



University of California, Irvine photo

### **Mission**

We are a patient-centered anesthesia team providing exceptional perioperative care while advancing the science of anesthesiology and developing the next generation of leaders in our field.

### **Vision**

To be recognized as a premier academic anesthesia department.

**Image:**

Pain Medicine Faculty, Dr. Rakhi Dayal and Dr. Brent Yeung at UCI Gottschalk Medical Plaza





Images:  
UCI Health Doctor's Day Celebration  
Graduation & Celebration of Excellence 2019  
Residency Class of 2018  
Fellow Graduates Class of 2018  
CRNA Retreat

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## **WE WANT TO HEAR FROM YOU**

Let us know about your  
professional or personal update.  
email: [anesthesiology@uci.edu](mailto:anesthesiology@uci.edu)

Include "Letters to the Editor: UCI  
Anesthesiology Alumni Newsletter"  
in the subject line.



Dear Friends and Colleagues,

**T**he UCI Department of Anesthesiology & Perioperative Care has had dramatic growth in many areas this past year and it appears that we are on a trajectory of rapid growth and expansion in the foreseeable future. Let me highlight just a few of our accomplishments this past year:

### Discover

The UCI Center on Stress & Health, led by Zeev N. Kain, MD, and Michelle Fortier, PhD, was awarded \$6.3 million by the National Institutes of Health (NIH) for their research in alleviating pediatric surgical anxiety and pain. On the clinical front, we have received grants from Edwards Lifesciences and Maquet as well as grants from NIH-supported Center for Applied Innovation and the Anesthesia Society for Regional Anesthesia and Pain Medicine. As a department, annually we have averaged more than 40 peer-reviewed publications within the past four years with articles covering topics that include machine learning of arterial pressure waveforms, Botox® for pediatric migraines, web-based interventions for pediatric surgery patients and dopamine reward systems.

### Teach

Our education training program has seen significant growth and continues to thrive. The Accreditation Council for Graduate Medical Education (ACGME) Review Committee approved us to expand to 12 residents per year, with a total of 48. Our anesthesiology training program continues to attract the most promising residents and we continue to recruit residents from top medical schools. As our training programs continue to grow, Kyle Ahn, MD, has been appointed vice chair of academic affairs to oversee all training programs within the department. Kate McCartney, MD, has assumed the role of residency program director. We now have six fellowship programs, which consists of Anesthesiology Critical Care Medicine (ACGME), Leadership in Perioperative Medicine, Medical Simulation, Pain Medicine (ACGME), Regional Anesthesiology and Acute Pain Medicine and the newly established Obstetric Anesthesiology fellowship.

### Heal

Our clinical operations have grown by an overall 10% this last year with increasing volumes in the main operating rooms, critical care, regional and acute pain and chronic pain services. We are leading the newly formed Cardiovascular ICU (CV/ICU) area within UCI Medical Center for the increased volume of post-surgical cardiac patients. The cardiac surgical volumes have seen significant growth with the recruitment of two new cardiac surgeons. In the coming year, the ECMO (extracorporeal membrane oxygenation) and LVAD (left ventricular assist device) programs will be implemented. We are actively recruiting critical care subspecialty faculty for the growing CV/ICU division and are projected to hire a total of eight faculty by year's end. Our regional service volumes have seen a growth with the alternative approach to pain control in an opioid sparing environment. Our chronic pain service has expanded to four ambulatory locations throughout Orange County and is experiencing a 10% growth within the two years. We are continuing to recruit new faculty into areas of general anesthesia, cardiac, pediatric, neonatal, regional and pain.

We look forward to seeing some of you at this year's ANESTHESIOLOGY 2019 Annual Meeting in Orlando, FL and at the Annual ASA UCI Alumni Reception.

Thank you for all your continued support. We are committed to providing exceptional perioperative care, advancing the science of anesthesiology and developing the next generation of leaders in our field.

Sincerely,



### Scott Engwall MD, MBA

Chair  
Clinical Professor  
Medical Director, Perioperative Services  
UCI Anesthesiology & Perioperative Care



