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Dear Colleagues and Friends,

We are again pleased to share with you the Annual Report of the Department of Surgery for the 2018-2019 academic year. On the one hand it is hard to believe that another year has so quickly passed, but in reviewing the new faces and accomplishments of each division as well as the feature stories, it is even harder to believe that only a year has passed. The report fully displays the continued progress of the Department as it seeks to serve patients in the San Diego region and beyond through high quality and compassionate care, the training of today's and tomorrow's surgeons, and by conducting impactful research that will make a difference for future patients.

Our department has continued to grow in the past year and now encompasses more than 138 faculty and 99 staff, many from diverse backgrounds and traditionally underserved communities. With UC San Diego Health facilities now located within the farthest reaches of San Diego County and even beyond, we are able to provide the highest quality of surgical care to ever increasing numbers of individuals. The forthcoming expansion of the UC San Diego Medical Center at Hillcrest promises an exciting new chapter for healthcare in the region, with upwards of $2 billion in proposed improvements. It truly boggles the mind to consider how much the “hospital on the hill” has evolved over the past century.

Our researchers are big thinkers, as evidenced by this year’s advancements in personalized cancer treatments, ground-breaking vascular surgery clinical trials and breakthroughs in basic science. Our teaching programs continue to train tomorrow’s surgical leaders in both foundational surgical knowledge and the most cutting-edge procedures available. Our Center for the Future of Surgery is ground zero for this intensive training, providing residents and fellows with exposure to the latest technological advances, from robotic surgery to minimally invasive procedures.

We experienced a breakthrough of another kind this year — the opening of the Gilman Bridge, which now connects the UC San Diego School of Medicine to the west with the Jacobs Medical Center and other healthcare facilities to the east and will no doubt foster even greater collaboration. On a more poignant note, we bid a sad farewell to Dr. Marshall J. Orloff, the founding chair of the department, who passed away in November of last year. His passing was followed not long thereafter by the passing of his wife and partner of more than 60 years, Dr. Ann Orloff. Dr. Orloff was recruited in 1966 from Harbor-UCLA at just 39 years old to serve as chair of the Department. Core to his vision was a department that would become both a clinical and research powerhouse, and it’s our intention to continue to bear this vision out in the coming decades.

As always, we are grateful for the support of friends and family members of the Department. Our mission is your mission and we value the contributions you make directly and indirectly in support of patients who desperately need what we have to offer.

Sincerely,

BRYAN M. CLARY, MD, MBA, FACS
Chair, Department of Surgery
UC San Diego
A major expansion and revitalization of UC San Diego Medical Center in Hillcrest is now underway, with the Department of Surgery expected to play a major role in providing world-class care to the larger community for generations to come.

Although today's Hillcrest campus has a diverse mix of facilities, many have become obsolete or are aging, having been built, on average, more than 30 years ago. The proposed expansion which was approved by the University of California Regents this year, could grow to become a $2 billion investment in creating a premiere academic health campus and wellness destination, including a hospital with modern outpatient facilities, new multi-family housing, a new wellness center and open spaces.

The phased redevelopment will affect roughly 34 acres of the 62-acre campus and is expected to last through 2035. It will make it possible for providers at Hillcrest to continue to serve patients from all over the region, including patients who represent highly complex and acute cases and who are, in many cases, facing mortality.

In some cases, the expansion has already begun. A host of new cancer services were added to Hillcrest earlier this year, including a multidisciplinary cancer clinic staffed with physicians who specialize in some of the most commonly diagnosed malignancies. Cancer care at Hillcrest falls under the umbrella of Moores Cancer Center at UC San Diego, the only National Cancer Institute-Designated Comprehensive Cancer Care Center in the region. UC San Diego surgeons now offering services in Hillcrest include physician-scientists from several divisions within the Department of Surgery, including our breast and colorectal teams.

Hillcrest first became home to the three-story San Diego County Hospital beginning in 1904. Following a renovation of the hospital into an eleven-story, 623-bed facility, the hospital was transferred to UC San Diego — becoming the university’s first hospital — in 1966, for an initial lease payment of $350,000 per year.

The renamed University Hospital expanded its services rapidly over three next two decades, opening a Regional Burn Center in 1973, followed three years later by a Regional Trauma Center. The Outpatient Center and
Cancer Center were open by 1978, and in 1981, UC San Diego officially purchased the hospital from the County of San Diego for $17 million. A 78,000 square-foot and $32 million face lift followed in 1992.

UC San Diego Medical Center in Hillcrest currently provides a number of key services to the region, including inpatient and outpatient services, an emergency department and a Level I Trauma Center, which includes the only Regional Burn Center. The facility is also home to a Comprehensive Stroke Center and neonatal intensive care unit, among other important clinical resources. The facility also serves as a top teaching hospital, as well as the location of much of UC San Diego’s basic research and clinical research.
WHAT DOES THE DEPARTMENT LOOK LIKE

To best serve our patients, we must understand where they’re coming from. This goes beyond any barriers of language — our surgeons must also understand a patient’s cultural heritage, gender considerations, socioeconomic realities, veteran status, and religious beliefs.

In addition to providing the highest quality medical care, the UC San Diego Department of Surgery is also committed to upholding a diversity of perspectives, backgrounds, and experiences among our faculty and staff. It is through this diversity that we achieve a robust exchange of ideas, whether in the clinic or the lab.

Our commitment to diversity is reflected this year in a very tangible way: For the first time ever, our chief resident class is made up entirely of women. As the surgical community begins to come to terms with a historically high attrition rate for female residents, we are especially proud of this achievement, as well as the increasing number of female faculty who have joined our ranks with each passing year.

In addition to providing our faculty and staff with the tools and resources they need to do their jobs, it is of paramount importance to us that we create an inclusive and diverse community of care, and that all members of the department feel that their perspectives are valued and their voices heard. Just as it is the responsibility of all of us to meet the needs of our patients, it is the responsibility of all members of our department to uphold these principles of diversity. We are committed, now and always, to continuing this important work.

<table>
<thead>
<tr>
<th>All Surgery Titles (Academic/Staff)</th>
<th>Male %</th>
<th>Female %</th>
<th>Minority Count</th>
<th>Minority %</th>
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<tr>
<td>All Academic (Faculty, PhD, Trainees, Proj Sci)</td>
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<td>All Psychology Faculty</td>
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<tr>
<td>Administrative</td>
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<td>31%</td>
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<tr>
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<td>80%</td>
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<td>All Surgery Titles (Academic/Staff)</td>
<td>54%</td>
<td>46%</td>
<td>118</td>
<td>29%</td>
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</tbody>
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Locations
1. Jacobs Medical Center and Sulpizio Cardiovascular Center
2. Moores Cancer Center
3. Shiley Eye Institute
4. Koman Family Outpatient Pavilion
5. UC San Diego Student Health and Well-being
6. UC San Diego Medical Center
7. UC San Diego Health Clinic/Services Location
8. UC San Diego Health/Murrieta
9. UC San Diego Health/Rancho Bernardo

Affiliations
- Rady Children’s Hospital San Diego
- Veteran Affairs San Diego Healthcare System
- El Centro Regional Medical Center (ECRMC)
LIVING KIDNEY DONATION
Among the most effective programs within the Department of Surgery is the Living Kidney Donation program. In the United States alone, more than 100,000 people are on the waitlist to receive a kidney; meanwhile, there are only, on average, 10,000 deceased donors per year. In California, kidney transplant candidates may have to wait up to 10 years to receive a kidney from a deceased donor. To that end, UC San Diego’s Hepatobiliary and Transplant Surgery Division has recently concentrated its efforts on emphasizing the benefits of living kidney donation, which dramatically reduces risks for the recipients while increasing life expectancy and quality of life.

Led by Kristin Mekeel, MD, Chief of the Division, Professor of Surgery, and Surgical Director of Kidney and Pancreas Transplantation, the Division has experienced a more than a 100% increase in the number of living donor kidney transplants since 2014.

“Living donor kidneys last on average 5 to 10 years longer than kidneys from deceased donors,” Dr. Mekeel said. “They have immediate function, so patients are off dialysis after the transplant; and recipients live longer than recipients of deceased donor kidneys.”

