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, MBCh. 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, MBCh, 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 Ablordepey, MD, M PH
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD University of Pittsburgh 2007
M PH University of Pittsburgh 2007

Joanna Abraham, PHD
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
Sirajuddin 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

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

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

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

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Professor of Anesthesiology (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
MBBCH University of the Witwatersra 1991

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MD All-India Inst of Medical Sci 1998
PHD College of Anesthesiology 2008
BS Tirunelveli Medical College 1992

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MD Free University of Berlin 1988

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PHD Washington Univ in St. Louis 2011

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MD Texas A&M University 2013
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PHD University of Chicago 1998
BS California Institute Technolo 1993
MD University of Chicago 2000

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

Walter A Boyle III, MD
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Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
BS University of CA San Francisco 1974
MD University of CA San Francisco 1977

Sarah Buday, PHD
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PHD University of MO St Louis 2013
BS Washington Univ in St. Louis 2002

Yuqing Cao, PHD
Associate Professor of Anesthesiology (primary appointment)
PHD University of CA San Francisco 1999
BS Fudan University 1989

Laura Francesca Cavallone, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of Milan 1993

Samuel Chandra, MD
Instructor in Clinical Anesthesiology (primary appointment)
MD Patna Medical College 1990

Zhoucheng Chen, PHD, MS
Russell D and Mary B Shelden Professor of Anesthesiology (primary appointment)
Professor of Developmental Biology
Professor of Psychiatry
PHD University of Texas Austin 1994
BS Wuhan University 1983
MS School Not Listed 1987

Ziwei Chen, MS, MBBCH, PHD
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MS Dalian Medical University 1998
MBBBS Dalian Medical University 1995
PHD Peking University 2001

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MD Washington Univ in St. Louis 2012
BS Wheaton College 2005
PHD Washington Univ in St. Louis 2012

Kelly Lynne Chilson, MD
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MD Washington Univ in St. Louis 1984
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Albert Murray Cohen, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Baylor University 1977

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Instructor in Anesthesiology (primary appointment)
PHD Northwestern University 2012

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

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

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Professor of Surgery (Cardiothoracic Surgery)
MBCHB University of Pretoria 1990

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BS Carleton College 2007
MD Rush University 2012

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Assistant Professor of Surgery (Cardiothoracic Surgery)
MD University of Kansas 2009

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MD Washington Univ in St. Louis 2006

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MD Washington Univ in St. Louis 2009
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BS St Xavier University 1995
DOST Midwestern University 2001

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

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Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

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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

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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)
MD University of MO Columbia 1982
BA Indiana State University 1978

Jing Feng, PHD
Instructor in Anesthesiology (primary appointment)
PHD Wuhan University 2014
Mitchell Evan Fingerman, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of Connecticut 2004

Rosemary Foster, MD
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MD Saint Louis University 2013

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Assistant Professor of Anesthesiology (primary appointment)
MD University of Kansas 1985
BS University of Kansas 1981

G

Narasimhan Gautam, MS, PHD
Professor of Anesthesiology (primary appointment)
Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
PHD University of Bombay 1985

Preeta George, MBBS
Assistant Professor of Anesthesiology (primary appointment)
MBBS Bangalore University 1998

Robert W Gereau, PHD
Dr Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
PHD Emory University 1995
BS Southwest Missouri St Universi 1991

Erin A Gibbons, MD
Assistant Professor of Anesthesiology (primary appointment)
BS University of North Carolina 2003
MD University of North Carolina 2008

Jason R Gillihan, MD
Assistant Professor of Anesthesiology (primary appointment)
BS University of Southern Indiana 2002
MD Southern Illinois University 2006

Yehuda Ginosar, MD
Professor of Anesthesiology (primary appointment)
MD University of London 1986

Thomas James Goblirsch, MD
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BS University of Notre Dame 1980
MD Loyola University Chicago 1985

Judith P Golden, MA, PHD
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BS Hofstra University 1984
MA Hofstra University 1986
PHD Saint Louis University 1994

Vivian Maria Gonzalez-Perez, PHD
Instructor in Anesthesiology (primary appointment)

PHD University of Valparaiso 2009

Thomas J Graetz, MD
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Stephen H Gregory, MD
Instructor in Anesthesiology (primary appointment)
MD Saint Louis University 2012

Russell J.J. Groener, MBCHB
Associate Professor of Anesthesiology (primary appointment)
MBCHB University of Cape Town 1983