Photographer: Paul Kennedy



## BY THE NUMBERS

**45** full time FACULTY

**48** RESIDENTS

**9** FELLOWS

**35** full time CRNAs

**24** administrative STAFF

## LEADERSHIP

### CHAIR

Scott Engwall, MD, MBA

### VICE CHAIR, CLINICAL AFFAIRS

Shermeen Vakharia, MD, MBA

### VICE CHAIR, RESEARCH

Joseph Rinehart, MD

### VICE CHAIR, ACADEMIC AFFAIRS

Kyle Ahn, MD

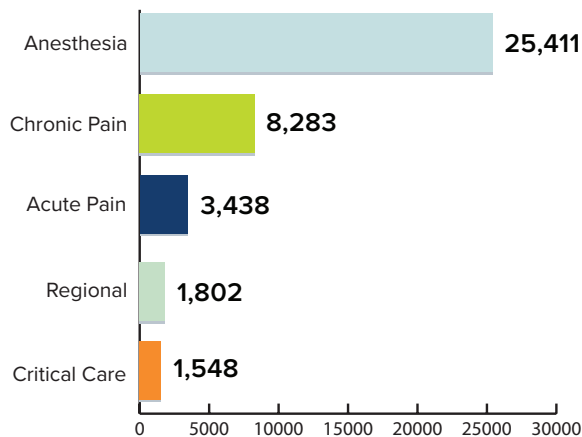
### VICE CHAIR, PAIN MANAGEMENT

Shalini Shah, MD

### CHIEF ADMINISTRATIVE OFFICER

Patrick Manalastas, MBA

## CASE VOLUME 2018-2019



## UCI ANESTHESIOLOGY RESIDENCY PROGRAM

ranked **TOP 1/3** by reputation  
among all anesthesiology programs



18 Consecutive Years  
**UCI MEDICAL CENTER**  
among nation's best hospital  
– *U.S. News & World Report*



**100+ UCI HEALTH DOCTORS**  
named as *Physicians of Excellence* by the  
Orange County Medical Association



### Anesthesiologists who were included:

Kyle Ahn, MD

Scott Engwall, MD, MBA

Kimberly Gimenez, MD

Anna L. Harris, MD

Richard Kelly, MD

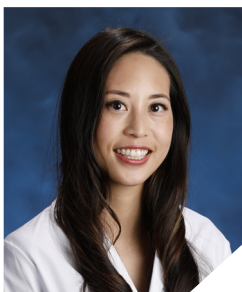
Debra Morrison, MD

Corey Nelson, MD

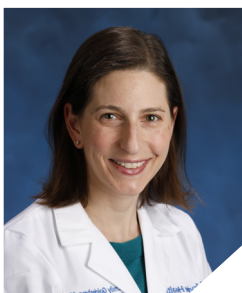
Shalini Shah, MD

Shermeen Vakharia, MD, MBA

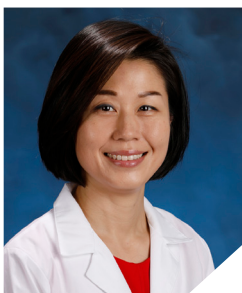
Trung Vu, MD



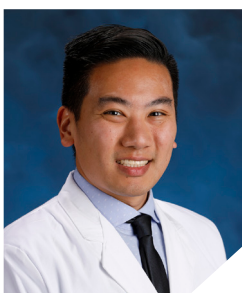
After completing her master's in business administration at UCI Paul Merage School of Business, **Melissa Chang, MD, MBA**, joined our faculty full time. An Alabama native, Dr. Chang completed her MD degree at the University of Alabama in Birmingham and is one of our residency graduates from the Class of 2017. She has a strong interest in providing the best care to patients by enhancing recovery through streamlined, evidence-based processes throughout the perioperative period.



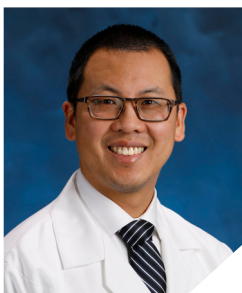
After completing her anesthesia residency training at Georgetown University Hospital, **Emily Goldenberg, MD**, worked for Kaiser Permanente in the Washington DC area before she and her husband relocated to Southern California. Dr. Goldenberg worked in private practice in Los Angeles before practicing at USC. She recently completed her fellowship training in management of perioperative services at Stanford Medicine School of Medicine and joined the UCI faculty in April 2019.



**Ellen Park, MD**, joined our faculty in October 2018. Dr. Park earned her MD degree at Tufts University School of Medicine and completed her anesthesiology residency training at Keck School of Medicine of USC. She completed her fellowship training in pediatric anesthesiology at Children's Hospital Los Angeles (CHLA). Dr. Park's clinical interest is in pediatric anesthesiology.



**Jay Shen, MD**, completed his residency in anesthesiology at UCI in 2017 and joined our faculty in October 2018 after completing his fellowship in Critical Care Medicine at Loma Linda University Health. Dr. Shen's clinical interests included critical care medicine and implementing Point-of-Care Ultrasound to quickly aid in diagnosis for patient care into everyday clinical practice.



**Brent Yeung, MD**, joined our pain medicine faculty shortly after completing a fellowship in Pain Medicine with UCI in 2018. Dr. Yeung completed his anesthesiology residency training at Georgetown University School of Medicine. His clinical interests include interventional procedures for chronic pain management and the use of cannabis for pain. Dr. Yeung's research interest involves investigating the potential of cannabinoids and bioactive lipids that affect the endocannabinoid system as potential analgesics particularly in the setting of the national opioid epidemic.



# ANESTHESIOLOGY 2019

OCTOBER 19-23 | ORLANDO

## YOU'RE INVITED

### ASA Annual Alumni Reception

October 19, 2019

7:00 PM to 9:00 PM

Hilton Orlando  
6001 Destination Parkway  
Orlando, FL 32819

RSVP: [anesthesiology@uci.edu](mailto:anesthesiology@uci.edu)



**ANESTHESIOLOGY 2019** is taking place in Orlando, Florida from October 19-23, 2019. If you are planning to attend this year, don't forget to check out the presentations given by UCI faculty and residents. Plan your day to catch some of our presentations and special sessions this year.

