated surgical

procedures. Note: Presence and participation in the three Friday

Simulator Sessions and the Presentation on the last day of the

rotation are required to receive a grade. If there is a conflict with

attendance, prior arrangements can be made to accommodate

the student.

M10 Anesth 811 Cardiothoracic Anesthesiology

This clinical elective offers practical experience in the

perioperative assessment and management of surgical patients

undergoing cardiothoracic procedures. The student, as an

integral part of the cardiothoracic anesthesia team that is

composed of faculty members, fellows and residents, will learn

basic principles of airway management and lung ventilation,

essential aspects of pharmacologic treatment of hemodynamic

abnormalities and cardiac dysrhythmias, and management of

intraoperative coagulation disturbances. Emphasis will be

placed on the interpretation of intraoperative hemodynamic data,

echocardiographic finding (TEE), and laboratory results. During

this rotation, the student will also gain practical experience in

endotracheal intubation as well as the placement of intravenous

lines and invasive monitoring lines, including radial artery and

pulmonary artery catheters. Students will learn how to use these

parameters in clinical decision making during anesthesia. At

the conclusion of the rotation, the student will have a better

understanding of invasive monitoring and data interpretation,

as well as a more systematic approach to the management of intra-

and postoperative hemodynamic, pulmonary and coagulation

abnormalities. The students are expected to attend the didactic

sessions of CTA and the Department of Anesthesiology. A

presentation will be assigned.

M10 Anesth 812 Pediatric Anesthesia

This clinical elective is designed to teach the theory and practice

of pediatric anesthesiology and pain management. It features

individualized instruction with faculty who specialize in the

perioperative care of pediatric patients. The elective consists of

four weeks of active participation with pediatric anesthesiologists

at St. Louis Children’s Hospital and St. Louis Shriners Hospital

learning pre-anesthetic assessment, the performance of routine

anesthetics (which includes instruction and practice in pediatric

airway skills), learning other technical skills such as intravenous

line placement and the management of post-anesthesia care

and pain therapies. The final week may be tailored to meet

the student’s individual interests, needs and career goals.

Possibilities include exposure to sedation and anesthesia for

procedures outside of the operating rooms, and to subspecialties

including cardiovascular anesthesia, neurosurgical anesthesia,

and acute and chronic pediatric pain management. Students

also will have an opportunity to learn the management of some

common medical emergencies in the Clinical Simulation Center.

M10 Anesth 819 Cardiothoracic Critical Care

This clinical elective offers practical experience in the

postoperative management of cardiothoracic patients. The

student will be fully integrated into the intensive care team

and have the opportunity to contribute to the management of

critically ill patients. Students will have the opportunity to follow

specific patients over the course of their stay on the ICU, during

which time they will gain insight into holistic management of

patients with multi-organ dysfunction. The CTICU environment

is both challenging and exciting. Students will gain unique insight

into cardiorespiratory physiology and pharmacology which

will be demonstrated at the patients’ bedside, an invaluable

and unforgettable learning experience. Students will have

opportunities to learn and sometimes assist with procedures,

such as central lines, chest tubes, bronchoscopy and pulmonary

eye catheter insertion as well as bedside ultrasound including

TEE and TTE. Principles of management and resuscitation of

hemodynamically unstable patients following surgery will be

emphasized as well as ventilator management. Students will

also see and help manage patients with unique physiology

such as those patients on ventricular assist devices, and on

ECMO. We also have a very busy heart and lung transplantation

program at the hospital — all of these patients are cared for in

the CTICU. At the conclusion of the rotation, the student will

have a better understanding of shock, sepsis, multi-organ failure,

organ system support and compassionate withdrawal of life

support. In addition to bedside teaching, there will be informal

teaching sessions on a wide variety of topics as well as teaching

on interpreting hemodynamic data and waveforms, and cardiac

echo exams. Students will be encouraged to present on their

patient at morning rounds, during which constructive feedback

and interactive teaching will occur. Students will be required to

present on any topic of their choice relevant to the cardiothoracic

ICU during the block.

