

DEPARTMENT OF SURGERY

ANNUAL REPORT 2016–17

Managing editor: Lindsay Morgan | Designed and produced by UC San Diego Creative Services and Publications Cover photo by Paul Turang

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Letter from THE CHAIR

Dear Colleagues and Friends,

It is our pleasure to welcome you to the Department of Surgery as highlighted in this, our 2016–17 annual report. We want to thank you for partnering with us as we seek to provide the best possible care for patients—present and future—through state-of-theart contemporary care, groundbreaking research, and robust educational programs.

It is critical for organizations to periodically reflect on what they are doing and where they are going. Through this process we can recognize and appreciate the accomplishments of our team and consider ways to reach greater heights for the benefit of our patients.

The past year has been an exciting and transformational one in the Department of Surgery and UC San Diego Health. Central to this was the opening of the Jacobs Medical Center, which houses centers for women and infants, cancer care, and specialty surgery. With the opening of this award-winning facility, our talented teams were instantly able to reach more patients, and to do so in fundamentally different ways as afforded by the technological advances present throughout the facility.

In the past year, we have added many exceptional new faculty and pushed the boundaries of existing treatments and knowledge through the increasingly robust research activities of talented clinician investigators and basic scientists. We have sent out into the world newly graduated residents and fellows who will bring our expertise and breakthroughs to patients well beyond our walls.

In this report, you will learn about our history; our vision for clinical care, research, and training;



and the major initiatives under way in each of the department's twelve specialty divisions—all of which reflect our excitement, commitment, and resolve as we work together in support of our patients. I hope you will share in our critical mission, and I look forward to your comments and insights.

Sincerely,

BRYAN CLARY, MD, MBA, FACS Chair, Department of Surgery University of California San Diego

OUR HISTORY

Barely fifty years ago, the University of California San Diego pursued its vision to create a new, research-focused medical center. The Department of Surgery led the way, with Dr. Marshall J. Orloff at the helm.



Dr. Marshall J. Orloff (first row, center) and colleagues in 1977

Recruited from Harbor-UCLA Medical Center at just thirty-nine years old, Dr. Orloff was named chair of the Department of Surgery in September 1966 and assumed his new duties in January 1967.

Core to Dr. Orloff's vision was for the department to be both a clinical and research powerhouse. For this reason, he made it a condition of residency that each resident spend one year in a research lab, and the first building built for the new medical school was the Surgical Research Labs in the Hillcrest community of San Diego. That nidus of surgical discovery has since grown into the Center for the Future of Surgery, a world-class teaching, research, and clinical care laboratory. Meanwhile, Dr. Orloff recruited sixtyfour full-time faculty, including such luminaries as cardiologist Eugene Braunwald and pediatrician William Nyhan.

"The best results in terms of quality and accuracy of care," Dr. Orloff says, "come from those who practice and teach. Teaching and research keep physicians on the leading edge for patients."

In 1983, the Department of Surgery built on this foundation through the selection of Dr. Abdool Rahim Moossa as the second chair of surgery. An internationally renowned expert in the diseases of the pancreas from the University of Chicago, Dr. Moossa presided over years of expansion, growth, and increasing international recognition. During his tenure, UC San Diego expanded its reach into northern San Diego with the opening of Thornton Hospital, and many of the department's senior surgeons trained under, or were recruited by, Dr. Moossa.

Dr. Abdool Rahim Moossa





Dr. Mark Talamini

Dr. Mark Talamini, the department's third chair of surgery, was recruited from Johns Hopkins University in 2005. A pioneer in minimally invasive surgery, Dr. Talamini ushered in a number of important programmatic changes, including increased specialization among faculty and the recruitment of nationally renowned leaders in surgical oncology, minimally invasive surgery, colorectal surgery, transplantation, and vascular surgery. Dr. Talamini, together with Dr. Santiago Horgan, pioneered natural orifice transluminal endoscopic surgery (scarless surgery) and presided over the development and opening of the Center for the Future of Surgery.

Most recently, in 2015, Dr. Bryan Clary was recruited to lead the department. A native of neighboring Imperial County and alumnus of UC San Diego's undergraduate bioengineering program, Dr. Clary is an international expert in the surgical management of liver, pancreatic, and biliary disorders. Prior to his arrival, he served on the faculty at Duke University for fifteen years, led the section



Dr. Bryan Clary

of hepatopancreatobiliary (HPB) surgery, and served as program director for the General Surgery Residency Program and HPB surgery fellowship. Since his arrival at UC San Diego, the department has been radically altered by the opening of the Jacobs Medical Center; the expansion of surgical faculty to affiliate hospitals in northern San Diego, Riverside, and Imperial Counties; the expansion of specialty surgical services at UC San Diego Hillcrest; and the recruitment of additional master clinicians and surgical scientists.

"Looking ahead," says Dr. Clary, "our highest priority is to extend the talents, expertise, and innovation of UC San Diego surgery to as many patients as possible. We will do this by delivering the highest quality care and expanding access in our La Jolla and Hillcrest facilities, by physically extending our care to where our patients are, by training the next generation to serve, and by changing the paradigms of surgical treatments for the better through research."



WORLD-CLASS CLINICAL CARE

The Department of Surgery's growing team of internationally recognized surgeons is bringing the most advanced care to patients every day.

From complex cancer resections to heart, lung, and liver transplants, scarless appendectomies, and incisionless weightloss surgery, our surgeons perform some of the most advanced surgical procedures in the world.

MINIMALLY INVASIVE PULMONARY THROMBOENDARTERECTOMY (PTE) SURGERY

The Division of Cardiovascular and Thoracic Surgery is internationally recognized as a leader in the surgical treatment of chronic pulmonary emboli through a procedure called pulmonary thromboendarterectomy (PTE). This past year, we performed 212 of these operations, bringing our total to more than 3,750 operations, the largest volume globally.

The division also introduced a minimally invasive approach to PTE surgery. PTE surgery normally requires a sternotomy (opening the breastbone), a complex operation involving cardiopulmonary bypass, profound hypothermia, and complete circulatory arrest with drainage of the entire blood volume. Dr. Michael Madani, chief of the Division of Cardiovascular and Thoracic Surgery and an expert in minimally invasive and robotic cardiac surgery, began working in the lab to see if these techniques could be applied to PTE surgery. Once the approach was refined, he and his team brought it to the operating room. The team has now performed the first of these operations in the world, benefiting patients and influencing the standard of care.

CENTER FOR VOICE AND SWALLOWING

We are proud to announce the opening of the Center for Voice and Swallowing, a regional Center of Excellence that offers multidisciplinary care for voice, airway, and swallowing disorders. The center's services include care of the professional voice; in-office laser treatment for laryngeal papilloma and dysplasia; in-office injection medialization; laryngeal botox for dystonia; and behavioral treatments, including voice and swallow therapy, biofeedback, and tracheoesophageal puncture care for post-laryngectomy voice restoration.

The center is directed by Dr. Philip Weissbrod, a laryngologist and member of the UC San Diego Department of Surgery since 2011. He is joined by speech pathologists Liza Blumenfeld, an expert in therapy for cancer-related dysphagia; Kristen





Linnemeyer, the region's expert in tracheoesophageal voice prosthesis care; and Erin Walsh, a classically trained singer who is currently the only speech pathologist in San Diego County who treats voice issues relating to singing.

HEATED INTRAPERITONEAL CHEMOPERFUSION

Surgeons in the Division of Surgical Oncology are among the most experienced in the world at heated intraperitoneal chemoperfusion (HIPEC), a procedure used to treat advanced abdominal cancers. A form of chemotherapy, HIPEC is performed at the end of surgery to remove abdominal tumors. Once all visible tumors have been removed, the surgeon circulates a heated, sterile chemotherapy solution throughout the peritoneal cavity for up to ninety minutes. The HIPEC procedure is designed to attempt to kill any remaining cancer cells that cannot be seen.

The Division of Surgical Oncology performs the highest volume of HIPEC procedures on the West Coast. Our surgeons have performed 449 HIPECs from July 2007 through July 2017 and have thirty-eight years of collective experience among them.

LIVING DONOR LIVER TRANSPLANTATION

Each year, approximately 1,400 people die waiting for a liver transplant in the United States. The dearth of available organs has spurred the development of living donor liver transplantation, wherein a piece of healthy liver is surgically removed from a living person and transplanted into a recipient immediately after the recipient's diseased



liver has been entirely removed. Of the nine adult liver transplant programs in California, only four have performed adult-to-adult living donor liver transplant procedures in the last three years, with UC San Diego having the only live donor liver transplantation program in San Diego. Dr. Alan Hemming, chief of the Division of Hepatobiliary and Transplant Surgery, manages the program and has conducted nine of these procedures since 2015, with a success rate of 90 percent.

Opposite page: Dr. Michael Madani, chief of the Division of Cardiovascular and Thoracic Surgery, performing PTE surgery

This page, left: Patient consultation room at the Center for Voice and Swallowing, La Jolla, California

This page, right: Liver recipient (right) and her uncle (the donor) hiking in Yosemite, California



RESEARCH: Leading the Way through Discovery

The scope of our basic, clinical, and translational research extends from the laboratory, where fundamental questions are being asked about the mechanisms that underlie human disease, to the community, where faculty are developing new methods for cancer education, outreach, and injury prevention.

The last year has seen much progress: from developing new approaches to precision medicine and tumor targeting, to better understanding the biological barriers that are compromised after severe injury, the molecular mechanisms responsible for lung fibrosis, and cancer cell signaling.

Our research teams use emerging techniques in data science for outcomes research, which enable our surgical scientists to understand the etiology of disease, follow trends in emerging complications, and train the next generation of surgeon-scientists. With an expanded focus on both scientific rigor and reproducibility, the department's research findings are gaining national and international attention.

PRECISION MEDICINE: VIVE LA DIFFÉRENCE!

How do we make translational research really translational? Research findings often fail to cross from animal studies to human disease, and patient response to new therapies can be highly variable. To help close this gap, division scientists have developed animal models that are relevant to the human diseases our clinical teams face every day. For example, molecular analyses performed by Dr. Raul Coimbra and colleagues have identified a key gene that they believe is involved in the human response to injury. The gene, called CHRFAM7A, is found only within the human genome; there is no equivalent in other species. Coimbra's team believes CHRFAM7A may be a uniquely human mechanism that controls the inflammation response to injury. Because every surgery is by its very nature an injury, their findings could potentially impact the entire field.

PRECISION SURGERY: SEEING IS BELIEVING

Few things are as frustrating to clinical teams as knowing a tumor is present but being unable to see it or unwittingly damaging a nerve during a straightforward resection. To address this challenge, our team of surgeon-scientists has teamed up with molecular biologists, cell biologists, biochemists, chemists, and engineers to develop a transdisciplinary solution: applying state-of-the-art techniques in visualization to "see" what can't be normally seen. Led by Dr. Michael Bouvet in the Division of Surgical Oncology and Dr. Quyen Nguyen in the Division of Otolaryngology/ Head and Neck Surgery, scientists are labeling tumors and nerves so that, with the appropriate lighting, they can be seen and distinguished from other tissues, enabling surgeons to do precision resections of tumors while avoiding nearby critical nerves. Coupling this approach with next-generation tumor, nerve, and tissue targeting agents, which are being developed by Dr. Rebekah White's team in the Division of Surgical Oncology, we foresee a time when surgery is even safer than it is today.









Opposite page: Dr. Michael Bouvet and colleagues use Indocyanine green (ICG) near-infrared fluorescence angiography to assist in identifying parathyroid glands during surgery for primary hyperparathyroidism.