### New this year - Opioid Analgesics Session

Shalini Shah, MD, will be one of the lead speakers representing UCI during a groundbreaking, three-hour special session on Saturday, October 19. The ASA is hosting a special session with expert pain medicine faculty to address the ongoing efforts and the implementation of best practices made in preventing opioid misuse and abuse in patients. This session will include didactic presentations, interactive "What would YOU do?" case-based clinical practice questions, problem-based small group activities and anesthesiologists-patient counseling demonstrations.

### SPECIAL SESSION

ASA Pain: Anesthesiologists Tailored Approach to Patient Safety Considerations When Using Opioid Analgesics

**Saturday, October 19**

1:30 PM - 4:30 PM

Location: W415D Valencia

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## ANESTHESIOLOGY 2019 Presentations

### MEDICALLY CHALLENGING CASES

#### Saturday, October 19

MC1097 (10:30 AM - 10:40 AM)

Management of Pregnant Woman with Pheochromocytoma Presenting in Hypertensive Emergency  
Daniel Garcia, MD, Margaret A. Riso, MD, Govind R. Rajan, MD

MC1041 (11:10 AM - 11:20 AM)

Polymorphic Ventricular Tachycardia During Laparoscopic Hand-assisted Nephrectomy in a Healthy Patient  
Andrew Ding, MD, Gene E. Jang, MD, Taizoon Dhoon, MD, Darren R. Raphael, MD

MC1189 (11:50 AM - 12:00 PM)

Acute Symptomatic Local Anesthetic Toxicity During Transversus Abdominis Plane Block  
Fernando Santos, MD, Govind R. Rajan, MD

MC1232 (2:30 PM - 2:40 PM)

Anesthetic Management Of Patient with Previously Unknown Tracheal Stenosis on an Intra-aortic Balloon Pump Presenting for Coronary Artery Bypass Graft  
Paula Leblanc, MD, Jody Chou, MD

MC1378 (3:20 PM - 3:30 PM)

Implementation of a Perioperative Pain Clinic Model  
Daniel Garcia, MD, Shalini Shah, MD, Navid Alem, MD

#### Sunday, October 20

MC2049 (7:30 AM - 7:40 AM)

When Awake Fiberoptic Intubation is the Only Option: Difficult Airway Management of Marked Tracheal Narrowing and Deviation from Thyroid Goiter  
Daniel Park, MD, Govind Rajan, MD

MC2368 (10:20 AM - 10:30 AM)

Bilateral Ischial Bursitis Masquerading as Piriformis Syndrome in a Patient With Chronic Radiculopathy  
Bobak Koohian, MD, Ariana M. Nelson, MD, Navid Alem, MD

MC2238 (10:30 AM - 10:40 AM)

2 Cases Aborted for Intraoperative ST-segment Elevation in a Patient with Negative Cardiac Workup. Is 3<sup>rd</sup> Time the Charm?  
Veronika Anufreichik, MD, Daniel W. Kim, BS, Corey Tong, MD

MC2251 (10:40 AM - 10:50 AM)

Emergency Airway Management After Head & Neck Radiation  
Claudia Hammi, DO, Wei-Chen Lin, MD, Taizoon Dhoon, MD

MC2384 (11:00 AM - 11:10 AM)

A Hazy Presentation of Abdominal Pain in the Setting of Acute Coronary Syndrome  
Claudia Hammi, DO, Brent Yeung, MD

MC2276 (10:50 AM - 11:00 AM)

Case Report: Marfan Syndrome and Aortic Dissection in the Postpartum Period  
Nikhil Crain, BS, Morten Neve, MD, Taizoon Dhoon, MD, Ramin Rahimian, MD, Govind R. Rajan, MD

MC2388 (11:40 AM - 11:50 AM)

Not All Intraprocedural Syncope is Vasovagal - Management of Acute Coronary Syndrome After Epidural Placement  
Amanda Hu, MD, Corey Tong, MD, Govind Rajan, MD, Daniel W. Kim, MD

MC2597 (2:00 PM - 2:10 PM)

Look at That INR: Thoracic Epidural Catheter Management in the Setting of Incidental Supratherapeutic INR/PTT and New Onset Paralysis  
Simon Kim, MD, Corey Tong, MD, Kyle S. Ahn, MD

MC2553 (2:40 PM - 2:50 PM)

Communication Barriers In Pain Management of a Post-Laryngectomy Patient  
Ariana Nelson, MD, Mfonobong I. Essiet, MD, Navid Alem, MD, Shalini Shah, MD

MC2774 (4:20 PM - 4:30 PM)

Chronic Perineal Pain from Anterior Coccygeal Angulation Found During Ganglion of Impar Block  
Marc Parris, MD, Aaron J. Przybysz, MD

MC2668 (5:00 PM - 5:10 PM)

Post-Induction Bronchospasm  
Chan Jung, MD, Margaret A. Riso, MD, Dmitry Portnoy, MD

MC2648 (5:00 PM - 5:10 PM)

Anesthetic Considerations in a Patient with Right Atrium and Right Ventricle Masses  
Syeda Quadri, MD, Lawrence Younan, MD, Kate P. McCartney, MD, Shermeen B. Vakharia, MD, Govind R. Rajan, MD