The rise in living donor transplants is in part due to raised awareness and education among staff and efforts to counsel patients about the benefits of a living kidney donation. Through a partnership between UC San Diego and the National Kidney Registry, volunteers match patients with donors to make transplants happen even sooner.

The number of living donor kidney transplants conducted at UC San Diego continues to grow. “With more and more publicity about living donation,” said Dr. Mekeel, “we are seeing a lot of people coming through the system altruistically who just want to help someone else and are looking for an avenue to do it. We’ve also increased our participation in the National Registry, and now we’re actually looking beyond only blood type matches to age matches and gender matches, so that patients get the best possible kidney for them.”

TRAUMA FROM E-SCOOTERS
As dockless electric rental e-scooters have risen in popularity, so have the number of e-scooter-related injuries that require medical attention. UC San Diego Trauma Centers have seen an influx of patients suffering from e-scooter-related injuries that range in severity. Most commonly, patients have broken arms and legs and facial fractures. However, in more severe cases patients suffer from skull fractures and hemorrhaging, and in rare cases, some suffer debilitating consequences; several have even died.

Most e-scooter companies do not require riders over age 18 to wear a helmet, although some companies have
publicized that rider safety is a main priority for both of their companies. However, as UC San Diego Trauma Surgeon Leslie Kobayashi, MD, told the San Diego Union Tribune, without an effective method of implementing safety measures, riders will continue to get injured. “We’ve definitely seen an explosion in the number of trauma admissions here at UC San Diego and across the country,” Dr. Kobayashi said “We’re seeing a lot of accidents occurring in traffic where they’re merging on and off sidewalks and into actual motor vehicle lanes.” She added that half of patients tested were above the legal blood alcohol content limit or under the influence of some type of illicit substance.

Dockless electric rental e-scooters pose a public health risk. The increasing number of patients with trauma resulting from e-scooter accidents is a cause for concern, and the Division of Trauma Surgery will continue to treat those with injuries from e-scooters in addition to the hundreds of other cases it sees each year.

**PANCREATIC CANCER SCREENING**

This year, a multidisciplinary team of specialists treating pancreatic cancer at UC San Diego Health launched the Pancreatic Cancer Prevention and Screening Clinic. With combined expertise in genetics, imaging, endoscopic procedures, surgery and nutrition, the researchers and clinicians behind the first-of-its-kind clinic develop personalized prevention and early detection plans for high-risk patients seeking care at Moores Cancer Center.

Pancreatic cancer is an extremely difficult disease to treat, with only nine percent of patients surviving more than five years after diagnosis. Surgery is currently the only curative treatment method for pancreatic cancer, but in order for surgery to be an option, the disease must be detected very early. Factors that put patients at a higher risk for developing pancreatic cancer include a history of chronic pancreatitis or newly onset type II diabetes, a family history of pancreatic cancer, having certain types of pancreatic cysts and those having a genetic mutation which increases pancreatic risk anywhere from four to 40 percent.

Patients of the Pancreatic Cancer Prevention & Screening Clinic can be referred by a physician or the Family Cancer Genetics Program. After their medical records are reviewed, they may then be evaluated by a surgeon and/or gastroenterologist. The multidisciplinary team then receives the case and creates a personalized plan focusing on prevention, early detection and treatment if it is required. Patients will be given prevention and treatment recommendations, including lifestyle changes, genetic testing, evaluation of pancreatic cysts. Screening methods include endoscopic ultrasound exams, magnetic resonance imaging (MRI) and computed tomography (CT).

“Unfortunately, we are not at the point where we can prevent cancer in everyone, but we can make an impact on prevention immediately among people who have an increased risk of developing pancreatic cancer,” said Chief of the Division of Surgical Oncology, Dr. Andrew Lowy. “And if we cannot prevent it, the next best thing we can do is detect the disease early when it is in an operable stage and there is a chance for cure.”

The American Cancer Society predicts that more than 45,000 people will die of pancreatic cancer in 2019. The opening of this clinic represents UC San Diego’s proactive approach to cancer treatment, where an emphasis is placed upon treating disease at the earliest stage possible.
I-PREDICT: PERSONALIZING CANCER TREATMENTS
Cancer is one of the most difficult diseases to treat. Each case is different, every patient; no two tumors are the same. Given the varying nature of the disease, the way it is treated should also vary. That was the premise of the Investigation of Profile-Related Evidence Determining Individualized Cancer Therapy, or I-PREDICT, trial.

More research will be needed in order to confirm the findings of the study. However, I-PREDICT offers strong preliminary evidence supporting the benefits of matching and combining drugs to the specific alterations found in a patient’s tumor.

UNDERSTANDING THE UNIQUELY HUMAN CHRFAM7A GENE
Is there such a thing as a “uniquely human” response to disease?

It’s well known that the human genome contains subsets of genes that are uniquely human and not found in other species. What’s not known is if, and how, these genes might contribute to the development, progression and inflammatory responses of diseases like cancer, neurodegeneration, infection and injury. It’s to this end that scientists in the Department of Surgery have hypothesized that the emergence of certain uniquely human genes in the course of hominid evolution may be contributing resilience to some diseases and increasing susceptibility to others.

In a paper published in the Proceedings of the National Academy of Sciences (PNAS), Professor Todd Costantini’s research group demonstrates that when one such gene, called CHRFAM7A, is introduced into the mouse genome, the mouse reservoir of hematopoietic stem cells in bone marrow increases and the inflammatory response in a model of human systemic inflammatory response syndrome (SIRS) is amplified. Because CHRFAM7A inhibits neurotransmitter ligand binding to α7nAChR (a neurotransmitter receptor previously implicated in immunity, inflammation, neurodegeneration and cognitive function), the researchers underscore the need to understand how genes like CHRFAM7A might contribute to uniquely human responses in disease. They also suggest that species-specific genes like CHRFAM7A could contribute to discrepancies in drug effectiveness in human vs. animal models.

Jason K. Sicklick, MD, associate professor of surgery at UC San Diego School of Medicine and surgical oncologist at Moores Cancer Center at UC San Diego Health, was a principal author of the study which was published in Nature Online in April. Sicklick said, “Response rates to therapies that target one alteration can be low and not durable. Our approach went beyond targeting a single alteration.” Sicklick worked closely with a team of medical oncologists, including Razelle Kurzrock, MD, to find drug combinations personalized to each patient’s cancer.

Patients who had a “highly matched” (50% or more of their tumor mutations matched to drugs) treatment experienced a response rate of 50% compared to the 22% seen in patients who were less well matched or completely unmatched. Sicklick said, “Personalized combinations are necessary since no two tumors are exactly the same and so no two regimens will be the same. Our findings demonstrate that this approach is feasible and safe when patients are monitored closely and started on reduced doses.”
relating to activity across an entire anatomic region rather than a small foci, allowing for visualization of specific muscles with task-specific activation.

The group believes this technology offers numerous diagnostic, therapeutic, and biofeedback applications to enhance diagnosis and treatment of voice and swallow disorders.

Malas and his colleagues found that patients treated with TCAR were at lower risk for composite in-hospital stroke, death, and myocardial infarction compared to patients treated with Carotid Endarterectomy (CEA), even when physicians performing the procedure have no prior experience with TCAR. Dr. Malas’ findings were posted to 153 websites including the Associated Press, CNN Money, and Yahoo Finance, and were written about in TCTMD and Vascular Today.

ENT COLLABORATION WITH ENGINEERING (VOICE MONITORING DEVICE)
Philip Weissbrod, MD, of the Division of Otolaryngology, and Todd Coleman, PhD, (Bioengineering), with the assistance of David Bracken (resident, Otolaryngology) and Gladys Ornelas (PhD candidate, Bioengineering), have been developing high-density surface electromyography (HDsEMG), for use in voice and swallow applications.

Electromyography in the head and neck region is typically done via an invasive needle-based study, which is technically challenging and painful for patients. As an alternative, Weissbrod and his team have developed a new non-invasive technology which utilizes a dense multisensor surface EMG array that can capture signals relating to activity across an entire anatomic region rather than a small foci, allowing for visualization of specific muscles with task-specific activation.