This page, bottom: Dr. Laura Godat (left), Dr. Raul Coimbra, and colleagues; Division of Trauma, Surgical Critical Care, Burns, and Acute Care Surgery

16th

21

NATIONALLY FOR SURGERY (NIH RANKING), 2016

NATIONALLY RECOGNIZED PROGRAMS IN PANCREATIC CANCER, OTOLOGY, TRAUMA PHYSIOLOGY, PULMONARY HYPERTENSION, AND MINIMALLY INVASIVE SURGERY INNOVATION

> RESEARCH AWARDS TOTALLING \$12.7 MILLION, 2016–17

TRAINING: Preparing the Next Generation

The UC San Diego Department of Surgery is committed to educating surgeons of the future. The department offers fully accredited academic residency training programs and fellowships in a number of surgical specialties.



Dr. Laura Godat (second from left), assistant clinical professor in the Division of Trauma, Surgical Critical Care, Burns, and Acute Care Surgery, with trainees

Our programs provide the opportunity to train in clinical care and research with highly respected experts and innovators in surgery.

GENERAL SURGERY

UC San Diego's General Surgery Residency Program, led by Dr. Garth Jacobsen, continues on a trajectory toward becoming one of the preeminent programs in the country. We accept seven categorical general surgery residents a year, the vast majority of whom pursue a research fellowship after their second or third year. Most research fellowships are done within UC San Diego, but some residents conduct fellowships at other prestigious institutions.

Our graduates are of the highest caliber, as demonstrated by the highly competitive post-training positions they secure, their incredible academic productivity, and their 100 percent first-time pass rate on the most recent certifying and qualifying exams for the American Board of Surgery. Our program employs a shared governance model facilitated by the Resident Physician Council. Two members of each resident class are peer-selected to serve on the council, which tackles issues such as workhour tracking and compliance, rotation manpower augmentation, and enhancing faculty engagement. At the council's suggestion, the department joined the national Procedural Learning Collaborative, through which we have gained access to the System for Improving and Measuring Procedural Learning (SIMPL) smartphone app that allows real-time feedback of autonomy and operative performance.

The resident simulation labs have also vastly expanded from a schedule that rotated every other week to a weekly schedule, effectively doubling the frequency. Under the leadership of Dr. Bryan Sandler, we have expanded to include trauma, colorectal, and vascular surgery, along with a more robust robotics experience. These activities complement residents' broad-based, high-volume patient and case experiences.



Left: Dr. John Pang, PGY-4 otolaryngology resident Middle: Medical student Vi Nguyen at the 2017 Research Symposium in Surgical Sciences Right: Dr. Divya Sood, PGY-5 general surgery resident physician and cancer therapeutics training research fellow

PLASTIC SURGERY

The Division of Plastic Surgery kicked off its Integrated Plastic Surgery Residency Program in 2016 and the forty-second year of its Independent Plastic Surgery Residency Program. Dr. Amanda Gosman leads both programs, as well as the Craniofacial Fellowship Program. The Integrated Program accepts residents directly from medical school into a six-year pathway that provides comprehensive training in general surgery, allied surgical subspecialties, and all facets of plastic and reconstructive surgery. The Independent Program accepts residents after completion of general surgery residency into a three-year pathway that provides comprehensive training in plastic and reconstructive surgery.

Dr. Christopher Reid, our second-year Independent Program resident, received the Kaiser Excellence in Teaching Award from the UC San Diego School of Medicine for his skillful and dedicated education of medical students. Dr. Michelle Zaldana Flynn, who transferred into our Integrated Program at the PGY-3 level, received the Arnold P. Gold Foundation's Humanism in Medicine Award in Surgery for demonstrating excellence in clinical care and education. Our residents represented UC San Diego in numerous presentations at local plastic surgery meetings and multiple peerreviewed publications.

CARDIOVASCULAR AND THORACIC SURGERY

The Residency Program in Cardiovascular and Thoracic (CT) Surgery at UC San Diego is based on a diverse training experience in all aspects of cardiac and thoracic surgery. We strive to instill the knowledge, skills, and clinical judgment necessary for our graduates to excel as surgeons and become leaders in the field. We were successful in matching our number-one candidate in 2016 and 2017. This year, we had 92 applications for one position, out of a total of 104 applicants applying for thoracic surgery residencies in the United States.

Our graduating resident, Dr. Trevor Upham, will become a cardiothoracic surgeon at WakeMed in Raleigh, North

Carolina, with an appointment as a faculty member at Duke University. Dr. Jakub Wilhelm was promoted from first-year CT surgery resident to second-year status. And following a rotation in our service last year, Dr. Yuichi Ishida has begun as our first-year fellow after completing his general surgery training at Texas Tech University Health Science Center in El Paso.

NEUROSURGERY

UC San Diego's neurosurgical training program provides training in the most innovative surgical techniques, balancing fundamental knowledge with cutting-edge technology. We aim to instill a sense of academic curiosity in our trainees. A number of our residents scored above 500 on the written exam of the American Board of Neurological Surgery in 2017, with a high score of 616, and many residents continue to demonstrate academic productivity with peer-reviewed publications and presentations at national meetings.

The transition to the Jacobs Medical Center in La Jolla, California, has augmented our program. The facility includes four neurosurgical operating rooms, a twelvebed neurosurgical intensive care unit, and a biplane angiography suite. Organization of the residency program into parallel Hillcrest and La Jolla services positions the training program to maximize the benefit of this destination medical center for our residents.



43% women trainees



JACOBS MEDICAL CENTER

Jacobs Medical Center at UC San Diego Health is an award-winning 245-bed advanced medical center, named in recognition of \$100 million in gifts from the Joan and Irwin Jacobs family. The 10-story, 509,500-square-foot facility opened on November 20, 2016. Its medical services include advanced surgery, cancer care, and clinical trials, among others.

The medical center houses spaces dedicated to complex surgical procedures, including MRIguided gene therapy for brain cancer, heated intraperitoneal chemotherapy (HIPEC) for abdominal cancers, complex spine and joint reconstruction, and delicate microsurgery to restore voice and hearing.

The Jacobs Medical Center adds ten operating rooms (ORs) to the eleven currently residing within Thornton Pavilion and includes a four-OR intraoperative imaging suite with an MRI machine and mobile computed tomography (CT) scanner. The third and fourth floors of the center provide seventy-two regular and intensive care unit rooms that are carefully constructed with space and amenities that create the best possible patient and family experience.

"The Jacobs Medical Center is a critical element in expanding our skills and talents to a much larger group of patients in the region," says Department of Surgery chair Dr. Bryan Clary. "Prior to the opening of the Jacobs Medical Center, we were operating at near capacity with very limited operative block time for our talented surgeons, and as a consequence, were having to turn needy patients away. The medical center expansion has also afforded us the opportunity to redesign and expand the surgical offerings in our downtown Hillcrest facility."



CENTER for the FUTURE OF SURGERY

CFS.UCSD.EDU



At the Center for the Future of Surgery (CFS), surgeons and scientists are advancing surgical techniques by investigating, developing, testing, and teaching procedures that are revolutionizing the field. Under the leadership of the CFS director Dr. Santiago Horgan and department chair Dr. Bryan Clary, the center strives to improve and expand surgery options using emerging technology, and to disseminate this knowledge to future and practicing clinicians. Since opening in 2011, the CFS has trained more than 20,000 individuals—from residents and medical students to surgeons, nurses, and industry partners making it one of the largest and most comprehensive surgical training facilities in the world.

The CFS's unique capabilities capture the interest of visitors to the UC San Diego campus, including His Holiness the 14th Dalai Lama, who observed an array of low- and high-tech demonstrations of surgical devices after delivering the 2017 commencement address.

DEVELOPING REVOLUTIONARY SURGICAL TECHNIQUES

Using once-unimaginable technology and innovative techniques, we provide hands-on experiences with the latest surgical, robotic, endoscopic, laparoscopic, minimally invasive, open, and microscopic techniques. The center has twentytwo surgical/endoscopic stations and a research suite where physicians and scientists work together across disciplines and collaborate to deliver new discoveries.

EXPANDED SURGICAL TRAINING

Construction commenced in 2017 to build a microsurgery laboratory with fifteen workstations and an endovascular hybrid operating room equipped with the latest technology to advance minimally invasive surgery and bring together surgeons, interventionist nurses, and other health providers in surgery specialties such as cardiac, vascular, and neurosurgery.

ACHIEVING ACS REACCREDITATION

The CFS was reaccredited in 2017 as a Comprehensive Accredited Education Institution by the American College of Surgeons, a signal of our leadership in addressing the educational needs of a broad spectrum of learners and advancing the science of simulation-based surgical education.



Division of ANATOMY

Faculty in the Division of Anatomy are responsible for the anatomy education of all doctors-in-training at UC San Diego. In 1967, Dr. Nicholas Halasz, one of the founding faculty members of the UC San Diego School of Medicine, joined UC San Diego as the first head of the Division of Anatomy.

Today, the division's award-winning teaching approach centers on the dissection laboratory, where active learning of human structure by student doctors is guided by surgeons and an innovative curriculum that emphasizes clinical applications.

The division also oversees a body-donation program that provides for the education of both medical students and established MD specialists who return to UC San Diego for continuing education in the latest surgical techniques.

Researchers in division chief Dr. Mark Whitehead's laboratory were the first to develop Brainbow transgenic mice to better understand how taste information is processed by the central nervous system. Brainbow is a genetic cell-labeling technique wherein hundreds of different hues can be generated by stochastic and combinatorial expression of a few spectrally distinct fluorescent proteins. This seminal work explores single, uniquely colored fluorescent neurons to better understand how connections form and remodel in a model of neuroplasticity that has potential implications in other human systems. A documentary featuring internationally acclaimed multimedia artist Joyce Cutler-Shaw, a member of UC San Diego's inaugural master of fine arts, class of 1972, and the School of Medicine's artist-in-residence, won a 2017 Telly International Award. Cutler-Shaw, who teaches an elective drawing course for medical students in the Division of Anatomy, offers new interpretations of the human body and human identity in a contemporary re-visioning of "The Anatomy Lesson." Her body of work is explored in *She Is Fierce: The Art of Joyce Cutler-Shaw*, produced in 2016 by UCSD-TV.

Top: Brainbow-labeling of geniculate ganglion neurons demonstrating their multi-coloration resulting from random genetic recombination. Symbols indicate different degrees of coloration by three different fluorescent proteins.

Middle: Brainbow-labeling of nerve fibers and endings in and around the taste bud and the surrounding epithelium

Bottom: Excerpt from "The Anatomy Lesson" by Joyce Cutler Shaw, UC San Diego School of Medicine artist-in-residence. See joycecutlershaw.com.



MARK C. WHITEHEAD, PhD Chief, Division of Anatomy

FACULTY

PROFESSORS OF SURGERY EMERITI (active) David H. Rapaport, PhD Nigel K. Woolf, ScD

ACADEMIC AFFILIATE Paul Kingston, PhD

130 HOURS OF ANATOMY LEARNING TIME PER YEAR

CONTINUOUS NIH FUNDING SINCE THE DIVISION WAS ESTABLISHED

130

MORE THAN 130 MEDICAL AND PHARMACY STUDENTS TRAINED EACH YEAR







Division of CARDIOVASCULAR AND THORACIC SURGERY

The Division of Cardiovascular and Thoracic Surgery is internationally recognized as a leader in the field and is committed to providing excellent quality care for the most complex cardiovascular and thoracic surgeries while educating the next generation of leaders and moving the field forward through research.