Anthony Herbert Guarino, MD, MA
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BA Yale University 1986
MD University of Maryland 1992
MA Yale University 1988

Ryan C Guffey, MD
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MD Wayne State University 2007

Katharine Nicole Gurbu, PHD
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PHD Vanderbilt University 2013

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BS University of Kentucky 1997
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Assistant Professor of Surgery (Cardiothoracic Surgery)
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Associate Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MBBS University of Ilorin 1990
BS University of Ibadan 1984

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MD A T Still University 2007
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**Gary E Hirshberg, MD**
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BA Princeton University 1968
MD Hahnemann University 1972

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Professor of Medicine
Professor of Surgery (General Surgery)
MD University of Virginia 1976

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MS Emory University 1993
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BA Georgia St University 1991

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PHD Ohio State University 2004

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MD Martin-Luther-University 1996

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PHD Washington Univ in St. Louis 1990

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BS University of Miami 2009
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MD University of Khartoum 1987
PHD University of Khartoum 1996

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MD University of Connecticut 2013
BS Washington Univ in St. Louis 2009

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

**K**

**Muthuraj Kanakaraj, MD**
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BS Tirunelveli Medical College 1995
MD Madras Medical College 2005

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Professor of Anesthesiology (primary appointment)
PHD Iowa State University 1991
MD University of Belgrade 1982

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

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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

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

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

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

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Assistant Professor of Anesthesiology (primary appointment)
MD University of Kansas 1997
MD1 University of Kansas 1997
BA School Not Listed 1993

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Assistant Professor of Anesthesiology (primary appointment)
MD Case Western Reserve Univ 2009

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MD Medical University Graz 2008
PHD Paracelsus Medical University 2015

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Instructor in Anesthesiology (primary appointment)
MD University of Zagreb 1996

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BS Loyola University Chicago 1977
DDENT Loyola University Chicago 1982
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BA Rutgers University 1982
MD U Medical-Dental Of New Jersey 1986

Anand Lakshminarasimhachar, MBBS
Associate Professor of Anesthesiology (primary appointment)
MBBS Bangalore University 1994

Chakrapol Lattanand, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Hahnemann University 2000

Chris Cheng-Fu Lee, PHD, MD
Associate Professor of Anesthesiology (primary appointment)
PHD Beijing Medical University 1991
MD Hubei Medical University 1985

Christopher J Lingle, PHD
Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
BS University of Oregon 1972
PHD University of Oregon 1979

Qianjin Liu, PHD, MD
Assistant Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1997
MD Nanjing Medical University 1983

Qin Liu, PHD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Ophthalmology and Visual Sciences
BS Wuhan University 1998
PHD Chinese Academy of Sciences 2004

Salvador Lo Bianco, MD
Instructor in Clinical Anesthesiology (primary appointment)
MD Univ Autonoma de Guadalajara 1987

Ellen M Lockhart, MD
Professor of Anesthesiology (primary appointment)
Professor of Obstetrics and Gynecology
Vice Chairman of Anesthesiology

MD University of Texas Southwest 1993

George Alan Lodoly, MD
Instructor in Clinical Anesthesiology (primary appointment)
BS Saint Louis University 1980
MD Saint Louis University 1984

Thomas Lynch, MD
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD St. George's University 2011

Jackie Lee Martin, MA, MBA, MD
Adjunct Professor of Anesthesiology (primary appointment)
MA Meharry Med College 1980
MBA John Hopkins University 2010
BA Howard University 1976
MD Meharry Med College 1984

Paolo Masetti, MD
Instructor in Clinical Anesthesiology (primary appointment)
MD University of Bologna 1985

Nicolas Massaly, PHD
Instructor in Anesthesiology (primary appointment)
PHD Universite Paul Sabatier 2012

John D McAllister, MD
Professor of Anesthesiology (primary appointment)
Professor of Pediatrics
BS University of Manitoba 1982
MD University of Manitoba 1980

Jordan Gary McCall, PHD
Assistant Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2014

Molly Ann McCormick, MD
Assistant Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1987

Konrad Meissner, MBBS
Adjunct Instructor in Anesthesiology (primary appointment)
MBBS University of Leipzig 1998

Allison Denise Mitchell, MD
Instructor in Anesthesiology (primary appointment)
MD Univ Texas Health Sci San Anto 2012
BS Howard University 2008

Durga Prasanna Mohapatra, PHD
Associate Professor of Anesthesiology (primary appointment)
PHD University of Erlangen 2011