The group believes this technology offers numerous diagnostic, therapeutic, and biofeedback applications to enhance diagnosis and treatment of voice and swallow disorders.
The Department of Surgery is proud to offer a variety of world-class training opportunities to prepare the surgeons of the future. The Department offers fully accredited academic residency training programs in a multitude of surgical specialties.

FELLOWSHIP OPPORTUNITIES

Trauma Fellowship
In addition to rotations for residents and fellows, the Division of Trauma offers three leading fellowship programs: UC San Diego’s Surgical Critical Care Fellowship, Acute Care Surgery Fellowship Program and the Burn Fellowship Program. These fellowships are nationally renowned and emphasize comprehensive patient care.

Our highly competitive Surgical Critical Care Fellowship, led by Dr. Jay Doucet, is one of the top trauma-surgical critical care programs in the country, with over 100 applicants for three openings. These fellows enter the Accreditation Council for Graduate Medical Education’s (ACGME) one-year program leading to American Board of Surgery Certification in Surgical Critical Care. The program provides outstanding exposure to complex surgical critical care, trauma and emergency general surgery. Graduating fellows have assumed leadership roles in the care of critically ill patients at trauma centers and surgical intensive care units nationwide.

“In the last year, I have been able to work with an outstanding faculty who have advanced my clinical and technical skills in complex hernias, foregut and bariatric surgery, therapeutic endoscopy, and many other advanced laparoscopic/robotic techniques. The breadth and depth of training here is unmatched elsewhere. I am beyond excited to begin my faculty appointment at UC San Diego and passing on what I have learned to the next fellows.”

—Dr. Ryan Broderick, UC San Diego MIS Fellowship

The top 30 Surgical Critical Care fellowship programs nationally offer the Acute Care Surgery (ACS) Fellowship Program, certified by the American Association for the Surgery of Trauma (AAST). The two-year program starts with the ACGME-accredited Surgical Critical Care fellowship in the first year. The second year offers fellows broad training in emergency general surgery, trauma surgery, vascular trauma, hepatobiliary procedures, research and electives. The ACS fellowship is overseen by full-time academic trauma and critical care surgeons who have extensive clinical and research interests.

The Burn Fellowship Program is a one-year ACGME-accredited, surgical critical care fellowship with emphasis
on burn care, burn system development, quality improvement and research. Working in the UC San Diego Regional Burn Center led Dr. Jeanne Lee, Burn Fellows are integral to our comprehensive care of burn patients. They will lead a multidisciplinary burn team in both the Burn ICU, OR and clinic. Our Burn Fellows learn burn perioperative management, operative burn procedures, reconstructive burn surgery, scar management, burn surgical critical care, disaster management, burn and injury prevention and community advocacy.

HEAD & NECK SURGERY
RESIDENCY TRAINING PROGRAM
Our Otolaryngology-Head and Neck Surgery Residency Training Program strives for a balanced and comprehensive training experience, utilizing a variety of hospitals with predictable case loads, responsibilities and opportunities. Each of the resident rotations derives the benefits of the unique experience and environment that is offered by the different participating institutions. UCSD prides itself in research excellence and in that regard, our Otolaryngology-Head and Neck Surgery Residency Training Program offers a one or two-year research fellowship during the training years. Residents have direct input into planning and performing projects during their research year, and mentored in any grant application opportunities. This year emphasizes that residents are able to understand basic medical science research techniques, learn how to critically analyze and evaluate articles, and apply statistical methods to their data.

Clinical training in Otolaryngology-Head and Neck Surgery is four years in duration. When residents are assigned to the Hillcrest Medical Center, they gain experience with acute and chronic care patients. This rotation includes facial trauma, general otolaryngology, head and neck oncology, and facial plastic and reconstructive surgery. Residents rotate separately through the Jacobs Medical Center for a different in-patient and outpatient environment that includes an intensive otology experience and additional exposure to general otolaryngology, head and neck oncology, facial plastic & reconstructive surgery, and laryngology. The residents’ experience at Rady’s Children’s Hospital provides a focused rotation that covers a variety of clinical and surgical pediatric otolaryngology. All aspects of adult otolaryngology training are encountered at the VA Medical Center, while the Kaiser Permanente rotation supplements the otology, head and neck cancer, and general otolaryngology experience for the residents.

SURGICAL SIMULATION
Plastic Surgery Boot Camp
The American Council of Academic Plastic Surgeons (ACAPS) West Coast Plastic Surgery Boot Camp is a
hands-on, practicum-based course to meet the needs of ongoing changes in graduate medical education for independent and integrated residents, providing standardized and timely exposure to critical clinical content in Plastic Surgery. Hosted at UC San Diego, the Boot Camp continues to grow each year, with dozens gathered at the Center for the Future of Surgery in August 2018 for the weekend conference. Among the attendees at the second annual event were 36 plastic surgery residents, two international attendees from Vietnam and Pakistan and 16 faculty representing UC San Diego, UC Davis, UC Irvine, Scripps San Diego, University of Utah, U of Colorado, Loma Linda, U of Nevada and the Mayo Clinic.

FEATURED RESIDENT

Dr. Tina Friesen received her B.S. in Biology and M.D. from Washington University in St. Louis and then stayed to complete her residency in Otolaryngology-Head and Neck Surgery. After her time at Washington University, she chose UC San Diego for her fellowship training. During her pediatric otolaryngology fellowship training at Rady Children’s Hospital, Dr. Friesen demonstrated an outstanding work ethic, compassionate patient care and excellent technical skills. She has developed several projects, including a Quality Improvement project to create an evidence-based algorithm for the multidisciplinary management of infants with Pierre Robin Sequence and airway obstruction. This project was presented at both the fellow research day at Surgery Grand Rounds and the 2nd Annual Interprofessional Innovations Symposium at Rady Children’s Hospital. She has also been accepted to present her project regarding predictors of pediatric tracheostomy outcomes in the United States at the upcoming AAO Annual Meeting. Dr. Friesen has since joined the UC San Diego faculty as a pediatric otolaryngologist at Rady Children’s Hospital, San Diego.
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<td>General Surgery</td>
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CENTER FOR THE FUTURE OF SURGERY
This past year, the Center for the Future of Surgery (CFS) began and completed its expansion, making it the most comprehensive surgical training center in the country. Located in the T. Denny Sanford Medical Education and Telemedicine Building on the UC San Diego campus, CFS has 22 surgical stations, seven Da Vinci surgical robots, and is also equipped with the most advanced surgical technologies. CFS added a 15-station microsurgery suite and a hybrid operating room this year to train medical students, residents and practicing surgeons on how to perform the most up-to-date and technologically advanced procedures.

The microsurgery lab houses the most advanced microsurgical simulation and visualization equipment, creating a space for learning and innovation in the realm of microsurgery. The suite consists of 14 student stations and one teaching station. Each station is equipped with cameras and screens, allowing instructors to broadcast their view to all of the student station screens or see the view from any one of the student stations.

The newly constructed hybrid OR is expected to greatly speed innovations in the fields of neurosurgery and head and neck surgery. The hybrid OR is equipped with a Siemens Zeego rotational angiography imaging system, allowing surgeons to see images of the head and neck from any angle in real time and allowing for improved navigation. Hybrid ORs have emerged as the future of neurosurgery and head and neck surgery, and CFS is leading the way in training surgeons to perform even the most complex operations in them.

The addition of the hybrid OR and microsurgical lab will also allow for more neurosurgery and otolaryngology resident courses to be held at CFS.

In addition to training medical students at UC San Diego, CFS has become an important community partner. Intuitive, the company that manufactures and develops the Da Vinci surgical system among other minimally invasive surgery technology, held its first ever foregut symposium at CFS this past June. CFS Director Dr. Santiago Horgan hopes to make this an annual event held at the CFS.