Our surgeons continue to be world leaders in the field of the surgical treatment of chronic pulmonary emboli via pulmonary thromboendarterectomy (PTE), with the largest number of patients and best outcomes.

In the past year, we developed and initiated a minimally invasive approach to performing PTE, the results of which were recently presented at the International CTEPH Association meeting in Belgium. In an effort to expand PTE to other international sites, division chief Dr. Michael Madani performed surgeries at China-Japan Friendship Hospital and Fuwai Hospital in Beijing and has received an honorary professorship from China-Japan Friendship Hospital and Capital Medical University in Beijing.

Our faculty also perform minimally invasive and robotic cardiac and thoracic surgeries; complex adultcongenital corrections; complex neonatal surgeries; the full spectrum of endovascular procedures, including transcatheter aortic valve replacements (TAVRs) and MitraClip procedures; and complex aortic surgeries. We have a long tradition of providing treatment for endstage heart and lung disease, including heart and lung transplantation and innovative mechanical assist device procedures. Our heart transplant and ventricular assist programs have grown significantly over the last decade while maintaining excellent outcomes. We are now one of the national leaders in biventricular assist device procedures, which we recognize as a superior option to the total artificial heart.

This year, Dr. Mark Onaitis, associate professor of surgery, joined the division from Duke University to lead and develop our programs in general thoracic surgery, including robotic and minimally invasive videoscopic assisted thoracic surgery (VATS) for the management of cancer and benign conditions of the chest. Dr. John Nigro, professor of surgery, was recruited from Phoenix Children's Hospital to lead the pediatric cardiothoracic surgery program at Rady Children's Hospital-San Diego.

Important honors were bestowed in 2017 on the division's faculty. Dr. Stuart Jamieson, Distinguished Professor of Surgery, received a lifetime achievement award at the International Society for Heart and Lung Transplantation for his achievements in expanding the options of heart and lung transplantation as well as his contributions to the surgical treatment of chronic pulmonary emboli. Dr. Patricia Thistlethwaite, professor of surgery, became vice president for the Western Thoracic Surgical Association, which will put her in line to be the next—and first woman—president of this prestigious society.

Opposite page, bottom left: Dr. Stuart Jamieson (right) receiving the lifetime achievement award at the International Society for Heart and Lung Transplantation



MICHAEL M. MADANI, MD Chief, Division of Cardiovascular and Thoracic Surgery

FACULTY

PROFESSORS OF SURGERY

Alexander Geha, MD, MS Stuart W. Jamieson, MB, FRCS John Lamberti, MD John Nigro, MD Anthony Perricone, MD Patricia A. Thistlethwaite, MD, PhD

ASSOCIATE PROFESSORS OF SURGERY

Joelle Coletta, MD Theodore Folkerth, MD Eugene Golts, MD Dan Gramins, MD Steven Howe, MD Mark Onaitis, MD Gert V. Pretorius, MBChB

ASSISTANT PROFESSORS OF SURGERY Raghav Murthy, MD Travis Pollema, DO

FELLOWS

Yuichi Ishida, MD Jakub Wilhelm, MD

Naohide Sakakibara, MD





INTERNATIONAL LEADER IN THE SURGICAL

2 ACGME-APPROVED FELLOWS

2,500

NIH AND VA MERIT REVIEW FUNDED RESEARCH

25-30% INCREASE IN CLINICAL VOLUME ANNUALLY



Division of COLON AND RECTAL SURGERY

The Division of Colon and Rectal Surgery, established in 2013, provides innovative, high-quality care to patients with complex conditions, such as colon and rectal cancers, inflammatory bowel disease, and complicated benign disease, such as diverticulitis, anorectal disorders, and pelvic floor conditions.

Our faculty work collaboratively with physicians from UC San Diego's Digestive Diseases Center, Moores Cancer Center, and Women's Pelvic Medicine Center for unparalleled multidisciplinary care.

Our surgeons also serve as leaders in professional organizations, imparting groundbreaking research and surgical techniques to peers around the world.

Robotic surgery remains a major focus for research and clinical innovation within the division. UC San Diego is one of the busiest colorectal robotic programs on the West Coast, providing academic and community leadership. Under the direction of Dr. Lisa Parry and Dr. Bryan Sandler in the Division of Minimally Invasive Surgery, UC San Diego hosted the 2017 UC Collaborative Symposium on Robotic Surgery Education. Dr. Parry also participated in the first-ever Women's Robotic Colorectal Program in Sunnyvale, California, and received the 2017 Department of Surgery Resident teaching award.

Dr. Samuel Eisenstein created the first national surgical outcomes database for inflammatory bowel disease (IBD) within the American College of Surgeons National Surgical Quality Improvement (NSQIP) Program. The IBD Collaborative consists of ten to twelve high-volume IBD centers throughout the country and uses a clinical database to report on patient outcomes. This powerful tool will help direct future surgical care of IBD patients. Dr. Eisenstein and Dr. Shawn Liu received the Owen Wangensteen Excellence in Research Award for their abstract "Successful Adoption of Transanal Minimally Invasive Surgery (TAMIS) in Robotic Surgery: A Multi-Institutional North American Experience." Dr. Bard Cosman published a seminal paper, which was featured in a podcast, on anorectal disorders in spinal cord patients in the journal *Diseases of the Colon and Rectum* and received the highest honor from the graduating chief residents as the faculty presenter for four of our six chiefs.

Dr. Sonia Ramamoorthy, division chief, was elected as a member at large to the governing council of the American Society of Colon and Rectal Surgeons (ASCRS) and served as assistant program director for the 2017 ASCRS Tripartite Meeting in Seattle, Washington. She is president-elect for UC San Diego's Academy of Clinical Scholars. Her work with Dr. Larry Smaar from the UC San Diego Jacobs School of Engineering on 3-D robotic surgery was featured on KPBS and in the San Diego Union-Tribune and the Boston Globe.

Bottom: Members of the Division of Colon and Rectal Surgery (left to right): Karrie Driscoll, NP; Dr. Lisa Parry; Dr. Bard Cosman; Dr. Samuel Eisenstein; Lisa Morgan, NP; and Dr. Sonia Ramamoorthy



SONIA RAMAMOORTHY, MD, MS, FACS, FASCRS Chief, Division of Colon and Rectal Surgery

FACULTY

PROFESSOR OF SURGERY Bard Cosman, MD, FACS, FASCRS

ASSISTANT PROFESSORS OF SURGERY Samuel Eisenstein, MD, FASCRS Lisa Parry, MD, FASCRS

150

ROBOTIC CASES N 2017

MOST RECTAL CANCER SURGICAL PROCEDURES IN SAN DIEGO

50%

REDUCTION IN SURGICAL SITE INFECTIONS, 2015–17





Division of HEPATOBILIARY AND TRANSPLANT SURGERY

The members of the Division of Hepatobiliary and Transplant Surgery perform liver, kidney, and pancreas transplantation as well as complex hepatobiliary surgery for cancer and benign conditions.

We are the only center in San Diego that performs live donor kidney and live donor liver transplantation, as well as robotic live kidney donation.

The division performs complex liver surgeries for cancer—including vascular reconstruction and cold perfusion with in situ and ex vivo liver resection—not offered in any other center on the West Coast. Our surgeons serve on national boards and committees that develop the standards for transplantation.

Dr. Alan Hemming, chief of the Division of Hepatobiliary and Transplant Surgery, received the American Liver Foundation, Pacific Division's Man of the Year award in 2016 for his contribution to the treatment of liver disease. He was recognized as both a San Diego Top Doctor of 2016 by *San Diego Magazine* and one of America's Top Doctors of 2016 by *U.S. News & World Report*.

Dr. Jennifer Berumen was appointed to a two-year term as chair of the Medical Advisory Committee for Lifesharing, a San Diego–based organ donation organization. Dr. Berumen was also appointed surgical director of the Rady Children's Hospital-San Diego pediatric kidney transplant program, which performed fourteen pediatric kidney transplants last year, making it one of the busiest pediatric kidney transplant centers in the nation. One of San Diego's Top Doctors of 2016, Dr. Berumen is the site principal investigator for UC San Diego on the NIH/FDA-sponsored prospective grant "Comparing Brand vs Generic Immunosuppression on Transplant Outcomes, Adherence and Immune Response."

Dr. Kristin Mekeel was elected to the American Society of Transplant Surgeons PROACTOR Task Force, which is investigating innovative and collaborative ways to maximize organ utilization. Dr. Tatiana Kisseleva was awarded a National Institutes of Health RO1 grant as principal investigator for her work on "Fibrocytes regulating liver fibrosis."

Left, top: Surgeons performing a kidney transplant

Left, bottom: Dr. Kristin Mekeel (front) and colleagues



ALAN HEMMING, MD, MSC, FRCSC, FACS Chief, Division of Hepatobiliary and Transplant Surgery

FACULTY

PROFESSOR OF SURGERY Kristin Mekeel, MD

ASSOCIATE PROFESSOR OF SURGERY Tatiana Kisseleva, MD, PhD

ASSISTANT PROFESSOR OF SURGERY Jennifer Berumen, MD







91% SURVIVA

AFTER LIVER TRANSPLANT

PERFORMED SAN DIEGO'S FIRST COMBINED HEART-LIVER TRANSPLANT IN 2017

SAN DIEGO'S ONLY **LIVE DONOR LIVER TRANSPLANT** PROGRAM

24 риві

2 YEARS WITH ZERO PATIENT OR GRAFT LOSSES IN KIDNEY TRANSPLANT

Division of MINIMALLY INVASIVE SURGERY

The surgeons in the Division of Minimally Invasive Surgery offer the most cutting-edge technology available in the realm of minimally invasive and robotic surgery while maintaining the highest quality of care.

We work hard to provide the latest in endoscopic, laparoscopic, and robotic techniques in bariatric and foregut surgery.

We offer natural orifice transluminal surgery (NOTES), single incision laparoscopic surgery (SILS), and robotic hernia repairs and esophagectomies, among others. Our division works closely with the UC San Diego Department of Engineering to create and test new biomedical devices at the Center for the Future of Surgery, with benefits to the entire Department of Surgery.

Our Bariatric and Metabolic Institute received Level 1 reaccreditation from the American College of Surgeons' Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program. This accreditation signifies us as a Bariatric Center of Excellence, performing a high volume of bariatric procedures while maintaining quality.

Our Minimally Invasive Surgery Fellowship was reaccredited for three additional years by the Fellowship Council. We continue to train outstanding laparoscopic and robotic surgeons who will represent us in the community.

Dr. Bryan Sandler co-chaired, with Dr. Lisa Parry in the Division of Colon and Rectal Surgery, the UC-wide 2017 UC Collaborative Symposium on Robotic Surgery Education here at UC San Diego. He continues to be a leader in the resident simulation lab, curriculum development, and intern boot camp. Our resident curriculum has grown to a weekly three-hour, handson educational effort, and includes semiannual team training sessions with anesthesia residents and mock operating-room simulations. New additions for this year also include Objective Structured Assessment of Technical Skills-based evaluation sessions for the surgical residents.

Dr. Garth Jacobsen was chosen for the Health Sciences Leadership Academy, which is designed to inculcate the leadership and management skills of up-and-coming leaders in UC San Diego Health and its partners. The class consists of thirty students who are selected on a competitive basis by UC San Diego executive leadership. Dr. Jacobsen also continues to serve as cochair and corporate affairs liaison of the development committee for the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), working on its resident and fellows task force and endoscopic and bariatric task force.