M10 Anesth 820 Critical Care

Students on this rotation are integral members of the

multidisciplinary intensivist-led critical care team in the Surgical

Intensive Care Unit (SICU). Students learn an organ systems-

based approach for evaluation and management of critically

ill and injured patients, and application of evidence-based

principles in delivery of state-of-the-art critical care. Emphasis

is placed on critical care knowledge and techniques used at

the bedside in the clinical management of serious traumatic and

surgical conditions. Students will also have an opportunity to

learn and sometimes assist with procedures, such as central lines,

cytostatic, and pulmonary artery catheter insertion as well as

bedside ultrasound including TEE and TTE. Principles of

management and resuscitation of hemodynamically unstable

patients following surgery will be emphasized as well as

ventilator management. Students will also see and help manage

patients with unique physiology such as those patients on

ventricular assist devices, and on ECMO. We also have a very

busy heart and lung transplantation program at the hospital — all

of these patients are cared for in the CTICU. At the conclusion

of the rotation, the student will have a better understanding of

shock, sepsis, multi-organ failure, organ system support and

compassionate withdrawal of life support. In addition to bedside

teaching, there will be informal teaching sessions on a wide

variety of topics as well as teaching on interpreting hemodynamic

data and waveforms, and cardiac echo exams. Students will be

encouraged to present on their patient at morning rounds, during

which constructive feedback and interactive teaching will occur.

Students will be required to present on any topic of their choice

relevant to the cardiothoracic ICU during the block.
and penetrating trauma, neurologic injuries, multi-system organ failure, and life-threatening infections in the surgical patient are also taught, as is the importance of treatments to alleviate anxiety and pain, maintain fluid and electrolyte balance, and providing adequate nutrition. Practical experience is gained in placement of vascular access devices, airway equipment, ultrasonography and its applications, interpretation of imaging and laboratory data, and use of guidelines, protocols and quality assurance tools in the management of critically ill patients.

M10 Anesth 821 Pain Management
Acute pain is the most common symptom of medical illness and is ubiquitous after major surgery. Chronic pain is the leading cause of worker disability. Severe pain afflicts most people with advanced cancer. Learning the fundamentals of pharmacologic, interventional, and multidisciplinary pain management is important for all areas of clinical medicine. Rotation is based at Barnes-Jewish Hospital with focus adjusted to meet student's interest and career plans.

M10 Anesth 821B Pain Management - Missouri Baptist Medical Center
Acute pain is the most common symptom of medical illness and is ubiquitous after major surgery. Chronic pain is the leading cause of worker disability. Severe pain afflicts most people with advanced cancer. Learning the fundamentals of pharmacologic, interventional, and multidisciplinary pain management is important for all areas of clinical medicine. Rotation is based at Missouri Baptist Medical Center with focus adjusted to meet student's interest and career plans.

M10 Anesth 822 Anesthesia for Neurosurgery
Students will help care for patients having challenging neurosurgical procedures. Students will become familiar with complex procedures, brain monitoring, cardiovascular support and airway management and will be exposed to all kinds of neurosurgical pathology. Student must be prepared to participate in the intricate anesthetic management of patients undergoing surgery in our novel intraoperative MRI rooms. For those interested, clinical research projects are ongoing and student participation is encouraged.

M10 Anesth 823 Obstetrical Anesthesia
The medical students will learn the different analgesia/anesthetic options for the labor patient. They will also learn how the physiological adaptations of pregnancy influence anesthetic management. They will be actively involved in the parturient's management, i.e., starting an IV, placement of spinal, epidural or CSE (combined spinal epidural) anesthetics. They will also attend the OB anesthesia conferences and interview patients in labor (with an OB anesthesia attending).

M10 Anesth 900 Research Elective - Anesthesiology
Research opportunities may be available. If interested, please contact the Department of Anesthesiology.