Since it opened in 2011, CFS has made strides in training medical students, residents and practicing surgeons in the latest surgical procedures. CFS has since trained over 2,000 individuals, becoming the nation’s most comprehensive surgical training center and allowing all types of surgeons to practice the most advanced procedures with the latest technology available.
To the traffic passing by on Interstate 5 beneath it, the newly constructed Gilman Bridge looks like any other concrete overpass. But to faculty, staff and students at UC San Diego, it’s a bridge to greater fellowship, increased collaboration and more seamless clinical care.

Prior to the bridge’s official unveiling on February 7, 2019, those trying to make their way between the UC San Diego School of Medicine (on the West side of I-5) and the UC San Diego Health campus (on the East side) faced a tough decision: Wait for the campus shuttle, which might be full? Make the 30-minute trek by foot? Drive and risk not being able to find parking?

After two years of construction and decades of separation, the east and west sides of the UC San Diego campus are finally united — and 500 attendees were there to celebrate when UC San Diego Chancellor Pradeep K. Khosla cut the ribbon on the long-awaited Gilman bridge.

Chancellor Khosla called the bridge “a stunning architectural structure that will help us meet our goal of creating a more interconnected campus — both literally and figuratively.” The bridge joins Gilman Drive and Medical Center Drive, connecting the School of Medicine’s facilities with the main UC San Diego Health facilities, such as the Jacobs Medical Center, Altman Clinical and Translational Research Institute and Moores Cancer Center.

Construction of the Gilman bridge was spearheaded by Tony Sánchez, a UC San Diego alumnus and engineer at the Moffatt & Nichol infrastructure firm. The firm was chosen to lead the project in 2011, and began construction in the fall of 2016. Two years after construction began, Sánchez stood alongside Chancellor Khosla as the bridge was unveiled.

Now the learning centers and hospitals of UC San Diego are connected physically, bridging the gap between education and practice. Doctors, professors, medical students, residents and fellows are just a short, 406-foot long journey away from the classrooms in which they teach and learn, to the operating rooms and laboratories in which they advance their fields.
This is a bridge to greater fellowship, increased collaboration, and more seamless clinical care.
REMEMBERING DR. ORLOFF

The entire department continues to mourn the passing of Marshall J. Orloff, MD, Distinguished Professor of Surgery Emeritus and founding chair of the Department of Surgery at UC San Diego School of Medicine. Dr. Orloff passed away November 6, 2018 after a brief hospitalization. He was 91.

Orloff was a towering figure in American surgery for more than five decades and a fixture in our community, joining the School of Medicine faculty in 1965 — before there was an actual campus or inaugural student class.

In the following decades, Orloff’s translational and clinical research changed our understanding of the physiology and consequences of portal hypertension (increased blood pressure within the portal vein that carries blood from the digestive organs to the liver) and helped define the role of surgical shunting procedures for this potentially life-threatening condition.

He was a leader on campus from the very beginning.

"As a member of our community, Marshall created and developed one of the finest departments of surgery in the nation, built upon clinical excellence, committed teaching and the translation of basic research into the clinical arena," said current Department Chair Bryan Clary, MD, FACS. "His sustained commitment to patients and to advancing his field are best exemplified by the scope and length of his active research, from the first of his more than 450 publications in 1949 to his last in 2015 — an astounding span of 67 years."

In recognition of his substantive contributions, Orloff received the Society of University Surgeons’ Lifetime Achievement Award in 2015.

Orloff was born in Chicago on October 12, 1927. He received his BS, MS and MD degrees from the University of Illinois. (He was valedictorian of each class.) After completing an internship at UC San Francisco, Orloff conducted his residency in general and thoracic surgery at the University of Pennsylvania, with a two-year interruption (1953-55) when he served in Germany with the U.S. Army Medical Corps. He finished at Pennsylvania as chief resident in 1958. Orloff’s first post-training faculty position was assistant professor of surgery at the University of Colorado, where he was honored as a Markle Scholar in Medical Science. Three years later, UCLA recruited him to be a full professor of surgery and chief of surgical services at Harbor General Hospital. At the time, he was just 34 years old.

Over the next four years, numerous institutions would attempt to lure him away, among them Yale, Columbia and the universities of Chicago and Texas. But his next move would be his last, accepting position as first chair of surgery at UC San Diego’s fledgling school of medicine. He was the youngest surgical chair in the United States, and would serve in this role for the next 16 years, stepping down in 1981, though he would continue as an active, committed clinician, researcher and educator until his death.
Orloff’s interests and accomplishments were many and enduring, encompassing liver physiology, portal hypertension, cancer, immunology, obesity, diabetes and the nascent field of solid organ transplantation. His research was continuously funded by the National Institutes of Health for almost half a century, from 1956 to 2004, amounting to roughly $22 million.

He received many awards, including honorary doctorates and professorships from universities in Korea, Greece and Sweden. He was a visiting professor more than 250 times at more than 90 institutions around the world and an esteemed mentor, honored with outstanding teacher awards at Pennsylvania, Colorado, UCLA and eight times at UC San Diego. The M.J. Orloff Family Endowed Chair in Surgery was created in 2007 with contributions from more than 200 former surgical trainees.

Orloff was soon followed in death by his wife of more than 60 years, Ann Stuart Orloff, MD, a clinical professor of radiology emeritus at UC San Diego who passed away in May of this year. Dr. Orloff and his wife are survived by their three sons and three daughters, who have followed in their parents’ inspiring footsteps: Three are professors of surgery, one is a juvenile defense attorney, one a high school teacher and one a research medical social worker and rehabilitation counselor.
The Division of Anatomy is responsible for the anatomy education of all doctors-in-training at UC San Diego. Our anatomy education program is largely dissection-based and follows the *UC San Diego Anatomy Laboratory Manual* that was completed recently by anatomy faculty expressly for our students to accomplish a full course of study in only 32 two-hour laboratories. The manual promotes learning efficiency owing to its clear descriptions of key anatomic relationships, clinical correlations, radiologic examples and tips and tricks for edifying dissection. The manual was authored by Dr. David Rapaport, Dr. Paul Kingston and Dr. Mark Whitehead. Its format benefited from Independent Studies Projects completed by two medical students, Megan Barnett and Melissa Zhao.

The anatomy laboratory provides a forum for introducing first year medical students to surgery. Laboratory teachers included UC San Diego general surgeon, Bard Cosman, MD; UC San Diego cardiovascular surgeon, Steven Howe, MD; and vascular surgeon, Josh Bardin, MD. Additional specialists who taught were UC San Diego radiologists, Murray Reicher, MD and Edward Smitamen, MD; Kaiser orthopedic surgeon, Grant Neifeld, MD; and visiting NYU Associate Dean of Curriculum, Vicky Harnick Ph.D.

Dr. David Rapaport serves as a consultant for the premier anatomy software company 3D4Medical and generates content for their program Complete Anatomy. Complete anatomy is phone and tablet based and is the “Atlas” we require for our anatomy students. The program allows custom viewing of any element, muscles, vessels, bones, etc, alone or in any combination with other elements. The images are rotatable, and permit cross-section views and mock operative windows.

Dr. Nigel Woolf, Professor of Surgery (Anatomy) Emeritus, continues work on an historical research project examining the relationship between Spanish architect Antoni Gaudi and Spanish neuroscientist, pathologist and Nobel Laureate, Ramon y Cajal. This past November, Dr. Woolf was invited to deliver the Guest of Honor Keynote Lecture at the 3rd Gaudi World Congress in Barcelona, Spain. His lecture was entitled “The Anatomical Secrets of Gaudi in Casa Mila”. Woolf’s historical research, most recently, involves an examination of histological detail evident in 1890s microscopes to verify the visibility of microanatomy sufficient to inform such scientific discoveries as Cajal’s “Neuron Doctrine”.

*Figure 2. Image of Complete Anatomy (3D4Medical) showing manipulation controls on the sides.*

*Figure 1. Image from chapter 11, “Abdominal Wall & Inguinal Canal”, UC San Diego Anatomy Laboratory Manual.*
Figure 3. Photomicrograph of a Golgi-impregnated cortical pyramidal cell as seen through the 1891 microscope. Cajal’s 1890’s drawing of the same cell type.

Figure 4. Woolf’s 1891 Zeiss microscope, formerly owned by Alfredo Kanthack MD, chair of pathology at Cambridge in 1897. This scope is virtually identical to that used by Cajal.