Right: A UC San Diego surgeon performing robot-assisted surgery with the Da Vinci System, which enables surgeons to perform complex operations through a few small incisions

Below: Division of Minimally Invasive Surgery chief Dr. Santiago Horgan (middle) and colleagues in the operating room



SANTIAGO HORGAN, MD, FACS Chief, Division of Minimally Invasive Surgery

FACULTY

ASSOCIATE PROFESSORS OF SURGERY

Garth Jacobsen, MD, FACS Bryan Sandler, MD, FACS

FELLOWS

David Bernstein, MD Jonathan Delong, MD Shanglei Liu, MD, MAS Ran B. Luo, MD Thach Pham, MD Jessica Reynolds, MD

VISITING INTERNATIONAI SCHOLARS, 2016–17

6

1 RESEARCH AND CLINICAL FELLOWS

100% INCREASE IN BARIATRIC SURGERY VOLUME, 2016–17

LARGEST VOLUME OF COMPLEX ABDOMINAL WALL HERNIA REPAIRS IN SAN DIEGO

PERFORMED FIRST SINGLE INCISION LAPAROSCOPIC CHOLECYSTECTOMY WITH AN ARTICULATING SYSTEM

TOP PERCENTILE IN BARIATRIC SURGERY OUTCOMES NATIONALLY





Division of NEUROSURGERY

The Division of Neurosurgery provides the full range of contemporary neurosurgical practice. The neurosurgery service uses a multidisciplinary approach to diagnose, treat, and rehabilitate patients with neurological disorders.

Our approach integrates our neurosurgical expertise into multidisciplinary teams with multiple specialties to provide a comprehensive strategy to help patients with neurological illness.

The division has surgeons who specialize in all phases of neurological surgery for comprehensive management of brain, spinal cord, vascular, and peripheral nerve diseases and disorders.

During a period of transition, the division continues to emerge as a national destination for surgical training, research, and patient care.

UC San Diego again hosted the Western Regional Boot Camp for the Society of Neurological Surgeons at the Center for the Future of Surgery. UC San Diego faculty and residents further contributed to the broader development of a surgical simulation curriculum for sagittal sinus injury and endovascular neurosurgery.

Under the leadership of interim academic chief Dr. Joseph Ciacci, clinical trials began for human spinal cord-derived neural stem cell transplantation for the treatment of chronic spinal cord injury. Other clinical milestones included a first-in-man series of cases using a 3-D-4K video microscope at the Jacobs Medical Center. This operative visualization technology was perfected through published cadaver work at the Center for the Future of Surgery.

Dr. Sharona Ben-Haim joined the faculty to broaden existing expertise in the surgical treatment of epilepsy. Her proficiency in stereo-EEG and laser ablative techniques will be important components of our Level 4 epilepsy designation, expanding Epilepsy Monitoring Unit, and coming intraoperative MRI at the Jacobs Medical Center. Dr. Michael Levy, Dr. Hal Meltzer, and Dr. David Gonda continued their tremendous work in pediatric neurosurgery on behalf of San Diego children. Dr. Levy led his perennial medical work in low- and middleincome countries, and Dr. Meltzer made several scientific contributions to the Congress of Neurological Surgeons (CNS) meeting.

In addition to the established leadership of Dr. Andrew Nguyen, the division was fortunate to recruit Dr. Sunil Jeswani to the faculty. These two providers, along with Dr. Ben-Haim and Dr. Howard Tung, are responsible for the substantial clinical footprint for the division at Tri-City Medical Center and Palomar Medical Centers.

Dr. Alexander Khalessi, interim clinical chief, was named a scholar-in-residence for the American Board of Neurological Surgeons (ABNS). He will serve a fouryear term.

The coming year will be transformational for the division with the opening of the Imaging Quad-Pod at Jacobs Medical Center. These world-class operating rooms will have fully integrated navigation, intraoperative computed tomography (CT), and MRI. The Neurovascular Service began to perform cases in the new Jacobs Biplane Angiography Suite. These facilities will anchor the expansion of comprehensive stroke center designation for the La Jolla campus.

Top: Dr. Bob Carter (left, former chair of the Division of Neurosurgery) and Dr. Pamela Jones performing the Tocagen surgery in a patient with high grade glioma

Bottom left: Dr. Alexander Khalessi (middle) in the operating room with colleagues

Bottom right: Neurosurgery resident graduation (left to right): Dr. Pawel Jankowski, Dr. Erik Curtis, Dr. Joseph Ciacci (interim academic chief of the Division of Neurosurgery), and Dr. Brandon Gabel



Left: JOSEPH CIACCI, MD Interim Academic Chief, Division of Neurosurgery Right: ALEXANDER KHALESSI, MD, MS, FAANS Interim Clinical Chief, Division of Neurosurgery

FACULTY

PROFESSORS OF SURGERY

John Alksne, MD David Barba, MD Michael Levy, MD, PhD Lawrence Marshall, MD Hal Meltzer, MD Hoi Sang U, MD William Taylor, MD

ASSOCIATE PROFESSORS OF SURGERY

Justin Brown, MD Sunil Jaswani, MD Andrew Nguyen, MD, PhD Scott Olson, MD

ASSISTANT PROFESSORS OF SURGERY

Sharona Ben-Haim, MD David Gonda, MD Pamela Jones, MD Scott Pannell, MD

CLINICAL PROFESSORS

Ahmet Oygar, MD Howard Tung, MD



70% INCREASE IN PUBLICATIONS, 2015–17

1,200 **NEARLY 1,200** MAJOR CASES



CUTTING-EDGE: SURGICAL VISUALIZATION, STIMULATION, AND STEM-CELL TECHNOLOGY



Division of OTOLARYNGOLOGY/ HEAD AND NECK SURGERY

The Division of Otolaryngology/Head and Neck Surgery (HNS) is committed to providing the most advanced medical and surgical care in the world. Services and specialized training in a variety of specialties include otology and neurotology, head and neck surgery, facial and reconstructive surgery, surgical oncology, laryngology, and thyroid and parathyroid surgery.

Our surgeon-scientists are discovering and making available the very latest advances in their field.

Our clinical volumes have expanded 49 percent in the last two years. Drivers of growth include the comprehensive sinus center built by Dr. Adam Deconde, expansion of Hillcrest capacity with the addition of Dr. Sapideh Gilani, the continued growth of the headand-neck-cancer programs under Dr. Joseph Califano, and our recently inaugurated Center for Voice and Swallowing under the direction of Dr. Philip Weissbrod.

Dr. Matthew Brigger, who trained at Massachusetts General Hospital, assumed leadership of our pediatric otolaryngology division, which, with the recruitment of Dr. Morgan Bliss, is now staffed with eight full-time pediatric otolaryngologists.

We are transforming our otology and neurotology program with two new hires. Dr. Rick Friedman joins our faculty in November from Keck School of Medicine at the University of Southern California, where he was chief of otology/neurotology and led one of the largest acoustic neuroma practices in the United States. He is joined by Dr. Marc Schwartz, who has served as the senior neurosurgical associate at the Providence Health System House Ear Clinic. This stellar team will establish at UC San Diego an auditory brainstem implants (ABI) program for patients with bilateral tumors known to be associated with a gene mutation called NF2.

We have also expanded our training enterprise, including our first full complement of three residents

(up from two) who began in July 2017. Graduates of our prestigious neurotology fellowship continue to secure respected academic positions. Our doctoral (AuD) program in audiology (joint with San Diego State University)—the first in California—continues to receive accolades for its innovative curriculum that positions students alongside otolaryngology residents and faculty in the clinic and in the operating room. Under the leadership of Dr. Erika Zettner and Dr. Meghan Spriggs, we train approximately forty audiology doctoral students over four years.

In the realm of research, we published forty-four papers, submitted fifteen grants, and presented at several national and international meetings in 2016–17. We continue to have one of the longest running National Institutes of Health-sponsored T32 mentored research-training grants in the country. Particularly noteworthy: Dr. Quyen Nguyen, professor of surgery, was asked to serve as a member of the Clinical Molecular Imaging and Probe Development NIH Study Section, an appointment that reflects her formidable reputation in the rapidly evolving field of molecular imaging. Dr. Allen Ryan and Dr. Jeffrey Harris, Division of Otolaryngology/HNS chief, were featured in The Otonomy Story and the Human Impact of Innovation, which describes how Otonomy-a company cofounded by Dr. Ryan, Dr. Harris, and Dr. Friedman-translated technology arising from their research into novel treatments for a devastating inner-ear disease that previously had no meaningful treatment options.



JEFFREY P. HARRIS, MD, PhD, FACS Chief, Division of Otolaryngology/ Head and Neck Surgery

FACULTY

PROFESSORS OF SURGERY

Joseph A. Califano, III, MD, FACS Daniela S. Carvalho, MD, PhD Anthony E. Magit, MD Quyen T. Nguyen, MD, PhD Seth Pransky, MD Deborah Watson, MD, FACS

PROFESSORS OF SURGERY EMERITUS

Allen Ryan, PhD Robert A. Weisman, MD, FACS

ASSOCIATE PROFESSORS OF SURGERY

Matthew Brigger, MD, MPH Kevin T. Brumund, MD, FACS Sapideh Gilani, MD, FACS Wen Jiang, MD Shelby C. Leuin, MD Javan Nation, MD

ASSISTANT PROFESSORS OF SURGERY

Morgan Bliss, MD Charles Coffey, MD, FACS Adam S. Deconde, MD Jacob Husseman, MD Ryan Orosco, MD, FACS Philip Weissbrod, MD Linda Woo, MD

NEUROTOLOGY FELLOWS

Candace Hobson, MD Hitomi Sakano, MD Joe Saliba, MD

AUDIOLOGY FACULTY

CLINICAL PROFESSOR Erika M. Zettner, PhD, CCC-A

ASSISTANT CLINICAL PROFESSOR Meghan K. Spriggs, AuD, CCC-A

- 28 YEARS CONTINUOUSLY FUNDED NIH T32 TRAINING GRANT
- 44 PUBLICATIO
- 49% CLINICAL VOLUME GROWTH, 2015–17
- 40 AUDIOLOGY DOCTO STUDENTS, 2014-1





Top: Patient consultation room at the Center for Voice and Swallowing

Bottom: Dr. Allen Ryan (left) and Dr. Andrew Baird at the 2017 Surgical Sciences Research Symposium

Division of PEDIATRIC GENERAL SURGERY

Committed to improving the health and welfare of children and adolescents living in San Diego, the Division of Pediatric General Surgery provides comprehensive surgical care in subspecialties such as general abdominal, trauma, oncology, neonatal, and colorectal surgery.

The Division of Pediatric General Surgery is among the busiest pediatric surgery practices in the country, supporting a Level 1 Trauma Center and placing high priority on education and training, with a fully accredited Accreditation Council for Graduate Medical Education (ACGME) pediatric surgery fellowship.

Our service also provides a pediatric surgery rotation to general surgery residents. Our faculty are engaged in research that has led to numerous national awards and increased national recognition of our division.

The pediatric surgery team delivered fifteen regional or national presentations, produced three peer-reviewed articles, and received two awards. Dr. Stephen Bickler gave the prestigious Robert E. Gross Lecture entitled "Out of Africa: Insights from a Prospective Pediatric Surgery Database" at the 2017 American Pediatric Surgery Association national meeting. Division chief Dr. Timothy Fairbanks, division chief, has led the Pediatric Surgery Fellowship Program through its initial ACGME accreditation and subsequent short cycle site review. Dr. Karen Kling won the Pacific Association of Pediatric Surgeons Clinic Award in Seattle, Washington, for her work "Prophylactic Ladd procedure is not associated with decreased risk of subsequent volvulus in patients with congenital diaphragmatic hernia and abdominal wall defects."