#### Monday, October 21

MC3181 (9:30 AM - 9:40 AM)

Perioperative Management of Intracardiac Tumor During Spinal Surgery  
Austin Nguyen, MD, Margaret A. Riso, MD, Shermeen B. Vakharia, MD

MC3184 (10:00 AM - 10:10 AM)

Transient Total Body Paralysis After Anterior Cervical Discectomy and Fusion  
Sabrina Oukil, MD, Bobak A. Koohian, MD, Nica Sabouni, BS, Taizoon Dhoon, MD



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MC3128 (10:40 AM - 10:50 AM)

Acute Hemodynamic and Respiratory  
Compromise Due to Thoracic  
Translocation of Hemourinoma After  
Percutaneous Nephrolithotomy  
Syeda Quadri, MD, Govind R. Rajan, MD

MC3083 (11:10 AM - 11:20 AM)

Severe Pulmonary Hypertension  
Discovered in the Third Trimester  
Christopher Sauer, MD, Taizoon Dhoon,  
MD, Dmitry Portnoy, MD

MC3332 (2:40 PM - 2:50 PM)

Postoperative Respiratory Distress After  
Percutaneous Nephrolithotomy  
Christopher Sauer, MD, R Ryan Field, MD,  
Taizoon Dhoon, MD

MC3249 (2:50 PM - 3:00 PM)

Jet Ventilation for Rescue Oxygenation  
Wei-Chen Lin, MD, Govind Rajan, MD

MC3396 (4:00 PM - 4:10 PM)

Management of Left Ventricular  
Perforation and Pericardial Tamponade  
During Transcarotid Transcatheter Aortic  
Valve Replacement  
Gene Jang, MD, Daniel W. Kim, BS  
Richard J. Kelly, MD

MC3564 (5:20 PM - 5:30 PM)

Postop Regional Block Unmasks Over  
Sedation  
Darren Raphael, MD

## ABSTRACT POSTER PRESENTATIONS

### Sunday, October 20

A2160 EA14-2 (11:15 AM - 11:45 AM)

Impact of a Statewide Opioid Mandate  
on the Volume of Inpatient Opioid  
Prescriptions: A Single Institution Study  
Louis Lu, MD, Nikhil A. Crain, BS,  
Kristina Borja, BS, Quang T. Nguyen, BS,  
Joseph B. Rinehart, MD, Shalini Shah, MD

A2163 (11:45 AM - 12:15 PM)

Electronic Medical Record Based Early  
Warning System for Inpatients with  
Potential Difficult Airways  
Daniel Kim, MD, Staci Becker, MD,  
Howard A. Schwid, MD, Shermeen  
Vakharia, MD, MBA

A2218 (1:30 PM - 2:00 PM)

Mindset in the Perioperative Space: Low  
Cost, High Reward  
Alexandra Kain, BA, Michelle A.  
Fortier, PhD, Brenda Golianu, MD,  
Claudia Mueller, MD

### Monday, October 21

A3158 (1:30 PM - 2:00 PM)

Right Ventricular Dysfunction may be  
Associated with Higher Mortality in  
Patients Undergoing Non-emergent Open  
Abdominal Surgery: A Preliminary Finding  
Wei-Chen Lin, MD, Michael Ma, BS,  
Maryte Gyls, BS, Nicolas Salvatierra, BS,  
Robert Kim, MD, Luohua Jiang, MD, Ailin  
Barseghian, MD, Joseph B. Rinehart, MD,  
Jody Chou, MD

A3130 (2:00 PM - 2:30 PM)

Use of Simulation-based Learning and  
Assessment for Procedural Training  
Amongst Medical Students and  
Anesthesiology Residents  
Michael Ma, BS., Cameron J. Ricks, MD,  
Keith A. Beaulieu, MBA, Razan Duella, BA,  
Joseph B. Rinehart, MD

## PROBLEM BASED LEARNING DISCUSSIONS

### Saturday, October 19

L111 (7:45 AM - 8:45 AM)

Cardiopulmonary Collapse During  
Laparoscopic Upper Abdominal  
Procedures  
Govind Rajan, MD

### Sunday, October 20

L233 (10:30 AM - 11:30 AM)

Cardiopulmonary Collapse During  
Laparoscopic Upper Abdominal  
Procedures  
Govind Rajan, MD

## HANDS ON WORKSHOP

### Sunday, October 20

822 (9:00 AM - 12:00 PM)

Perioperative Point-of-Care Ultrasound  
Jay Shen, MD

### Monday, October 21

822 (9:00 AM - 12:00 PM)

Ultrasound-Guided Regional Anesthesia  
& Clinical Skills Workshop: Introduction  
to Upper & Lower Extremity UGRA for  
Beginners  
Kyle S. Ahn, MD

## PATIENT EXPERIENCE

### Monday, October 21

325 (3:45 PM - 4:45 PM)

Perioperative Patient Engagement: Why,  
What, How  
Zeev N. Kain, MD

## SPECIAL SESSIONS

### Saturday, October 19

SPE06 (1:30 PM - 4:30 PM)

ASA Pain: Anesthesiologists  
Tailored Approach to Patient Safety  
Considerations When Using Opioid  
Analgesics (Lead Speaker)  
Shalini Shah, MD



**A**s UCI Anesthesiology & Perioperative Care continues to grow, there is a larger drive in innovative research programs looking to the future of perioperative care. Vice Chair for Research, Joseph Rinehart, MD, and faculty continue to push the boundaries of new technologies in perioperative medicine. Over the last four years, the Department averages more than 40 publications each year in PubMed indexed journals.