MARK C. WHITEHEAD, PhD
Interim Associate Dean for Undergraduate Medical Education, UC San Diego School of Medicine, Division of Medical Education

FACULTY
PROFESSOR OF SURGERY AND ASSOCIATE DEAN, UGME
Mark C. Whitehead, PhD

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

ACADEMIC AFFILIATE
Paul Kingston, PhD

105 HOURS OF ANATOMY LEARNING TIME PER YEAR

134 MEDICAL AND PHARMACY STUDENTS TRAINED

65 CLINICAL SURGEONS WHO TAUGHT ANATOMY LABS THIS YEAR TO FIRST-YEAR MEDICAL STUDENTS
The Division of Breast Surgery, established in 2018 under the leadership of Dr. Anne Wallace, provides all-encompassing care in breast surgery. Faculty in the division treat breast cancer, benign breast disease, as well as breast reconstruction and augmentation. The division celebrated its one year anniversary at the Koman Family Outpatient Pavilion this year.

Dr. Anne Wallace directs the Comprehensive Breast Health Center and is trained in breast and soft tissue surgical oncology in addition to plastic and reconstructive surgery. This year, Dr. Wallace was featured in the documentary film, “A Journey Through Breast Cancer,” which follows a breast cancer patient and her husband through their treatment journey. In the film, which was produced by faculty at both UC San Diego and San Diego State University, Wallace emphasized the importance of intra-institutional collaboration in order to treat cancer. Dr. Wallace was recognized this year by the San Diego Business Journal as one of the “San Diego 500,” a list of influential business leaders. She was also awarded the 2019 CASE District VII Grand Gold Award of Excellence in Funding.

Dr. Wallace also continued her work with the UC San Diego transgender team in further developing the transgender chest reconstruction services. She performed more than 60 surgeries, many of which have been in collaboration with the Rady Children’s Hospital’s Pediatric Endocrinologists and their transgender group. The UC San Diego trans group meets monthly, working to further establish programs in all aspects of trans health. Dr. Wallace and her team look forward to further building the surgical services with plastic surgery and urology.

Dr. Sarah Blair is an active member of the American College of Surgeons Clinical Research Program as well as the American Society of Breast Surgeons, for which she serves as Vice Chair of the publications committee. This past year she made strides in her research into microparticle nanotechnology for localizing tumors. Dr. Blair led a team of UC San Diego surgeon-scientists in developing SignalMark, a recently FDA-approved nanoparticle technology that localizes tumors, improves surgical accuracy and reduces risk and pain for patients. Dr. Blair was nominated for and accepted the position of Co-Chair of the Women in Health Sciences Committee and the Chair Faculty Welfare Committee. She continues her service as the Vice Chair for Academic Affairs and Faculty Development in the Department of Surgery, where she helps ready faculty for the responsibilities of holding an academic position. In addition, she leads the UC San Diego Women in Surgery program, which seeks to inspire women surgeons.
Dr. Ava Hosseini, surgical oncologist and assistant professor of surgery, works in collaboration with the Athena Breast Health network. She is currently working to develop a fourth year internship program within the department.
Dr. Sarah Blair was nominated and accepted co-chairwoman on the Health Sciences Committee and the Chair Faculty Welfare Committee. She also became the publications committee vice-chair for the American Society of Breast Surgeons and she is Chair, American College of Surgeons Clinical Research Program (ACS CRP) Dissemination and Implementation Committee.

Dr. Anne Wallace was recognized in the 2018 San Diego Business Journal with the San Diego 500 Award. She was also recognized by the 2019 UCSD Excellence in Clinical Care / Community Service awards. Dr. Wallace was awarded the 2019 CASE District VII Award of Excellence funding GOLD and GRAND GOLD awards.

Both Dr. Wallace and Dr. Blair were voted best doctors.
SELECT PUBLICATIONS


Wallace. KUSI channel. FDA Will Not Ban Textured Implants that are Linked to Cancer https://www.kusi.com/fda-will-not-ban-textured-implants-that-are-linked-to-cancer/TV.


Funded RESEARCH

<table>
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<td>Plasma Exosome Analysis a Liquid biopsy to Identify Breast Cancer</td>
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<td>Sarah Blair</td>
<td>A Randomized Phase III Trial Comparing Axillary Lymph Node Dissection to Axillary Radiation in Breast Cancer Patients (cT1-3 N1) Who Have Positive Sentinel Lymph Node Disease after Neoadjuvant Chemotherapy</td>
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<td>Sarah Blair</td>
<td>Cross Training Translation Cancer Researchers in Nanotechnology. This is a Training Grant to Support 7 Graduate Students and Postdoc Per Year Share by About 20 Faculty</td>
<td>NIH-NCI-NCTC-R21T</td>
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<tr>
<td>Anne Wallace</td>
<td>ISPY2-Neoadjuvant Trial for High Risk Breast Cancer Patients (Investigation of Serial Studies to Predict Your Therapeutic Response with Imaging and Molecular Analysis)</td>
<td>Funded by Safeway gift/ACRIN/FINH grants</td>
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The mission of the Division of Cardiovascular and Thoracic Surgery is to deliver outstanding patient care to the community, lead groundbreaking research and promote inspired teaching. Our group continues to be the world leader in the surgical treatment of chronic thromboembolic pulmonary hypertension and internationally recognized for the care of end-stage heart and lung disease.

Since the inception of the UC San Diego Cardiovascular Institute, the division has continued to successfully grow across all of our disciplines. The Institute brings together the clinical operations of specialties from multiple academic departments in order to better address the needs of patients with cardiovascular disease and related conditions. The division has continued to draw upon the expertise and capabilities of the Department of Surgery in the management of academic affairs.

This year was a major milestone for the division, as it surpassed 4000 PTE (Pulmonary Thrombo-Endarterectomy) Surgeries. This is by far the largest number of such operations in the world, and UC San Diego continues to maintain the best outcomes despite more complex and higher risk patients. This is only possible through a dedicated multidisciplinary team of individuals from a variety of specialties who are passionate about this disease.

Furthermore, through collaboration with pulmonary vascular medicine and interventional cardiology, UC San Diego is now the national leader in Balloon Pulmonary Angioplasty (BPA), which is utilized for treatment of Chronic Thromboembolic Pulmonary Hypertension (CTEPH) in patients who are not surgical candidates. We also developed the techniques of minimally invasive PTE surgery, results of which were presented and received with high enthusiasm at the 19th International Society for Minimally Invasive Cardiothoracic Surgery (ISMICS) in New York.

Over the past year, the division experienced significant clinical growth, with an additional 17 percent increase in surgical volume and productivity, despite capacity constraints at our La Jolla campus. Our annual volume of surgeries now exceeds 3,000 cardiac and thoracic procedures, across all campuses, while continuing to maintain some of the best outcomes and quality of care.
The division’s heart and lung transplant, adult congenital, and thoracic surgery programs continue to be among the most rapidly expanding programs in the Department and institution. The division performed more heart transplants this past year than ever before, with patient outcomes that greatly exceed national standards and expectations. This year we are on track to perform over 100 heart and lung transplants.

The division’s 17 faculty and 13 advanced practitioners provide care across multiple institutions in San Diego County, as well as international centers in Hawaii, China, Japan and Brazil. This past year, UC San Diego’s cardiac surgery program began operations at Loma Linda University Medical Center in Murrieta. Along with a team of advanced practitioners, Dr. Steve Howe leads this busy and vibrant program in Murrieta. In addition, a new Thoracic Surgery service was installed at Inland Valley Medical Center, as well as Palomar Medical Center. The division also continues to host visitors and trainees from around the world.

The division’s Accreditation Council for Graduate Medical Education (ACGME) approved Cardiothoracic Surgery Fellowship continues to be a highly competitive program, which again drew more than 100 well-qualified applicants for one position. The number one choice candidate was once again matched this year. Fellowship programs in the adult heart transplant and heart failure programs, in addition to the congenital program at Rady Children’s Hospital, are currently undergoing expansion.
Left: Mr. Julio Oando, perfusionist, presenting at the perfusion conference of the 15th Congress of Turkish Cardiovascular Society in Antalya, Turkey.