Dr. Nicholas Saenz was voted Top Doctor by *San Diego Magazine* for 2016. He has won this award several times.

Dr. Hari Thangarajah was awarded grant funding by both the Academy of Clinician Scholars (AoCS) and the Academic Enrichment Fund.

Top: Rady Children's Hospital-San Diego



TIMOTHY FAIRBANKS, MD Chief, Division of Pediatric General Surgery

FACULTY

PROFESSORS OF SURGERY Stephen Bickler, MD Mary Hilfiker, MD Nicholas Saenz, MD

ASSOCIATE PROFESSOR OF SURGERY Karen Kling, MD

ASSISTANT PROFESSOR OF SURGERY Hari Thangarajah, MD

CLINICAL ASSOCIATES David Lazar, MD

FELLOW Bhargava Mullipudi, MD



660

TRAUMA PATIENTS EVALUATED

3,800 MO

MORE THAN 3,800 OPERATIONS PERFORMED

IMPROVED PATIENT EXPERIENCE SCORE FROM 70% EXCELLENT TO 75% EXCELLENT

DEVELOPED PATHWAY FOR SAME-DAY DISCHARGE OF STABLE PATIENTS AFTER APPENDECTOMY

LEADER IN GLOBAL SURGERY POLICY DEVELOPMENT



Division of PLASTIC SURGERY

The Division of Plastic Surgery, in its forty-second year, provides sophisticated state-of-the-art services in aesthetic medicine and surgery, burns and complex wounds, hand, breast/facial/body procedures, general reconstructive surgery, and craniofacial pediatric plastic surgery.

In 2016, the division launched the Integrated Plastic Surgery Residency Program, designed for graduates of accredited medical schools to enter a six-year pathway that provides comprehensive training in all aspects of plastic and reconstructive surgery.

Our Independent Plastic Surgery Residency Program, which accepts trainees after full general surgery residency into a three-year plastic surgery training pathway, is in its forty-second year. Dr. Amanda Gosman, interim chief of the division, directs both programs.

The division added two new faculty in 2016–17. Dr. Deepak Gupta, a graduate of the Stanford University Plastic Surgery Residency, joined us after completing his microsurgery fellowship at MD Anderson Cancer Center in Houston, Texas. Dr. Samuel Lance, a graduate of the UC Davis Plastic Surgery Program, joined our faculty after completing the UC San Diego Craniofacial Fellowship Program. He will provide clinical care at UC San Diego and Rady Children's Hospital-San Diego.

The division continues to be active in the national plastic surgery governing organizations. Dr. Gosman served as the American Society of Plastic Surgeons (ASPS) ethics committee chair and is a member of the board of directors of ASPS, the American Council of Academic Plastic Surgeons (ACAPS), and the California Society of Plastic Surgeons (CSPS).

The division is regionally recognized for humanitarian activities: Dr. Gosman was recognized by the San Diego community for her outreach work with ConnectMed International, a nonprofit organization she founded in 2010. In the past year, Dr. Gosman was awarded the following honors: *San Diego Magazine*'s 2017

Celebrating Women Awards: Nonprofit Visionary, *SD Metro's* 2017 Women Who Impact San Diego, and *San Diego Business Journal* 2017 Most Admired CEOs Awards (Nonprofit Category).

In the research arena, Dr. Ahmed Suliman, in collaboration with UC San Diego's Division of Endocrinology and ViaCyte, Inc., a biotechnology firm specializing in regenerative medicine, is launching the first-ever human Phase I/II clinical trial of a stem cell-derived therapy for patients with Type 1 diabetes. Division faculty and colleagues from San Diego State University are also investigating health-related quality of life in pediatric patients with craniofacial conditions, a project that will result in a patient-reported outcome measure in English and Spanish for patients with facial differences and their parents. This project is supported by the Rady Children's Hospital-San Diego Surgical Research Fund Grant and by the UC San Diego Altman Clinical and Translational Research Institute Academic-Community Partnership Pilot Project Grant provided by the National Institutes of Health.

Top: Plastic surgery trainees at the Inaugural West Coast Plastic Surgery Resident Boot Camp hosted by the UC San Diego Division of Plastic Surgery at the Center for the Future of Surgery, August 2017

Bottom left: Dr. Jayant Agarwal (left), chief of plastic surgery at the University of Utah, and Dr. Michael Hill (right) program director for plastic surgery at Loma Linda University, giving a hand splinting/casting workshop during Plastic Surgery Boot Camp

Bottom right: Dr. Amanda Gosman examining a cleft lip patient during a ConnectMed jornada to Tijuana



AMANDA GOSMAN, MD Interim Chief, Division of Plastic Surgery

FACULTY

PROFESSOR OF SURGERY Marek Dobke, MD, PhD

CLINICAL PROFESSOR OF SURGERY Mayer Tenenhaus, MD, FACS

ASSOCIATE CLINICAL PROFESSOR OF SURGERY Mark Rechnic, MD

ASSISTANT CLINICAL PROFESSORS OF SURGERY Deepak Gupta, MD Samuel Lance, MD Ahmed Suliman, MD



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COMPLEX INTRACRANIAL CRANIOFACIAL CASES







Division of SURGICAL ONCOLOGY

The Division of Surgical Oncology offers clinical programs that draw patients from across the nation and internationally. We are at the forefront of treatment for patients with breast, gastrointestinal stromal tumor (GIST), hepatobiliary-pancreatic, and peritoneal malignancies.

Our faculty are active in basic and clinical research, funded by entities that include the National Institutes of Health and National Cancer Institute, the Veterans Administration, and Stand Up To Cancer.

In the past year, new clinical trials for patients with hepatocellular carcinoma and peritoneal malignancies, and an oncolytic viral study for patients with high-risk solid tumors, were developed by division faculty. Most of these studies use molecularly targeted or other novel therapeutics not offered anywhere else in the nation.

Dr. Jason Sicklick received the Clinician of the Year award from The Life Raft, a national advocacy group that supports research and treatment of GIST. His technical expertise, compassion, and dedication to fighting GIST in the clinic and in the laboratory were cited at a ceremony in La Jolla, California, in June 2017.

A research team led by Dr. Tannishtha Reya and Dr. Andrew M. Lowy, and including Dr. Sicklick, found that the RNA-binding protein Musashi regulated pancreatic cancer initiation, progression, and drug resistance. These findings were reported in the journal *Nature* in 2016. Dr. Reya and Dr. Lowy have secured an R01 grant from the National Cancer Institute to study Musashi biology and its potential as a therapeutic target in pancreatic cancer. Investigators from the landmark I-SPY2 trial for patients with high-risk breast cancer published two separate articles in *The New England Journal of Medicine* in 2016. Dr. Anne Wallace and coinvestigators at UC San Diego Moores Cancer Center generated the second-highest accrual to the study.

Dr. Michael Bouvet received a VA Merit Review award for his project entitled "Development of Near Infrared Fluorescence-Guided Surgical Navigation and Tumor Specific Photoimmunotherapy for Improved Outcomes for GI Cancers." Dr. Bouvet is among the leaders in this emerging field and is the immediate past president of the International Society for Fluorescence Guided Surgery.

We are also pleased to welcome Dr. Rebekah White, a general surgeon and surgical oncologist who specializes in treating tumors of the pancreas; liver; bile duct; and upper gastrointestinal tract, such as the stomach.

Top: Dr. Michael Bouvet using a fluorescence laparoscope to assess perfusion of parathyroid glands during surgery in the Jacobs Medical Center operating room

Bottom: Dr. Kaitlyn Kelly (middle) with colleagues in the operating room



ANDREW M. LOWY, MD, FACS Chief, Division of Surgical Oncology

FACULTY

PROFESSORS OF SURGERY

Sarah Blair, MD Michael Bouvet, MD, FACS Bryan Clary, MD Anne Wallace, MD

ASSOCIATE PROFESSORS OF SURGERY Jason Sicklick, MD, FACS Rebekah White, MD, FACS

ASSISTANT PROFESSORS OF SURGERY Joel Baumgartner, MD Kaitlyn Kelly, MD

RESEARCH FELLOWS

6

Maha Alkhuziem, MD Jonathan DeLong, MD Ho Kyoung Hwang, MD (visiting scholar) Thinzar Lwin, MD Rebecca Marmor, MD Divya Sood, MD Jonathan Unkart, MD

500 MORE THAN 500 HIPEC PROCEDURES PERFORMED

> PEER-REVIEWED PUBLICATIONS IN 2016

NIH GRANTS CURRENTLY HELD





Division of TRAUMA, SURGICAL CRITICAL CARE, BURNS, AND ACUTE CARE SURGERY

The Division of Trauma, Surgical Critical Care, Burns, and Acute Care Surgery touches the lives of more than 7,000 patients every year. Since 1973, the team and state-of-the-art facility at the UC San Diego Regional Burn Center have served San Diego and Imperial Counties, and since 1976, we have led the nation in effective trauma care, operating the region's first Level 1 Trauma Center.

Our ten clinical and three research faculty are engaged in a robust research program in clinical outcomes and basic sciences/ translational research.

We also host a prestigious fellowship program in surgical critical care and acute care surgery. Our study on "The Neural Control of Inflammation" received national attention as part of an article published by an independent scientific journalist in the prestigious journal *Nature*. It was cited as a major advancement in the understanding of inflammation after traumatic injury with a potential clinical application toward drug development.

Dr. Todd Costantini was awarded a National Institutes of Health RO1 grant entitled "The human-specific gene CHRFAM7A in leukocytes" with coinvestigators Dr. Andrew Baird and Dr. Antonio DeMaio. Dr. Theresa Chan, a surgical resident and research fellow working with Dr. Costantini in the basic sciences laboratory, was awarded the prestigious Shock Society Research Investigator Fellowship.

Dr. Raul Coimbra, chief of the division, serves as president of the American Association for the Surgery of Trauma, the premier trauma organization in the world, and was chosen to be the president of the 2018 World Trauma Congress, which will be held in San Diego. In addition, Dr. Coimbra was elected as honorary professor of the Universidad de Antioquia in Colombia and honorary member of the Japanese Association for the Surgery of Trauma. Dr. Jay Doucet was elected to the national Committee on Trauma of the American College of Surgeons and will serve the college as a governor representing San Diego and Imperial Counties. Dr. Jeanne Lee was appointed director of the Regional Burn Center and chair of the San Diego County Chapter of the American College of Surgeons. Dr. Costantini was appointed chairman of the regional American College of Surgeons Committee on Trauma.

Opposite, top: Dr. Coimbra (left) and colleagues in the operating room

Middle: UC San Diego Medical Center in Hillcrest

Bottom: Dr. Laura Godat (left) and colleagues in the operating room at an Advanced Surgical Skills for Exposure in Trauma course

Below: Dr. Theresa Chan (left) and Dr. Todd Costantini at the American College of Surgeons Committee on Trauma annual meeting





RAUL COIMBRA, MD, PhD, FACS Chief, Division of Trauma, Surgical Critical Care, Burns, and Acute Care Surgery

FACULTY

PROFESSORS OF SURGERY Andrew Baird, PhD Antonio DeMaio, PhD Jay Doucet, MD, MSc, FRCSC, FACS Brian Eliceiri, PhD

ASSOCIATE PROFESSOR OF SURGERY Leslie Kobayashi, MD, FACS

ASSISTANT PROFESSOR OF SURGERY Todd Costantini, MD, FACS

ASSOCIATE CLINICAL PROFESSOR Jeanne Lee, MD, FACS

ASSISTANT CLINICAL PROFESSORS Allison Berndtson, MD Laura Godat, MD, FACS

ASSOCIATE PHYSICIANS Emily Cantrell, MD Amelia Simpson, MD

FELLOWS Paul Albini, MD Kuong Ngann, DO John Woods, DO Brandon Woodward, MD

RESEARCH RESIDENTS Theresa Chan, MD Elliot Williams, MD







7,000 **PATIENTS** PER YEAR

2,000 procedures pe

\$1.3M TOTAL RESEARCH FUNDING, 2016–17

400

MORE THAN 400 BURN ADMISSIONS PER YEAR

Division of VASCULAR AND ENDOVASCULAR SURGERY

The Division of Vascular and Endovascular Surgery is committed to providing the highest quality surgical and interventional care for the broad spectrum of peripheral arterial and venous diseases.