The Department has several early-career researchers who are exploring and building new research programs into new areas. Jody Chou, MD, an alumna of the UCI anesthesiology residency program and a Cleveland Clinic trained cardiac fellow, has published her second manuscript looking at the role of right ventricular dysfunction in perioperative morbidity and mortality. Cameron Ricks, MD, has explored the use of simulation in healthcare as a way to validate procedural skills. Dr. Ricks have published a related manuscript on critical events in the operating room and how and when providers call for help. Many pain division faculty have also begun exploring topics ranging from opioid prescriptions to the effects of the mandated Controlled Substance Utilization Review and Evaluation System (CURES), maintained by the Department of Justice (DOJ).

## UCI Center on Stress & Health

The UCI Center on Stress & Health led by Zeev Kain, MD, MBA, and Michelle Fortier, PhD, has been awarded millions of dollars in NIH grants for their collaboration in the past year for projects building interactive web apps to help children and their families manage the stress and pain of surgery and outpatient cancer treatment. The end goal of this project is to transform the way healthcare providers interact and communicate with patients during the surgical course. More information: [centeronstressandhealth.hs.uci.edu/](http://centeronstressandhealth.hs.uci.edu/)

## Clinical Research

For clinical research, Joseph Rinehart, MD, is involved with utilizing UCI resources to grow the department's capabilities in medicine. Dr. Rinehart has received a Center for Applied Innovation grant to help commercialize the intellectual property surrounding the closed-loop vasopressor system. The closed-loop fluid vasopressor titration is being explored in the operating rooms and in the ICU and machine learning techniques are being applied to intraoperative data to predict undesirable states like hypotension and post-operative morbidity. A new joint partnership with UCLA by an NIH grant will allow for the data repository to continue to grow in this research.



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## Pain Research

### **Effectiveness of Onabotulinumtoxin A (Botox®) in Pediatric Patients Experiencing Migraines: A Randomized Double Blinded Placebo Crossover Study in the Pediatric Pain Population**



The American Society of Regional Anesthesia and Pain Medicine (ASRA) Chronic Pain Grant was awarded to Shalini Shah, MD, for the sponsored study on the “Effectiveness of Onabotulinumtoxin A (Botox®) in Pediatric Patients Experiencing Migraines: A Randomized Double Blinded Placebo Crossover Study in the Pediatric Pain Population”.

The benefits of Botox® in pediatric patients had not previously been studied. Through dedicated research from Dr. Shah and her team, the results have shown that in select pediatric patients, Botox® can indeed significantly reduce migraine days and severity. Dr. Shah and her team are working towards changing the FDA labeling of Botox® to create availability outside of the clinical trial for young migraine sufferers to seek this as an option in managing reoccurring migraines.

Dr. Shah’s work was featured in several prominent news outlets such as *Time Magazine*, *NBC Nightly News*, including NBC affiliates and “The Doctors.” As this study continues to gain popularity, a potential future research goal is identifying the patients who are likely to respond to this treatment.

### **Cannabis Therapy for Chronic Pain Relief**

Brent Yeung, MD, has a strong interest in research on investigating the potential of cannabinoids and bioactive lipids that affect the endocannabinoid system as potential analgesics, particularly in the setting of the national opioid epidemic. Dr. Yeung’s goal is to provide evidence-based discourse on the positive and negative effects of cannabis and cannabinoid use as a pharmaceutical. He is currently conducting investigator driven and industry sponsored clinical trials in pain medicine and has presented at national conferences on the topic of cannabinoids for pain.

In addition to the research of cannabis as a pharmaceutical, there is a growing public health awareness of recreational usage of cannabis including the topic of driving under the influence of cannabis. A part of Dr. Yeung’s thorough research includes developing methods and providing evidence to help identify markers of cannabis intoxication and quantify cannabis impact on driving.

Aside from being an active reviewer for the *Journal of Cannabis and Cannabinoid Research*, Dr. Yeung is a member of the UCI Center for the Study of Cannabis where he has participated in working groups to identify areas and direction for further cannabis research.