Above: Dr. Patricia Thistlethwaite is appointed President of Western Thoracic Surgical Association.
SELECT PUBLICATIONS


Klok FA, Barco S, Konstantinides SV, Darteville P, Fadel E, Jenkins D, Kim NH, Madani M, Matsubara H, Mayer E, Pepke-Zaba J, Delcroix M, Lang IM. Determinants of diagnostic delay in chronic thromboembolic Pulmonary Hypertension: Results From the European CTEPH Registry. Eur Respir J. 2018 Dec 6;52(6). pii: 1801687


Funded Research

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<td>NIH NCI R01</td>
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<td>Victor Pretorius</td>
<td>Momentum 3 Study Heart Mate 3 FDA Approval</td>
<td>Abbott (industry)</td>
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<td>Notch3 Signaling in Pulmonary Hypertension</td>
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<tr>
<td>Patricia A. Thistlethwaite</td>
<td>Small Molecule Inhibitors of Notch Signaling to Treat Pulmonary Arterial Hypertension</td>
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The Division of Colon and Rectal Surgery at UC San Diego provides innovative, high-quality, evidence-based care to patients with complex conditions, such as inflammatory bowel disease, colorectal and anal cancers, anorectal fistula and diverticular disease, as well as complex pelvic floor disorders. Recognized as national leaders in the field of medical robotics and colorectal innovation, we seek to provide the most advanced colorectal care in the region.

The Division continues to expand our clinical footprint throughout the San Diego region with new faculty, staff and clinical locations. Each faculty surgeon holds an outreach clinic by which we provide high-quality colorectal care to the community. With clinics from South San Diego County to North County and the Inland Empire, we are able to reach our most vulnerable patients in their own neighborhoods.

Our Division welcomes the addition of Dr. Benjamin Abbadessa from Mount Sinai in New York City. Dr. Abbadessa completed his fellowship in colorectal surgery at Cleveland Clinic in Florida, and subsequently worked in New York before joining UC San Diego. Dr. Abbadessa works full-time at our Hillcrest location, and is an anchor tenant at the new UC San Diego Cancer Center expansion within Hillcrest Medical Center. His expertise is in the area of colorectal cancer, robotics and inflammatory bowel disease. We are pleased that Dr. Vanessa Abbadessa (Pediatrics) will also be joining our UC San Diego family.

With the addition of Dr. Abbadessa, UC San Diego now has six board-certified colorectal surgeons, two nurse practitioners, one physician assistant, one wound, ostomy and continence nurse (WOCN), and four full-time staff to serve our patients. We work from three major hospitals: Jacobs Medical Center La Jolla, UC San Diego
Medical Center Hillcrest, and the San Diego Veterans Administration Hospital. We also have outpatient clinics in La Jolla, Hillcrest, Encinitas and Temecula, with anticipated expansion into Rancho Bernardo in the next fiscal year. The clinical demand for high-level colorectal care continues to increase yearly and our Division is committed to meeting that demand.

In addition to extraordinary patient care, the colorectal group continues to work with industry partners to offer patients and the community the latest in surgical clinical trials. This year we have ongoing trials in all aspects of clinical care including inflammatory bowel disease, or IBD (stem cell fistula trial), colorectal cancer (CEA antibody trial), and ostomy care (RF Ostomy care). Future trials will include areas of peak interest for our team, including 3D imaging in IBD, image-guided surgery, new robotic platforms and the testing of new non-opioid analgesic agents. The Division, along with the Division of Minimally Invasive Surgery, hosts a large yearly surgical course at the Center for the Future of Surgery, where more than 100 surgeons are trained in the latest colorectal techniques and evidence-based practice. In the coming years, we expect to strengthen our commitment to GI Surgery through the creation of a blended Digestive Institute, which will include Colorectal, Minimal Invasive Surgery, and Gastroenterology.

Research and education are the cornerstones of the Division’s academic practice. Comparative effectiveness research in the areas of IBD VTE and pouch outcomes, colorectal cancer, women in medicine and robotic training have been the hallmarks of this years’ publications, presentation and abstracts, totaling 35 in all.
As a testament to the hard work of our faculty in mentoring and educating the next generation, three of our six graduating general surgery chiefs will be entering the field of colorectal surgery. Collegiality is a value highly regarded by our team, and under the direction of Dr. Lisa Parry, a San Diego Colorectal Collaborative (SDCC) was started. Focused on exchanging ideas about best practices, difficult cases and new innovation, the SDCC is in full force year two, with anticipated growth in the coming years.

The management of colorectal cancer remains a challenging area of research and clinical care. Under the direction of Dr. Nicole Lopez, the UC San Diego National Accreditation Program for Rectal Cancer remains the premiere tumor board for discussing the radiologic, pathologic and clinical care of UC San Diego rectal cancer patients. Investigator-initiated trials detecting residual cancer after chemoradiation therapy, total neoadjuvant therapy and watch-and-wait protocols are underway. UC San Diego continues to be the top destination for rectal cancer patients in San Diego, with high volumes and expertise in young onset disease. Coupled with our genetic counselors and fertility preservation experts, we offer patients the most comprehensive care in the region.

Together with our GI colleagues, we remain the highest volume center for inflammatory bowel disease in San Diego. We participate in numerous medical and surgical clinical trials and have presented at the most prestigious meetings in the field of IBD. Recent abstracts include the use of endoanal advancement flaps, IPAA in Crohn’s disease and the risks of using biologics in surgical patients. Our division, together with colleagues from Gastroenterology and the Jacobs School of Engineering, has received a $1.5 million dollar grant to study 3D imaging in Crohn’s patients with strictureing disease as well as an additional $3.5 million grant to create a laboratory gut model of Crohn’s disease.

Benign disease, anorectal and pelvic floor have become an increasingly important aspect for clinical care. Dr. Sam Eisenstein is the PI on two clinical trials using fistula plugs and stem cells. Dr. Bard Cosman published two landmark papers in Diseases Colon and Rectum this year focusing on the management of anorectal disorders in spinal cord injury patients and the long term follow up of our UC San Diego cohort of patients with anal dysplasia. Sacral nerve stimulation (SNS) is the current surgical treatment of choice for patients with fecal incontinence. Dr. Eisenstein has the largest experience in the region with SNS and together with our best-in-class GI motility center, our San Diego community now has the most innovative options available to treat pelvic floor disorders.
**HONORS AND AWARDS**

Dr. Sonia Ramamoorthy and Dr. Nicole Lopez were recognized as Top Docs.

Dr. Lisa Parry was awarded the UC San Diego Department of Surgery Women in Medicine mentorship award.

**SELECT PUBLICATIONS**


**FUNDED RESEARCH**

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<td>IBD-SIRQC- Surgery in IBD quality BD-SAVES- Study of ASA vs enoxaparin postop in IBD patients</td>
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The Division of Hepatobiliary and Transplant Surgery is the largest abdominal transplant program in San Diego and is a regional referral center for the surgical treatment of liver disease and cancers. The program performs liver, kidney and multi-organ transplantation, as well as complex liver and bile duct surgery for cancer and benign conditions.

As the only academic transplant program in San Diego, in 2018 the UC San Diego transplant program performed the most liver and kidney transplants in the county, with exceptional outcomes. We are proud that more than one third of our transplant recipients receive kidneys from living donors, and we are the only partner center with the National Kidney Registry in San Diego offering paired and chain donation. The program will restart the Living Donor Liver Transplant program in the Fall of 2019, and will be part of the initial study for liver perfusion pumps nationally. UC San Diego Transplant surgery also covers pediatric kidney transplantation at Rady Children’s Hospital.

Our division formally welcomed Dr. Tatiana Kisseleva as an Associate Professor of Surgery this year. Dr. Kisseleva is an internationally renowned researcher in hepatic fibrosis and is funded by several National Institute of Health R-01 grants.