The Complex Aortic Disease Treatment Program offers the latest minimally invasive treatment for abdominal aortic aneurysms (AAA) and aortic dissections, including fenestrated and branched endovascular repairs.

We offer both open and minimally invasive approaches to carotid artery stenosis and stroke, peripheral arterial diseases and limb ischemia, and peripheral venous disease. The division actively participates in clinical trials that bring cutting-edge technology to our patients, including BEST endovascular vs. open treatment of peripheral artery disease (National Institutes of Health trial) and polymer-based treatment of AAA disease with NELLIX and ALTO (FDA-sponsored investigational device trials). We are dedicated to our mission to train the next generation of vascular surgeons by mentoring medical students and residents and training our two vascular surgery fellows.

The Division of Vascular and Endovascular Surgery reached many administrative milestones over the last year. Dr. John Lane has assumed the role of interim chief of the division from Dr. Dennis Bandyk, who provided accomplished leadership for five years.

Vascular clinical volume continues to increase with the opening of the Jacobs Medical Center, reaching the highest number of surgical cases in the history of our division. The Complex Aortic Disease Treatment Program continues to expand with the adoption of new technology and the advent of new clinical trials. UC San Diego is the only program in San Diego to offer both fenestrated and physician-modified aortic endografts. Novel aortic devices are offered with the use of polymer-assisted sealing with the NELLIX trial (Dr. John Lane, PI) and the ALTO trial (Dr. Andrew Barleben, PI) at the VA San Diego Healthcare System. We are the only sites in California or in the VA system to offer this technology.

Our experience with advanced aortic repair was presented at regional vascular conferences at the Western Vascular Surgical Society (Dr. Barleben, peri aortic aneurysm sac sealing) and the Southern California Vascular Surgical Society (Dr. Lane and Dr. Eugene Golts, complex hybrid aortic arch repair).

Teaching and research endeavors remain productive, with trainees presenting research and clinical trials at local and regional meetings. This includes the Dr. Erin Ward (Vascular and Endovascular Surgical Society, 3-D arterial flow modeling) and Dr. Abid Mogannam and Dr. Tazo Inui (Southern California Vascular Surgical Society, four presentations). The division has active collaboration with the UC San Diego Department of Engineering. Dr. Steven Sparks had a funded project involving modeling of normal pressure hydrocephalus, and Dr. Barleben is studying CT and MRI flow modeling in aortic aneuryms and occlusive disease.

Left: Projection of a fenestrated EVAR procedure

Middle and right: Images of the ALTO devices



JOHN S. LANE III, MD, FACS Interim Chief, Division of Vascular and Endovascular Surgery

FACULTY

PROFESSORS OF SURGERY Dennis F. Bandyk, MD, FACS Erik L. Owens, MD, FACS

ASSOCIATE PROFESSORS OF SURGERY Steven A. Sparks, MD

ASSISTANT PROFESSOR OF SURGERY Andrew R. Barleben, MD

FELLOWS Antonio Covarrubias, MD Abid Mogannam, MD

RESIDENTS Michael Levine, MD



IN THE GREATER SAN DIEGO REGION IN 9 VASCULAR QUALITY MEASURES (VQI)

MOST ADVANCED COMPLEX AORTIC DISEASE FREATMENT PROGRAM IN SAN DIEGO

ONLY VASCULAR SURGERY FELLOWSHIP TRAINING PROGRAM IN SAN DIEGO

CUTTING-EDGE CLINICAL TRIALS

HIGHEST ANNUAL CLINICAL VOLUMES IN THE HISTORY OF UC SAN DIEGO VASCULAR SURGERY, 2016–17









GRADUATING RESIDENTS AND FELLOWS

GENERAL SURGERY

DR. JENNIFER BAKER Breast Oncology Fellowship Memorial Sloan Kettering Cancer Center (New York)

DR. LUIS CARLOS CAJAS-MONSON El Centro Regional Medical Center Vascular Surgery Fellowship Mayo Clinic (beginning July 2018)

DR. JOSEPH EISNER Private Practice General Surgery Medical Group of Ventura

DR. CRISTINA HARNSBERGER Colorectal Surgery Fellowship University of Massachusetts

DR. NATALIE KU Private Practice General Surgery

DR. TRAVIS WILDER Cardiothoracic Surgery Fellowship University of Utah

CARDIOVASCULAR AND THORACIC SURGERY

DR. TREVOR UPHAM WakeMed Health and Hospitals (Raleigh, North Carolina)

MINIMALLY INVASIVE SURGERY

DR. RAN B. LOU Kaiser Permanente (San Diego)

DR. JESSICA REYNOLDS Blanchard Valley Health System (Findlay, Ohio)

OTOLARYNGOLOGY/HEAD AND NECK SURGERY

DR. SAMANTHA HAUFF Navy Hospital (Okinawa, Japan)

DR. CANDACE HOBSON University of Pittsburgh Medical Center

PEDIATRIC SURGERY

DR. ALEXANDER MANTEGHI St. Christopher's Hospital for Children (Philadelphia)

PLASTIC SURGERY

DR. CHARLIE CHEN Aesthetic Fellowship Hunstad Kortesis Plastic Surgery (Huntersville, North Carolina)

TRAUMA, SURGICAL CRITICAL CARE, BURNS, AND ACUTE CARE SURGERY

DR. LINDSAY BARTHOLOME Advanced Surgical Associates Division of Trauma and Surgical Critical Care (Mesa, Arizona)

DR. EMILY CANTRELL Full-Time Associate Physician Department of Surgery, Division of Trauma UC San Diego

DR. SARA EDWARDS Full-Time Associate Physician Department of Surgery, Division of Trauma UC San Diego

DR. MICHELLE HAMEL Sharp Memorial Hospital (San Diego)

DR. MITSUAKI KOJIMA Returning to the Department of Acute Critical Care and Disaster Medicine Tokyo Medical and Dental University (Japan)

DR. KUONG NGANN Second-Year Fellow UC San Diego

DR. AMELIA SIMPSON Full-Time Associate Physician Department of Surgery, Division of Trauma UC San Diego

VASCULAR AND ENDOVASCULAR SURGERY

DR. TAZO INUI Kaiser Northern California (Oakland, California)





TRAINEES

GENERAL SURGERY

PGY-5 CHIEFS Dr. Ryan Broderick Dr. Simone Langness Dr. Michael Levine Dr. Patrick McCarty Dr. Vijay Menon Dr. Kathryn Parker

PG-4

Dr. Timothy Law Dr. Shanglei Liu Dr. Rebecca Marmor Dr. Andrea Munden Dr. Sarah Stringfield Dr. Rachel Voss

PGY-3

Dr. Maha Alkhuziem Dr. Alexandra Brito Dr. Dattesh Dave Dr. Edna Shenvi Dr. Timothy Tirrell Dr. Erin Ward

PGY-2

Dr. Ariel Anderson Dr. Danielle Carroll Dr. Hannah Hollandsworth Dr. Claire Janssen Dr. Charissa Lake Dr. Arielle Lee Dr. Stephen Niemiec

PGY-2 PRELIMINARY INTERNS

Dr. Julie Robles Dr. Elizabeth Roderick Dr. Renan Rojas

PGY-1 CATEGORICAL INTERNS

Dr. Rachel Blitzer Dr. Emily Bruno Dr. Harrison Chau Dr. Sasha Halasz Dr. Jonathan Li Dr. Jared Matson Dr. James Reeves

PGY-1 PRELIMINARY INTERNS

Dr. Mohanad Alhumayed Dr. Benjamin Chaney Dr. Jocelyn Green Dr. Keyhan Piranviseh

PGY-1 DESIGNATED

PRELIMINARY INTERNS Dr. Harjus Birk Dr. Eileen Byrne Dr. Kathryn Dwight Dr. Robert Fisher Dr. Emily Funk Dr. Roland Howard Dr. Christopher Koprowski Dr. Ryan O'Leary Dr. Jillian Plonsker Dr. Robert Saddawi-Konefka Dr. Capt. Joshua Stramiello Dr. Andrew Zogby

RESEARCH FELLOWS

Dr. Theresa Chan Dr. Jonathan DeLong Dr. Sean Flynn Dr. Jenny Lam Dr. Katherine Lee Dr. John Alec Moral Dr. Divya Sood Dr. Catherine Tsai Dr. Elliot Williams Dr. Beigun "Mark" Zhao

CARDIOTHORACIC SURGERY FELLOWS

Dr. Yuichi Ishida Dr. Jakub Wilhelm

MINIMALLY INVASIVE SURGERY FELLOWS

Dr. Thach Pham Dr. David Bernstein

PLASTIC SURGERY

INDEPENDENT PROGRAM Dr. Christopher Reid–Chief Resident Dr. Chinwe Kpaduwa–Second-Year Resident Dr. Adam Hauch–First-Year Resident

INTEGRATED PROGRAM

Dr. Kevin Englar Dr. Anthony Kordahi Dr. Sean Li Dr. Michelle Zaldana Flynn

TRAUMA, SURGICAL CRITICAL CARE, BURNS, AND ACUTE CARE SURGERY FELLOWS

Dr. Paul Albini Dr. John Woods Dr. Brandon Woodward

VASCULAR SURGERY FELLOWS

Dr. Antonio Covarubias Dr. Abid Mogannam

STEWARDSHIP

With your help, the Department of Surgery at UC San Diego School of Medicine is changing lives. Financial support from our community is critical to providing leading-edge surgical care to thousands of people every year.

Your partnership enables the Department of Surgery to continue to serve our region's patients with the most expert care available.

In April, the Department of Surgery received an extraordinary \$1 million donation from an unnamed family foundation. The desire of this foundation in extending this gift was to "support the greatest needs of the Department of Surgery." The generosity and trust inherent in such a directive is not lost on the department—we take seriously the responsibility to mindfully extend these resources to achieve the most impact.

Most philanthropic gifts to the department arise out of deeply personal clinical experiences and from the donor's recognition that our goal of making things better for the next patient can be greatly facilitated by their participation. The gift we received in April will go a very long way toward helping the Department of Surgery achieve this goal.

The gift will fund innovative pilot research projects for which external grant opportunities are lacking, allow for reinvestment in established successful investigators, facilitate the recruitment of needed clinical and research faculty, and enable special initiatives geared toward training the next generation of surgeon-scientists who will treat tomorrow's patients and move the field forward.

The UC San Diego Foundation is a 501(c)(3) non-profit, taxexempt organization designated by the Internal Revenue Service. Our Federal Tax ID number is 95-287-2494.

Gifts to the Department of Surgery support

- ADVANCES IN PATIENT CARE
- ENDOWED PROFESSORSHIPS
- RESIDENT AND FELLOW EDUCATION
- CUTTING-EDGE RESEARCH

FRIENDS of the DEPARTMENT

We extend our thanks to our generous supporters. We also acknowledge other donors, not listed here, whose gifts to other entities also benefit our work.