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## Recent Publications

Chou J, Ma M, Gyls M, Seong J, Salvatierra N, Kim R, Jiang L, Barseghian A, Rinehart J: **Preexisting Right Ventricular Dysfunction Is Associated With Higher Postoperative Cardiac Complications and Longer Hospital Stay in High-Risk Patients Undergoing Nonemergent Major Vascular Surgery.** J Cardiothorac Vasc Anesth 2019; 33: 1279-1286

Jenkins BN, Fortier MA, Stevenson R, Makhlof M, Lim P, Converse R, Kain ZN: **Changing healthcare provider and parent behaviors in the pediatric post-anesthesia-care-unit to reduce child pain: Nurse and parent training in postoperative stress.** Paediatr Anaesth 2019; 29: 730-737

Joosten A, Alexander B, Duranteau J, Taccone FS, Creteur J, Vincent JL, Cannesson M, Rinehart J: **Feasibility of closed-loop titration of norepinephrine infusion in patients undergoing moderate- and high-risk surgery.** Br J Anaesth 2019

Joosten A, Delaporte A, Alexander B, Su F, Creteur J, Vincent JL, Cannesson M, Rinehart J: **Automated Titration of Vasopressor Infusion Using a Closed-loop Controller: In Vivo Feasibility Study Using a Swine Model.** Anesthesiology 2019; 130: 394-403

Kaminsky O, Fortier MA, Jenkins BN, Stevenson RS, Gold JI, Zuk J, Golianu B, Kaplan SH, Kain ZN: **Children and their parents' assessment of postoperative surgical pain: Agree or disagree?** Int J Pediatr Otorhinolaryngol 2019; 123: 84-92

Lin Y, Vu TQ: **Use of High-Dose Hydroxocobalamin for Septic Shock: A Case Report.** A A Pract 2019; 12: 332-335

Ostlund SB: **The push and pull of dopamine in cue-reward learning.** Learn Behav 2019

Rinehart J, Ma M, Calderon MD, Bardaji A, Hafiane R, Van der Linden P, Joosten A: **Blood pressure variability in surgical and intensive care patients: Is there a potential for closed-loop vasopressor administration?** Anaesth Crit Care Pain Med 2019; 38: 69-71

Rosario LE, Rajan GR: **Repeat Subdural Hematoma After Uncomplicated Lumbar Drain Discontinuation: A Case Report.** A A Pract 2019

Roy KM, Rajan GR: **Reversal of epsilon-Aminocaproic Acid-Induced Massive Thromboemboli Using Tissue Plasminogen Activator During Cardiac Surgery: A Case Report.** A A Pract 2019; 12: 372-374

Alem N, Kain Z: **Evolving healthcare delivery paradigms and the optimization of 'value' in anesthesiology.** Curr Opin Anaesthesiol 2017; 30: 223-229

Beissel A, Lilot M, Bauer C, Beaulieu K, Hanacek C, Desebbe O, Cannesson M, Lehot JJ, Ricks C: **A trans-atlantic high-fidelity mannequin based telesimulation experience.** Anaesth Crit Care Pain Med 2017; 36: 239-241

Chou J, Rinehart JB: **Computer simulated modeling of healthy and diseased right ventricular and pulmonary circulation.** J Clin Monit Comput 2018

Chung WW, Agbayani CG, Martinez A, Le V, Cortes H, Har K, Kain ZN, Fortier MA: **Improving Children's cancer pain management in the home setting: Development and formative evaluation of a web-based program for parents.** Comput Biol Med 2018; 101: 146-152

Gong N, Park J, Luo ZD: **Injury-induced maladaptation and dysregulation of calcium channel alpha2 delta subunit proteins and its contribution to neuropathic pain development.** Br J Pharmacol 2018; 175: 2231-2243

Hatib F, Jian Z, Buddi S, Lee C, Settels J, Sibert K, Rinehart J, Cannesson M: **Machine-learning Algorithm to Predict Hypotension Based on High-fidelity Arterial Pressure Waveform Analysis.** Anesthesiology 2018; 129: 663-674

Hunter JF, Kain ZN, Fortier MA: **Pain relief in the palm of your hand: Harnessing mobile health to manage pediatric pain.** Paediatr Anaesth 2018

Ricks CJ, Ma MW, Gastelum JR, Rajan GR, Rinehart JB: **A Prospective Observational Cohort Study of Calls for Help in a Tertiary Care Academic Operating Room Suite.** Anesth Analg 2018

Rinehart J, Joosten A, Ma M, Calderon MD, Cannesson M: **Closed-loop vasopressor control: in-silico study of robustness against pharmacodynamic variability.** J Clin Monit Comput 2018

Shafer JS, Jenkins BN, Fortier MA, Stevenson RS, Hikita N, Zuk J, Gold JI, Golianu B, Kaplan SH, Mayes L, Kain ZN: **Parental satisfaction of child's perioperative care.** Paediatr Anaesth 2018; 28: 955-962

Shah S, Calderon MD, Wu W, Grant J, Rinehart J: **Onabotulinumtoxin A (BOTOX(R)) for Prophylactic Treatment of Pediatric Migraine: A Retrospective Longitudinal Analysis.** J Child Neurol 2018; 33: 580-586



## Congratulations to the Class of 2019



### Anesthesiology Residency Graduates

Our residents and fellows celebrated their graduation on June 8, 2019 at the Bowers Museum in Santa Ana.