The hepatobiliary surgery group includes nationally renowned hepatobiliary surgeon and Chair of the Department of Surgery, Dr. Bryan Clary, as well as Dr. Gabriel Schnickel and Dr. Jennifer Berumen. The group is well known for complex hepatobiliary surgery for cholangiocarcinoma and hepatocellular carcinoma, as well as vascular resections for pancreatic cancer, sarcoma and renal cell carcinoma. The practice has grown to nearly 200 procedures a year, both minimally invasive and open for benign and malignant disease. For patients with malignancy, the group works closely with a multi-disciplinary team of oncologists, radiologists, surgeons, and hepatologists to provide personalized state of the art cancer care at Moores Cancer Center at UC San Diego.

Dr. Kristin Mekeel was promoted to the permanent role of Chief of the Division of Transplant and Hepatobiliary Surgery in 2019. She continues to serve as the Surgical Director of Kidney and Pancreas Transplantation. Under her leadership, the programs have greatly expanded and established outcomes that are amongst the best in the nation. Dr. Mekeel serves nationally on the American Society of Transplant Surgeons PROACTOR Task Force, United Network of Organ Sharing (UNOS) Donor Labs Committee, and just finished three years of service on the UNOS pediatric committee. Dr. Mekeel also continues to serve on the board of the John Brockington Foundation and Women Engaged in Living Donation, both supporting kidney transplantation and living donation locally and nationally. Dr. Mekeel’s interests include both transplant and surgical quality, gender disparity for female physicians, and resilience for surgeons.

Dr. Gabriel Schnickel joined the division in 2017 and continues as the Surgical Director of Liver
Transplantation. Dr. Schnickel completed medical school at the University of Colorado, and residency and fellowship in liver transplant and hepatobiliary surgery at UC Los Angeles. Dr. Schnickel is spearheading the upcoming Living Donor Liver Transplant program at UC San Diego, which will start in the fall of 2019. Dr. Schnickel’s expertise is in living liver donation, liver perfusion and the surgical and medical treatment of Hepatocellular Carcinoma (HCC). In addition to his transplant practice, Dr. Schnickel is also an experienced hepatobiliary surgeon specializing in minimally invasive liver resection, complex liver and bile duct resection, and vascular resection for pancreatic cancer, sarcoma and renal cell carcinoma. He is the go-to surgeon for intra-operative assistance for many surgical specialties at UC San Diego. Dr. Schnickel serves nationally on the American Society of Transplant Surgeons Business Practice Committee and the National Medical Advisory Committee of the American Liver Foundation.

Dr. Jennifer Berumen is the Director of the Living Donor Kidney Transplant program and the Surgical Director of Kidney Transplantation at Rady Children’s Hospital. The living donor kidney transplant program has seen tremendous growth under Dr. Berumen’s leadership, including the expansion of kidney paired and chain donation through the National Kidney Registry. In addition to transplant, Dr. Berumen specializes in dialysis access and minimally invasive and open hepatobiliary surgery at the Veteran’s Administration Hospital. Dr. Berumen directs the medical student clerkship and was awarded the Whitehill award by the surgical residents, which recognizes excellence in surgical education. Dr. Berumen is active in the community with Women Encouraging Living Donation (WELD), a group that educates patients and families about the benefits of living donation.

Dr. Justin Parekh joined the division in September of 2018 as a liver transplant, kidney transplant, and living donor surgeon. Dr. Parekh joins the faculty after

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**Above:** (left to right) Justin Parekh, MD; Kristin Mekeel, MD; Jennifer Berumen, MD; and Gabriel Schnickel, MD.
completing his medical school, residency, and fellowship training at UC San Francisco, and then working in Dallas for three years. He serves as the Director of Quality for Abdominal Transplantation, and supports multiple QI projects designed to enhance patient care and system efficiency. Importantly, Dr. Parekh is part of a team working on a national transplant quality program as part of the broader NSQIP initiative, which is currently in beta testing. His research interests focus on surgical quality, acute liver failure, and organ utilization.

Dr. Tatiana Kisseleva continues her highly innovative and respected research work in the areas of liver fibrosis, the development of hepatocellular carcinoma, and alcohol-related fibrosis and cirrhosis, with a goal of developing anti-fibrotic molecules. Her lab is also one of few groups that can isolate hepatocytes, Kupffer cells, hepatic stellate cells, and endothelial cells that are used for translational research. She received her first patent for molecular targets of hepatic fibrosis in 2019. She receives substantial funding support from the NIH. She was awarded additional funding this year from the Takeda Sanford initiative for innovation. An international expert in her field, she traveled across the U.S., Europe and Japan in 2018-2019 as an invited speaker, and published eight peer-reviewed papers. She mentors seven post-doctoral fellows and graduate students in her lab, as well as UC San Diego medical students and residents.

HONORS AND AWARDS
Dr. Jennifer Berumen received the UC San Diego Health Whitehall Prize for Excellence.

Funded Research

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Top: (left to right) Theresa Chan (resident) and Dr. Parekh performing a kidney transplant.

Above: (left to right) Cindy Guerrer (scrub tech), Kevin Englar (resident), Dr. Berumen, Dr. Schnickel and Dr. Parekh during a donor nephrectomy.
SELECT PUBLICATIONS


HCC transplant consortium. Molecular genetic and immune functional therapies in the regression of liver fibrosis. Hepatol Commun. 2018


The Division of Minimally Invasive Surgery at UC San Diego remains on the forefront of academic minimally invasive surgery. This year has been an exciting one, and has seen advancements in the care of our patients, the investigation and development of new technology and the training of future surgeons.

All surgeons in the division are active at the Bariatric and Metabolic Institute, and we are proud to say that this year’s accreditation visit was extremely successful. We obtained Level 1 certification from the American College of Surgeons. There were no citations and the reviewers were particularly impressed with the surgical outcomes of our patients. We have also expanded our reach with the hiring of Dr. Eduardo Grunvald from internal medicine to provide full time medical bariatrician services to further enhance the care of our patients and augment their excellent outcomes. The group has been particularly active in the research realm as well, publishing papers related to bariatric surgery in fatty liver disease, ERAS protocols, and endoscopic rescue of bariatric patients transferred in from outside hospitals.

The group remains extremely active in the implementation and development of new surgical technology. We are on the forefront in the utilization of ICG technology, particularly in relation to making cholecystectomy safer. The group recently received a sizable grant to investigate the effects of ICG on performing this operation and hopes to have the largest dataset in the country for analysis by the end of this academic year.

In the ever-expanding field of surgical robotics, UC San Diego surgeons remain in the lead. Dr. Santiago Horgan has been a critical consultant for this endeavor over the past few years, and he was extremely excited to be able to share with his team the fruits of his labor. Dr. N. Cheverie completed more robotic inguinal hernia surgeries than any surgeon going through certification in 2018, and Dr. Garth R. Jacobsen was invited to give the robotic components separation talk at the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) in Baltimore this year. Dr. Santiago Horgan was featured on HBO’s Vice TV in a spectacular episode on robotic surgery, where he represented UC San Diego in strong fashion.

In addition to the bariatric certification, the minimally invasive surgery fellowship also underwent reaccreditation and a site visit. Once again, the reviewer was extremely impressed with the comprehensive nature of the bariatric and minimally invasive surgery training the fellows received. The fellowship was accredited with no citations and will continue to train two fellows per year, with the goal of creating academic surgeons.

Dr. Santiago Horgan is a Professor of Surgery and Chief, Division of Minimally Invasive Surgery. He serves as the Chief of the Bariatric and Metabolic Surgery as well as the Center for the Future of Surgery and the Vice Chair of Business Development. He is an internationally recognized expert in advanced surgical techniques and a pioneer in minimally invasive robotic surgery, treatment of morbid obesity and a specialist in surgery of the esophagus.

Dr. Garth R. Jacobsen is a professor in the Clinical X Series and serves as the Director of the General Surgery residency program. The residency is in great shape, as evidenced by outstanding fellowship matches, ACGME survey results, and with 100% board pass rates. He continues to push the forefront of robotics in hernia repair and looks to implement a robotic single anastomosis duodenal switch program in the upcoming year.
Top: Minimally Invasive Surgery staff pose for photo at the annual SAGES conference.