David Thomas Monks, MD
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

Jeremiah J Morrissey, PHD
Professor of Anesthesiology (primary appointment)
BA Macmurray College 1989
PHD Saint Louis University 1974

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

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

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

Jessica Lauren Nelson, MD
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Michigan 2012
BS University of Wisconsin 2018

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

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Associate Professor of Anesthesiology (primary appointment)
MD University of Iowa 2003
BS University of Iowa 1998

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

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Instructor in Clinical Anesthesiology (primary appointment)

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

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PHD All-India Inst of Medical Sci 2003
MD Tamilnadu Medical University 2000

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MD SUNY - Empire State College 2008

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MD Shai Medical College 2006

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

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

Adrianne 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, MD, MD1  
Assistant Professor of Anesthesiology (primary appointment)  
MD Madurai Kamaraj University 1979  
MD1 Northrhin Westfalen Medical 1985

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

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)  
BA Columbia College of Phy & Surg 2002  
MD Washington Univ in St. Louis 2008

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

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

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

Isabella T Rossi, MD  
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)  
MD Loyola University Chicago 2014

S

Adnan Sadiq, MD  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)  
MD Royal College of Surgeons 2001  
BS State Univ of NY Buffalo 1996

Angela K Saettele, MD  
Assistant Professor of Anesthesiology (primary appointment)  
BS Simpson College 2004  
MD University of MO Columbia 2008

Monica Sala-Rabanal, PHD  
Instructor in Anesthesiology (primary appointment)  
Instructor in Cell Biology and Physiology  
PHD University of Barcelona 2003  
BS University of Barcelona 1997

Vijaya K Samineni, PHD  
Instructor in Anesthesiology (primary appointment)  
PHD Southern Illinois University 2013

Charles R Schrock, MD  
Associate Professor of Anesthesiology (primary appointment)  
BS University of Notre Dame 1986  
MD University of MO Columbia 1991

Anne Stella Sebastiani, MD  
Instructor in Anesthesiology (primary appointment)  
MD Johannes Gutenberg University 2008

Karen Seibert, MA, PHD  
Professor of Anesthesiology (primary appointment)  
Professor of Genetics  
Professor of Pathology and Immunology  
MA University of Toledo 1983  
PHD Vanderbilt University 1987  
BS Northwestern University 1981

Rajiv K Shah, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of Rochester 2010

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Professor of Anesthesiology (primary appointment)  
MD Institute of Medical Science 1990  
BA Government Medical College 1987

Andrew John Shepherd, PHD  
Instructor in Anesthesiology (primary appointment)  
PHD University of Manchester 2006

Preet Mohinder Singh, MBBS, MD  
Instructor in Anesthesiology (primary appointment)  
MBBS Dayanand Medical College 2007  
MD All-India Inst of Medical Sci 2010

Sarah Kendall Smith, MD, PHD  
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
<th>Year(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Charles Spitler, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MD University of MO Columbia 2003</td>
<td>2004</td>
</tr>
<tr>
<td>Tracey Wagner Stevens, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MD Washington Univ in St. Louis 2008</td>
<td>2008</td>
</tr>
<tr>
<td>Sanjay Subramanian, MD</td>
<td>Associate Professor of Anesthesiology</td>
<td>MD Christian Medical College 1994</td>
<td>1994</td>
</tr>
<tr>
<td>Robert A Swarm, MD</td>
<td>Professor of Anesthesiology</td>
<td>MD Washington Univ in St. Louis 1983</td>
<td>1983</td>
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<tr>
<td>Martha Zorko Szabo, MD</td>
<td>Assistant Professor of Anesthesiology</td>
<td>MD Medical College of Ohio 1990</td>
<td>1990</td>
</tr>
<tr>
<td>Rene Tempelhoff, MD</td>
<td>Professor of Anesthesiology</td>
<td>MD University of Lyon 1974</td>
<td>1974</td>
</tr>
<tr>
<td>Raghu P Terkonda, MD</td>
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<td>BS Asbury College 2004</td>
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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 will also 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 artery catheter insertion as well as bedside ultrasound including TTE and TEE. 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 patients with acute and chronic organ dysfunction. The student will be fully integrated into the critical care team and have the opportunity to contribute to the management of critically ill patients.
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 become familiar with resuscitation and cardiopulmonary support, including methods for non-invasive and invasive hemodynamic monitoring, and techniques for airway management and pulmonary support in respiratory failure. Basic knowledge and skills in the management of blunt 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.