This year's residency graduating class included:

**Fiyinfoluwa Ani, MD, MBA, Andrew Mai, MD, Alan Hoang, MD, Peggy Riso, MD, Amanda Hu, MD, Harjot Singh, MD, Robert Kim, MD, Lawrence Younan, MD.**

A significant number of residency graduates will be pursuing additional fellowship training. This year we have graduates pursuing additional fellowship training in:

- Cardiothoracic Anesthesiology - Baylor College of Medicine
- Pain Medicine - Emory University School of Medicine, University of Pennsylvania Health System
- Obstetric Anesthesiology Medicine - UCI School of Medicine
- Regional Anesthesiology & Acute Pain Medicine - Oregon Health & Science University, UC San Diego School of Medicine
- Pediatric Anesthesiology - Boston Children's Hospital

**Image:**  
Residency Class of 2019

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## Our Graduating Fellows

Our department is very fortunate to have a group of outstanding fellows every year. This year our graduates will be joining private practices and some will be pursuing faculty appointments at university hospitals.

Our Anesthesiology Critical Care Medicine fellow, Suneeta Acharya, MD, will be taking a faculty appointment at Wake Forest University Medical Center. Sonali Rao, MD, will be staying at UCI and will be joining our department as a faculty member.

Joining private practice pain management groups are our Pain Medicine fellows, Tara-lin Hollins, MD, and Joseph Evan Villaluz, MD.

Our three fellows from the Regional Anesthesiology & Acute Pain Medicine fellowship:

- Anna Bowling, MD, will join ASMG in San Diego.
- Monica Breaux, MD, will join Kaiser Permanente.
- Corey Tong, MD, will join the faculty at NYU Langone Medical Center.

Our Medical Simulation fellow, Mohammad Alkofi, MD, will be practicing at King Fahd Hospital of the University.



### Images:

Anesthesiology Critical Care Medicine Fellows Graduate Class of 2019  
Fellow Appreciation Dinner

Pain Medicine Physicians at UCI Gottschalk Medical Center



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## Graduation Awards

Each year at the Celebration of Excellence and Graduation ceremony, our department recognizes residents, fellows, CRNAs, anesthesia techs, staff and faculty members for their outstanding dedication and commitment to the mission of UCI School of Medicine: Discover. Teach. Heal.

### Resident Teach Award

Amanda Hu, MD

### Resident Discover Award

Robert Kim, MD

### Resident Heal Award

Peggy Riso, MD

### Resident Medical Student Teaching Award

Fiyinfoluwa Ani, MD, MBA

### Faculty Teach Award

Kimberly Gimenez, MD

### Faculty Discover Award

Taizoon Dhoon, MD

### Faculty Heal Award

Govind Rajan, MD

### Faculty Exemplar Award

Kyle Ahn, MD

In addition, the following awards were presented: The **Cynthia T. Anderson Academic Achievement Award** was presented to Robert Kim, MD, in recognition of his outstanding performance in the acquisition of medical knowledge. Dr. Kim passed The American Board of Anesthesiology BASIC Examination on first attempt and achieved the highest mean percentile scores on In-Training Exams.

The **Halappa N. Konchigeri Exemplar Award** was presented to Fiyinfoluwa Ani, MD, who best exemplifies the characteristics of loyalty, responsibility, professional competency, camaraderie and humility.

The **Marilyn Patterson Champion of Care Award** were presented to a faculty, CRNA, resident, fellow, anesthesia tech and staff who each exemplify excellence in patient care, education, communication and teamwork. These individuals are selfless, empathetic, and always put others first. They are passionate about their role in the department, emote enthusiasm and energy, and prioritize patient advocacy and safety. If we all take care of each other, our lives are enriched, the patient care we offer is elevated, and the time we share together is enhanced. This award is for individuals who represent Marilyn's zeal for excellence.

#### Staff

Soraida Rodriguez

#### Resident

Amanda Hu, MD

#### Anesthesia Tech

Moises Flores

#### Fellow

Corey Tong, MD

#### CRNA

Robert Horn, CRNA

#### Faculty

Anna Harris, MD



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Image:

Graduation & Celebration of Excellence 2019



## MATCH 2019



Harshal  
Bhakta, MD



Scott  
Erwin, MD



Vivek  
Gulati, MD



Christina  
Han, MD



Joseph  
Kim, MD



Danh  
Le, MD



Pejman  
Majd, MD



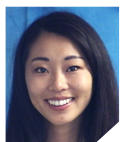
Shalini  
Nagaraj, MD



Brian  
Nguyen, MD



Kevin  
Tan, MD



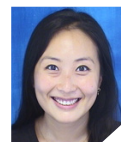
Kristianna  
Wi, MD



Matthew  
Woo, MD



Raphael-John  
Keegan, DO  
(CA-2)



Janice  
Koh, MD  
(CA-1)



**Image:**  
Residency Class of 2023

## 2019-2020 Fellows

### Anesthesiology Critical Care Medicine



Karen  
Katrivesis, MD



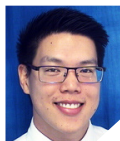
Oscar  
Roldan, MD

### Obstetric Anesthesiology



Andrew  
Mai, MD

### Pain Medicine



Peter  
Huynh, MD

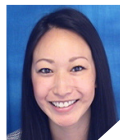


Darin  
Scribner, DO



Adrian  
Sulindro, MD

### Regional Anesthesiology & Acute Pain Medicine



Staci  
Becker, MD



Sarah  
Giafaglione, MD



Dorothy  
Wang, MD



**Meet the Pain Medicine  
Fellowship Director,  
Rakhi Dayal, MD**

Dr. Rakhi Dayal is board certified in Anesthesiology and Pain Medicine. She started her academic career as an Assistant Professor at the University of Southern California. In 2015, Dr. Dayal joined UCI School of Medicine and was appointed the Program Director for the Pain Medicine fellowship in 2018. Her interests include physician education, patient safety, practice management and improved outcomes.