INDIVIDUALS

Anonymous Ofelia S. and John F. Alksne, MD Katherine E. Arford Lissa C. Baird, MD Lynn Boison John Brinley Roseann G. and Steven Brozinsky, MD Barbara A. F. and Donald P. Casler The Milton Cohen Trust Davis/Logan Legacy Trust William M. Davis Sr. Donna D. and Perry M. Dealy Brandon J. Deck Bruce L. Deichl Antonio R. Demaio, PhD Jesse Diaz Melissa K. Egan, MD Mindy N. Folkl

ORGANIZATIONS

AbbVie Advanced Bionics Ad-Tech Bank of America Charitable Gift Fund Depuy Orthopaedics, Inc. DePuy Spine, Inc. Foundation Medicine, Inc. Grayson-Stadler Inc. Halozyme Therapeutics, Inc. Alicia T. Foster and Charles E. Foster II, CFP Nicole J. Francis and Cameron Francis, MD '10 David Geier Susan R. and Leonard W. Glass, MD Ronald Goble Philip Gomeau Molly M. Gorman Dottie and Earl Hardesty Ray E. Henderson Robert Lauzier J. F. and Joseph F. Leonard Elaine A. Lo and Bernard Yu Sharon B. Marshall and Lawrence F. Marshall MD Shannon and Nicholas M. Mauricio Helen D.* and Romano L. Mazzoli Jenni McGill Sandra and Richard F. McPeak

Cathy Medina Albert L. Merati, MD Le M. Ong Ann S. Orloff and Marshall J. Orloff, MD Monaliza and Jaime Quintero Henry Raymond III Belle C. and Paul L. Reed Angela and Tom Rudd Ahmad N. Saad, MD Penny and Robert G. Sarver Patricia A. and James P. Silva Elizabeth C. and Kenton W. Smith Valerie Swanson Stephanie A. and Alan L. Tarkington Leticia Villarreal Stephanie W. Yee Tini Lam Yuen

- The Leo and Anne Albert Charitable Trust Lumenis, Inc. MiMedx Group, Inc. Misonix, Inc. OxyHeal Health Group, Inc. The Penny and Robert Sarver Charitable Foundation Pentax Medical San Diego Fifty-Sixers
- San Diego Foundation Sempra Employee Giving Network Stryker Stryker Endoscopy Thoratec Laboratories Corporation Truist Wells Fargo Advisors, LLC William H. Cilker Family Foundation W. L. Gore & Associates

*Deceased

This list recognizes donors to the Department of Surgery and its divisions during fiscal year 2016–17. We have made every attempt to accurately recognize every donor. If you notice errors, omissions, or inaccuracies, please e-mail Malcolm Aste, senior director for development at maste@ucsd.edu.

SELECT HONORS AND AWARDS

ANATOMY

Dr. Mark Whitehead was appointed interim associate dean for undergraduate medical education. He also gave invited lectures at Hugh Greenway's 34th Annual Superficial Anatomy and Cutaneous Surgery course held in San Diego and sponsored by the UC San Diego School of Medicine and Scripps Health.

CARDIOVASCULAR AND THORACIC SURGERY

Dr. Stuart Jamieson received a "Living Legend" Award from the World Society of Cardiothoracic and Vascular Surgery (Cape Town, December 2016). He also received the Pioneer Award from the International Society of Heart and Lung Transplantation (April 2017).

Dr. Mark Onaitis received a VA Merit Review grant for basic science funding of proximal differentiation therapy for KRAS mutant lung adenocarcinoma. This will establish a basic science lab at UC San Diego and the VA, employing four people. Dr. Onaitis gave a plenary talk "Long-term risk model for lobectomy for Stage I Non-small cell lung cancer in the STS database" at the Society of Thoracic Surgeons, and his paper was accepted for publication in *Annals of Thoracic Surgery*. He also established the UC San Diego Lung Cancer Screening program.

Dr. Travis Pollema developed an extracorporeal membrane oxygenation program (ECMO) that can support community hospitals in the San Diego County and southern California region.

Dr. Victor Pretorius was invited to attend the prestigious Gordon Research Meeting on assisted circulation and was asked to chair a session. Under his leadership, UC San Diego was selected as a Continued Access Protocol site for the Momentun 3 Trial of the HeartMate 3 ventricular assist device.

Dr. Patricia Thistlethwaite was elected vice president and president-elect of the Western Thoracic Surgical Association and vice president of the Cardiopulmonary, Perioperative, and Critical Care (3CPR) Council of the American Heart Association. Dr. Thistlethwaite was also awarded an Honorary Knowledge and Discovery Award (top 5 percent of US researchers) from the American Health Council and was invested as honorary member of the Royal College of Physicians.

COLON AND RECTAL SURGERY

Dr. Sonia Ramamoorthy was elected as a member at large to the governing council of the American Society of Colon and Rectal Surgeons (ASCRS) and served as assistant program director for the 2017 ASCRS Tripartite Meeting in Seattle, Washington. Her work with Dr. Larry Smaar from the UC San Diego Jacobs School of Engineering on 3-D robotic surgery was featured on KPBS and in the San Diego Union-Tribune and the Boston Globe.

Dr. Lisa Parry received the 2017 Department of Surgery resident teaching award.

HEPATOBILIARY AND TRANSPLANT SURGERY

Dr. Alan Hemming received the American Liver Foundation, Pacific Division's Man of the Year award in 2016 for his contribution to the treatment of liver disease. He was recognized as one of America's Top Doctors of 2016 by *U.S. News & World Report*.

Dr. Jennifer Berumen was appointed to a two-year term as chair of the Medical Advisory Committee for Lifesharing, a San Diego-based organ donation organization. Dr. Berumen was also appointed surgical director of the Rady Children's Hospital-San Diego pediatric kidney transplant program.

Dr. Kristin Mekeel was elected to the American Society of Transplant Surgeons PROACTOR Task Force, which is investigating innovative and collaborative ways to maximize organ utilization.

Dr. Tatiana Kisseleva was awarded a National Institutes of Health RO1 grant as principal investigator for her work on "Fibrocytes regulating liver fibrosis."

MINIMALLY INVASIVE SURGERY

Dr. Garth Jacobsen was inducted into the Health Sciences Leadership Academy.

NEUROSURGERY

UC San Diego School of Medicine student Cecilia L. Dalle Ore was awarded a \$2,000 Scientific Excellence Scholarship from the International Society for Pediatric Neurosurgery. Dalle Ore was nominated by faculty sponsor Dr. Hal Meltzer. Dalle Ore traveled to Kobe, Japan, to present "Surgical Treatment of Non-syndromic Craniosynostosis: the Rady Children's Hospital Experience" at the forty-fourth annual meeting of the International Society for Pediatric Neurosurgery on October 24, 2016.

Dr. Michael Levy was elected president of the Society of University Neurosurgeons for 2016–17 and was an invited professor for the Peruvian Society for Neurological Surgery in 2017. He also received first place in the PROSE Awards in the category of textbook/clinical medicine for *Neurosurgery Tricks of the Trade*. The PROSE Awards are given by the Association of American Publishers Professional and Scholarly Publishing division.

Dr. Alex Khalessi was named to a four-year term as a scholar-in-residence for the American Board of Neurological Surgeons (ABNS).

Standards for mandatory Committee on Advanced Subspecialty Training (CAST) certification for endovascular fellowship were recently published in *Stroke*, and UC San Diego was the first CAST-certified program in the country.

OTOLARYNGOLOGY/HEAD AND NECK SURGERY

Dr. Sapideh Gilani received the 2017 Kaiser Excellence in Teaching Award from third-year medical students.

In 2016, Dr. Deborah Watson was recognized by Best Doctors in America, received a Best in Healthcare Award, and was an editorial board member for the journal *Annals of Clinical Otolaryngology*. In 2017, Dr. Watson was on the editorial board of *Laryngoscope Investigative Otolaryngology*, the official journal of the Triological Society. Dr. Joseph Califano is a fellow-at-large for the American Head and Neck Society Council and a member of the National Cancer Institute Head and Neck Steering Committee.

Dr. Kevin Brumund is incoming chair of the Surgical Affairs Committee of the American Thyroid Association (ATA) and chair of the liaison committee of the Endocrine Section of the American Head and Neck Society.

Dr. Anthony Magit received the 2016 Sylvan Stool Teaching Award from the Society for Ear, Nose and Throat Advances in Children and was elected vice president and president-elect of the Children's Specialty Care Organization, which represents two-thirds of pediatric specialists in California.

In 2016, the VA Research Foundation of San Diego recognized Dr. Allen Ryan as Researcher of the Year, San Diego VA Healthcare System.

Dr. Shelby Leuin hosted, organized, and presented at the American Society of Pediatric Otolaryngology fourth annual Resident/ Fellow Educational Conference, Rady Children's Hospital. Dr. Leuin's "Pediatric Septoplasty and Rhinoplasty: A QoL Outcome Study" was accepted for podium presentation at the American Academy of Otolaryngology Head and Neck Surgery Annual Meeting in Chicago, Illinois, September 10–13, 2017.

Dr. Quyen Nguyen was asked to serve as a member of the Clinical Molecular Imaging and Probe Development NIH Study Section.

Dr. Arwa Kurabi, assistant project scientist, received a Molecular Biology of Hearing and Deafness award for junior scientists and an International Society for Otitis Media award for young investigators.

Dr. Charles Coffey was featured as an author interview podcast for JAMA Otolaryngology-Head & Neck Surgery.

Dr. Jeffrey P. Harris presented research on neurosarcoidosis affecting the auditory system at the CORLAS meeting in Bordeaux, France; was keynote speaker on the Future of Drug Delivery at the World Congress of Otolaryngology in Paris, France; and was coeditor of *Cummings Review of Otolaryngology*.

PEDIATRIC GENERAL SURGERY

Dr. Karen Kling was awarded the Pacific Association of Pediatric Surgeons Clinic Award for her work on "Prophylactic Ladd procedure is not associated with decreased risk of subsequent volvulus in patients with congenital diaphragmatic hernia and abdominal wall defects."

Dr. Stephen Bickler gave the prestigious Robert E. Gross Lecture, "Out of Africa: Insights from a Prospective Pediatric Surgery Database," at the 2017 American Pediatric Surgery Association National meeting.

PLASTIC SURGERY

Dr. Amanda Gosman served as the American Society of Plastic Surgeons (ASPS) Ethics Committee chair and is a member of the board of directors of ASPS, the American Council of Academic Plastic Surgeons (ACAPS), and the California Society of Plastic Surgeons (CSPS). Dr. Gosman was also honored by peer women faculty members with the Women in Surgery Mentorship Award and received the *San Diego Magazine* 2017 Celebrating Women Awards: Nonprofit Visionary, recognition from *SD Metro's* 2017 Women Who Impact San Diego, and *San Diego Business Journal* 2017 Most Admired CEOs Awards (Nonprofit Category).

SURGICAL ONCOLOGY

Dr. Jason Sicklick was Life Raft GIST Support Group's Clinician of the Year and was a nominee for the 2017 RARE Champion of Hope in Medical Care and Treatment Award.

Dr. Joel Baumgartner received the Whitehill Prize for Excellence for Clinical Teaching in Surgery.

Dr. Andrew M. Lowy is chair-elect for the Scientific-Medical Advisory Board Pancreatic Cancer Action Network.

Dr. Rebekah White received the UC San Diego Academy of Clinical Scholars Faculty Development Award.