### Perioperative Pain Clinic Services

The UCI Department of Anesthesiology & Perioperative Care Division of Pain Medicine established an innovative perioperative pain clinic program available to patients having surgery at UCI Medical Center. Our department is one of the first three programs nationally to adopt this model. This healthcare model aims to decrease the opioid burden and improve both patient and physician satisfaction of care in the perioperative period. The perioperative pain team will be seeing patients prior to surgery and will provide a continuum of care throughout the surgical journey.

Appropriate management of perioperative pain is an integral component of surgical care. Numerous studies have revealed that perioperative pain is often undertreated. This is a major health burden that negatively impacts cost, patient satisfaction and clinical outcome.

Patients consulted in this clinic will have:

- Comprehensive and multimodal treatment plans for pain management
- Open communication amongst interdisciplinary teams
- Treatment strategies aiming to reduce opioid related risk
- Functional assessment
- Pre-habilitation
- Expectation management
- Research and discovery in the realm of perioperative pain

### UCI Health Outpatient Services and Pain Management



UCI Health has a unique role in meeting the healthcare needs of the community and has expanded with the opening of new healthcare sites that provide life-saving care for complex medical conditions for patients and the communities.

The pain medicine team currently provides pain management services at the following multi-specialty offices:

- UCI Health Medical Center Pavilion 3
- UCI Health Gottschalk Medical Plaza
- UCI Health - Tustin
- UCI Health - Yorba Linda Multispecialty



### COUNTING THE U.S. OPIOID EPIDEMIC

UCI Health and the UCI Anesthesiology & Perioperative Care Division of Pain Medicine

have joined **100+ organizations**  
partnered with the

**National Academy of Medicine**

in the opioid collaborative working together on  
countering the U.S. opioid epidemic.

Image:

UCI Health - Yorba Linda Multispecialty Location Lobby



**T**his past year has been extremely rewarding and challenging with the rapid change and growth amongst the CRNA team and the department. The CRNA team has grown to 50+ CRNAs with 24 individuals joining the team in just a year's time. The CRNA Recruitment Team is actively recruiting for additional members to join the team. The CRNA leadership has expanded with two new Vice Principal Nurse Anesthetists, Brandee Baker, CRNA, and David Guthrie, CRNA, as well as a new Management Service Officer (MSO), Haideh Ghodsirasti.

Leading the student registered nurse anesthetists (SRNAs) program is our Clinical Program Director, Ann Singleton, DNAP, CRNA. The department is continuing to clinically train junior to graduate level SRNAs from Kaiser Permanente School of Anesthesia and National University Nurse Anesthesia Program.

The CRNA team takes pride in flexibility and adaptability in order to support the department and UCI Health. Our growing CRNA team looks forward to the continued collaboration with our faculty anesthesiologists, residents, fellows, surgeons, nurses, staff and all members of the UCI Health institution.



**Meet the Principal  
Nurse Anesthetist,  
Christen Hebl, CRNA**

Christen Hebl, CRNA, joined the department as a new graduate from the Georgetown University Nurse Anesthesia Program in 2006. She was one of the four CRNAs in the department at the time. She did not have set plans to stay in Southern California long term and imagine herself being at the same institution for 13 years. Little did she realize she was joining a department that she would call home.

In 2017, the department suffered a devastating loss with the passing of our beloved principal nurse anesthetist, Marilyn Patterson. In the Spring of 2018, Christen stepped into the principal nurse anesthetist role and is leading the CRNA team at UCI Health through the dynamic and rapidly changing institution where every colleague has the same goal of providing the best care to patients day in and day out.

**Image:**  
CRNA Retreat 2019





**Images:**  
Residency Class of 2017  
Western Anesthesia Residents' Conference (WARC) 2018  
Resident Spring Retreat 2018  
Resident Summer Retreat 2017  
Resident Fishing Trip

## CONNECT WITH US

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## CONTACT US

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Orange, CA 92868

e: [anesthesiology@uci.edu](mailto:anesthesiology@uci.edu)

## JOIN OUR TEAM

Our department is growing and we are actively recruiting faculty. If you are interested, visit our recruit website at: [recruit.ap.uci.edu/apply](http://recruit.ap.uci.edu/apply)

## MAKE A GIFT

Get involved and get connected to shape the future of healthcare.

The UCI Department of Anesthesiology & Perioperative Care is dedicated to advancing the science of anesthesiology and developing the next generation of leaders in our field.

Your philanthropic support can make a difference in the continuity of growth and advancement of one of the nation's top tier anesthesiology programs. Your gift can help support our education and research endeavors.

If you would like to make a gift to support resident education and program development, please visit [anesthesiology.uci.edu/donate.shtml](http://anesthesiology.uci.edu/donate.shtml) or [ucihealth.org/giving](http://ucihealth.org/giving)