Dr. Bryan Clary is vice president for the Society for Clinical Surgery.

TRAUMA, SURGICAL CRITICAL CARE, BURNS, AND ACUTE CARE SURGERY

Dr. Theresa Chan was awarded a Shock Society Research Investigator Fellowship.

Dr. Raul Coimbra, chief of the division, serves as president of the American Association for the Surgery of Trauma, the premier trauma organization in the world, and was chosen to be the president of the 2018 World Trauma Congress, which will be held in San Diego. Dr. Coimbra was also elected as honorary professor of the Universidad de Antioquia in Colombia, and honorary member of the Japanese Association for the Surgery of Trauma.

Dr. Jay Doucet was elected to the National Committee on Trauma of the American College of Surgeons and will serve the college as a governor representing San Diego and Imperial Counties.

Dr. Jeanne Lee was appointed director of the Regional Burn Center and chair of the San Diego County Chapter of the American College of Surgeons.

Dr. Todd Costantini was appointed chair of the regional American College of Surgeons Committee on Trauma.

VASCULAR AND ENDOVASCULAR SURGERY

Dr. Dennis Bandyk was renewed for another three-year term as editor of *Seminars in Vascular Surgery*.

Dr. John Lane is president-elect of the Southern California Vascular Surgical Society.

SPONSORED RESEARCH

PRINCIPAL INVESTIGATOR	RESEARCH TITLE	FUNDING			
CARDIOVASCULAR AND THORACIC SURGERY					
John Lamberti, MD	Addressing health care disparities that impact surgical outcomes in children with single ventricle physiology	NIH			
Mark Onaitis, MD	Proximal differentiation therapy for KRAS mutant lung adenocarcinoma	VA			
Patricia Thistlethwaite, MD, PhD	Small molecule inhibitors to treat pulmonary arterial hypertension	NIH			
COLON AND RECTAL SURG	ERY				
Lisa Parry, MD	Preoperative Video Tool for Colroectal Patients	Academy of Clinical Scholars			
Sonia Ramamoorthy, MD	Virome of Colon Cancer Right vs. Left	UC San Diego/San Diego State University U54 (NIH)			
Sonia Ramamoorthy, MD	High Risk Colon Rectal Patients	University of California Office of the President			
HEPATOBILIARY AND TRAN	ISPLANT SURGERY				
Tatiana Kisselva, MD, PhD	Fibrocytes regulate liver fibrosis	National Institute of Diabetes and Digestive and Kidney Diseases (NIH)			
MINIMALLY INVASIVE SUR	GERY				
Santiago Horgan, MD	Endoscopic Treatment for Weight Reduction in Patients with Obesity Using the TransPyloric Shuttle® System: A Multicenter, Prospective, Randomized, Double-Blind, Sham- Controlled, Parallel-Design Study (ENDObesity® II Study)	BAROnova			
Santiago Horgan, MD	Monitors & Equipment	Stryker			
Santiago Horgan, MD	Xi Robot	Intuitive			
Santiago Horgan, MD	A Worldwide Post-Market Surveillance Registry to Assess the Medigus Ultrasonic Surgical Endostapler (MUSE(TM)) System for the Treatment of GERD	Medigus			
Garth Jacobsen, MD	The CALIBER Study: Randomized Controlled Trial of LINX versus Double- Dose Proton Pump Inhibitor Therapy for Reflux Disease	Torax Medical			
Garth Jacobsen, MD	Hernia Research Fellow Funding	W. L. Gore (industry)			
Garth Jacobsen, MD	A Post-Approval Study of the LINX® Reflux Management System	Torax Medical			

PRINCIPAL INVESTIGATOR	RESEARCH TITLE	FUNDING			
MINIMALLY INVASIVE SURGERY, continued					
Bryan Sandler, MD	A Prospective, Multi-Center Study of Phasix Mesh for Ventral or Incisional Hernia Repair	Davol			
NEUROSURGERY					
Joseph Ciacci, MD	Modulation of spinal neurodegenerative diseases in swine by stem cell grafting	NIH			
Joseph Ciacci, MD	A Phase 1/2a Dose Escalation Study of AST-OPC1 in Subjects with Subacute Cervical Spinal Cord Injury	Asterias			
Joseph Ciacci, MD	Pilot Study of Clinical Safety and Feasability of the PILGA-POLY-L- LYSINE Scaffold for the Treatment of Complete ASIA A Traumatic Acute Spinal Cord Injury	In Vivo			
Christopher Glass, PhD Fred Gage, PhD	Mechanisms of controlling human microglia gene expression	NIH			
Michael L. Levy, MD, PhD	Phase I/II, Multi-Center, Open-Label Study to Assess the Safety, Tolerability, and Preliminary Efficacy of a Single Intravenous Dose of Allogeneic Mesenchymal Bone Marrow Cells to Subjects with Ischemic Stroke. Phase I	Stemedica, Inc.			
Michael L. Levy, MD, PhD	Phase I/II, Multi-Center, Open-Label Study to Assess the Safety, Tolerability, and Preliminary Efficacy of a Single Intravenous Dose of Allogeneic Mesenchymal Bone Marrow Cells to Subjects with Ischemic Stroke. Phase II	Stemedica			
OTOLARYNGOLOGY/HEAD	AND NECK SURGERY				
Joseph Califano, MD	Optimizing an Assay for High Risk HPV DNA In Body Fluids	NCI			
Joseph Califano, MD	A novel point of care test for oral and oropharyngeal cancer risk	NIH/NCI			
Charles Coffey, MD	Functional and dosimetric implications of submandibular gland transfer in head & neck cancer patients treated with radiation therapy	UC San Diego Moores Cancer Center			
Adam DeConde, MD	Prostaglandin D2 and group 2 innate lymphocytes in aspirin exacerbated chronic rhinosinusitis	American Rhinologic Society: New Investigator Award			

SPONSORED RESEARCH, continued

PRINCIPAL INVESTIGATOR	RESEARCH TITLE	FUNDING			
OTOLARYNGOLOGY/HEAD AND NECK SURGERY, continued					
Arwa Kurabi, PhD	Establishment of an animal model of human-specific responses to middle ear infection	NIH/NIDCD			
Javan Nation, MD	Home Sleep Testing for Pre-and Post- Operative Assessment of Obstructive Sleep Apnea in Obese Teenagers	Rady Children's Specialists of San Diego (RCSSD)			
Quyen Nguyen, MD, PhD	Injectable reporters to image tumors and guide resection	NIH/(NCI/NIBIB)			
Allen Ryan, PhD	Innovative therapy for diseases of the middle ear	NIH/NIDCD			
Allen Ryan, PhD	Otolaryngology training in immunology, virology and molecular biology	NIH/NIDCD			
Allen Ryan, PhD	Basic mechanism in hearing loss of cochlear origin	VA merit			
Allen Ryan, PhD	Middle Ear Response in Otitis Media	NIH/NIDCD			
Philip Weissbrod, MD Todd Coleman, PhD	Non-Invasive Throat Electrophysiology Monitoring to Diagnose and Assess Parkinson's Disease	UC San Diego Frontiers of Innovation Scholars Program			
Philip Weissbrod, MD Michael Yip , PhD	A robotic, wristed cupped biopsy forcep for flexible endoscopy	CTRI Pilot Project			
PEDIATRIC GENERAL SURG	ERY				
Tim Fairbanks, MD	Pediatric Surgery Research Fellowship. A team based approach to basic science, genetic and clinical outcomes based on research.	Academic Enrichment Fund			
Hari Thangarajah, MD	Parent Perspectives on Alternative Communication Modalities for Patients Undergoing General Pediatric Surgical Procedures	Academy of Clinician Scholars			
Hari Thangarajah, MD	Clinical Outcomes Research Program for the Pediatric Surgery Division	Academic Enrichment Fund			
PLASTIC GENERAL SURGERY					
Amanda Gosman, MD	Pediatric Facial Deformity Quality of Life (QoL) Questionnaire Development Study	Rady Children's Hospital- San Diego Board of Trustees Academic Enrichment Program Grant			

PRINCIPAL INVESTIGATOR	RESEARCH TITLE	FUNDING			
SURGICAL ONCOLOGY					
Michael Bouvet, MD	Development of Near Infrared Fluorescence-Guided Surgical Navigation and Tumor Specific Photoimmunotherapy for Improved Outcomes for GI Cancers	NIH			
Andrew M. Lowy, MD	RON receptor in pancreatic cancer biology and therapy	NIH			
Jason Sicklick, MD	Targeting Imatinib-Resistant, KIT- Negative Cells in Human GISTs	Kristen Ann Carr Fund			
Rebekah White, MD	Irreversible electroporation as an in situ vaccine for pancreatic cancer	Salk Institute Cancer Center			
TRAUMA, SURGICAL CRITIC	CAL CARE, BURNS, AND ACU	TE CARE SURGERY			
Theresa Chan, MD	The Uniquely Human Gene CHRFAM7A Modulates the Vagal Anti- Inflammatory Response to Injury	Shock Society Research Investigator Fellowship Award			
Raul Coimbra, MD, PhD	Sentinel Gene Expression to Forecast Outcomes & Monitor Treatment Protocols in Combined Burn/Trauma	American Burn Association and United States Army and Department of Defense			
Todd Costantini, MD	The Human-Specific Gene CHRFAM7A in Leukocytes	NIH			
VASCULAR AND ENDOVASCULAR SUGERGY					
Andrew R. Barleben, MD	Expanding Patient Applicability With Polymer Sealing Ovation Alto Stent Graft IDE (Investigational Device Exemption) Study (ELEVATE)	Endologix, Inc.			
John S. Lane III, MD	Best Endovascular vs. Best Surgical Therapy in Patients With Critical Limb Ischemia (BEST-CLI)	NIH/NHLBI			
John S. Lane III, MD	Safety and Effectiveness Study of Endovascular Abdominal Aortic Aneurysm Repair Using the Nellix® System (EVAS IDE)	Endologix, Inc.			

SELECT PUBLICATIONS

ANATOMY

Reuss S, Banica O, Elgurt M, Mitz S, Disque-Kaiser U, Riemann R, Hill M, Jaquish DV, Koehrn FJ, Burmester T, Hankeln T, Woolf NK. Neuroglobin expression in the mammalian auditory system. *Mol Neurobiol.* 53:1461-1477 (2016).

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CARDIOVASCULAR AND THORACIC SURGERY

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Jamieson S, Madani M. Pulmonary Embolism and Pulmonary Thromboendarterectomy. In: Cohn LH, ed. *Cardiac Surgery in the Adult.* 5th ed. McGraw Hill. 2017;Chapter 55.

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COLON AND RECTAL SURGERY

Hu WH, Cajas-Monson LC, Eisenstein S, Parry L, Cosman B, Ramamoorthy S. Preoperative malnutrition assessments as predictors of postoperative mortality and morbidity in colorectal cancer: an analysis of ACS-NSQIP. *Nutr J*. 2015;Sep 7;14:91. doi:10.1186/s12937-015-0081-5. PMID:26345703.

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HEPATOBILIARY AND TRANSPLANT SURGERY

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Koyama Y, Wang P, Liang S, Iwaisako K, Liu X, Xu J, Zhang M, Sun M, Cong M, Karin D, Taura K, Benner C, Heinz S, Bera T, Brenner DA, Kisseleva T. Mesothelin/mucin 16 signaling in activated portal fibroblasts regulates cholestatic liver fibrosis. *J Clin Invest*. 2017 Apr 3;127(4):1254-1270. PMID:28287406. PMCID:PMC5373891.

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