Right: (From left to right) Dr. Santiago Horgan, Dr. Sonia Ramamoorthy and Dr. Andrew Lowy.

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

FACULTY

PROFESSORS OF SURGERY
Santiago Horgan, MD, FACS
Garth Jacobsen, MD, FACS

PROFESSORS OF MEDICINE
Eduardo Grunvald, MD

ASSOCIATE PROFESSOR OF SURGERY
Bryan Sandler, MD, FACS

ASSISTANT PROFESSOR OF SURGERY
Joslin N. Cheverie, MD
Tania Morimoto, PhD

FELLOWS
Ryan Broderick, MD
Robert Cubas, MD
Jenny Lam, MD
Kai Neki, MD
Arielle Lee, MD
Karl Hermann-Fuchs, MD
Rebeca Dominguez-Profeta, MD
Tomas Flores, MD
Marco Di Corp, MD
Tokyo Matsuzaki, MD
Faisal Bukeirat, MD
Joaquin Moises Jimenez, MD
Thach Pham, MD
David Bernstein, MD

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1,332 SURGICAL CASES FY18/19

10 PUBLICATIONS

8 VISITING INTERNATIONAL SCHOLARS 2018–19

100 COMPLEX ABDOMINAL WALL HERNIA PROCEDURES THIS YEAR

OVER 269 BARIATRIC SURGERIES PERFORMED 2018–19 WITH EXCELLENT OUTCOMES

Above: Dr. Santiago Horgan, MD

Above: Dr. Garth Jacobsen, MD

Above: Dr. Ryan Broderick
Dr. Bryan J. Sandler is an associate clinical professor and serves as the co-director of the minimally invasive surgery fellowship. Dr. Sandler remains very active in the Center for the Future of Surgery hosts animate labs on a weekly basis, ranging from an intern boot camp to complex robotic surgery.

Dr. Joslin N. Cheverie is an assistant professor of clinical surgery, and an alumna of UC San Diego’s Minimally Invasive Surgery Fellowship program. Dr. Cheverie has settled into her practice and is extremely busy clinically (foregut, hernia and bariatrics) and is a core leader of our research group.

Dr. Ryan Broderick, our 2019 MIS fellow, will stay in the Division of Minimally Invasive Surgery and we are delighted he has accepted an opportunity to be part of our faculty as of 2019.

Dr. Eduardo Grunvald is a clinical professor of medicine and serves as Medical Director of the Weight Management Program within the Bariatric and Metabolic Institute, a program of the Division of Minimally Invasive Surgery. The obesity and bariatric surgery program continues to grow, and Dr. Grunvald continues to develop clinical, educational, and scholarly partnerships between various divisions. He won first place in a poster competition at a regional general internal medicine conference on the topic of advanced treatment of hypoglycemia after Roux-en-Y Gastric Bypass. Dr. Grunvald represents the division on a national committee developing obesity medicine education competencies for promoting and standardizing knowledge and skills on the medical and surgical treatment of obesity across medical schools in the U.S.

Tania Morimoto is an Assistant Professor in the Department of Mechanical and Aerospace Engineering and the Department of Surgery. She leads a robotics lab focused on developing flexible and soft surgical robots for improved dexterity, manipulation, navigation, and safety. She was awarded funding from the NSF Smart and Connected Health program for her proposal titled "Human-in-the-loop Design and Control of Handheld Robotic Instruments for Laparoscopic Surgery." Dr. Morimoto started a joint appointment with the division as of July, 2019.
SELECT PUBLICATIONS


HONORS AND AWARDS

Dr. Santiago Horgan was appointed co-chair of the Robotic Committee Society of the American Foregut Society and appointed Chair of the Development Committee of the American Foregut Society.

Dr. Cheverie was awarded the Dr. David Easter clinical teaching award for 2019, a tremendous feat for a first-year assistant professor.

Dr. Garth R. Jacobsen won the Dr. David Easter clinical education award in 2018.

FUNDED RESEARCH

<table>
<thead>
<tr>
<th>PRINCIPAL INVESTIGATOR</th>
<th>RESEARCH TITLE</th>
<th>FUNDING SOURCE</th>
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<tbody>
<tr>
<td>Joslin N. Cheverie</td>
<td>Enhanced Exercise Maintenance and Weight Loss after Bariatric Surgery Through the Addition of a Fitness Wearable: A Prospective Randomized controlled trial.</td>
<td>The academy of Clinician Scholars (AoCS)</td>
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<tr>
<td>Santiago Horgan</td>
<td>Technical Validation of MR Biomarkers of Obesity-Associated NAFLD</td>
<td>NIH</td>
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<tr>
<td>Santiago Horgan</td>
<td>Fellowship in Minimally Invasive</td>
<td>Fortimedix</td>
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<tr>
<td>Garth Jacobsen</td>
<td>Post-Approval Study of the LINX(R) Reflux Management System</td>
<td>Torax Medical</td>
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<tr>
<td>Garth Jacobsen</td>
<td>The CALIBER Study: Randomized Controlled Trial of LINX versus Double-Dose Proton Pump Inhibitor Therapy for Reflux Disease</td>
<td>Torax Medical</td>
</tr>
<tr>
<td>Garth Jacobsen</td>
<td>Fellowship In Minimally Invasive Surgery</td>
<td>W.L. Gore</td>
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DIVISION OF NEUROSURGERY

The Division of Neurosurgery provides the full range of contemporary neurosurgical practice. Using a multidisciplinary approach, we provide care to diagnose, treat, and rehabilitate patients with neurological disorders. The division also offers residency and fellowship opportunities, and conducts path-defining research that is advancing the field.

The 2018-2019 academic year was a pivotal period of expansion for UC San Diego Neurosurgery.

Neurosurgery and Neurosciences maintained its top 50 ranking in U.S. News & World Report. Our Quad-Pod of neurosurgical operating rooms in Jacobs Medical Center continued to provide integrated cranial and spinal navigation, intra-operative MRI and CT capabilities, and sophisticated microscopy and imaging tools. In addition to the tremendous opportunities for neuro-oncology and restorative procedures, these suites are home to the stereo-EEG and laser ablation procedures that anchor our Level 4 Epilepsy Center — the only one in the region.

The Neurosurgery division was a local host of the 2019 American Association of Neurological Surgeons (AANS) conference in April, and was featured in a “History of San Diego Neurosurgery” video that was shown at the opening general plenary session.

We launched our “Neuro Hub”, an innovative, technology-driven teaching and meeting space designed for surgeons both here and abroad. This space complements and connects our resources of our Quad-Pod, the Altman Clinical and Translational Research Institute, and the Center for the Future of Surgery, as well as our unique institution that is rich in both neurosciences and engineering.

Neurosurgery also broadened its geographic footprint to include a new clinic in Rancho Bernardo, in addition to several other regional locations including Hillcrest, La Jolla, Carlsbad, and Escondido. In addition to our community medical center partnerships of Tri-City and Palomar, Neurosurgery also provides the neurosurgical service needs at the La Jolla VA Medical Center and Rady Children’s Hospital. Our two destination neurovascular centers at Hillcrest and Jacobs Medical Center enable us to maintain our status as the third Comprehensive Stroke Center in the country. We receive national-level referrals for complex cases for both adult and pediatric patients.

Our strong tradition of teaching excellence will be further enhanced by the expansion of the Center for the Future Surgery to include a new microsurgical lab and hybrid OR/angiography suite, that opened in Fall 2019. This visionary, unique facility provides national and international training opportunities as well as a clearinghouse for the research and development of new technologies.

Our world-class Skull Base Surgery program — led by Dr. Marc Schwartz in Neurosurgery and Dr. Rick Friedman from Otolaryngology — remains one of the largest in the country. Through this program, Drs. Schwartz and Friedman bring destination integrated care to UC San Diego for the most complex cranial tumors.

The faculty and residency program continue our strong history of academic productivity and national engagement. Faculty were responsible for 96 peer reviewed publications and 4,092 citations in the 2018–2019 academic year. Neurosurgery continued its strong support of UC San Diego medical students; all four matched successfully to top programs around the country including UC San Francisco and University of Pennsylvania. We were delighted to recruit leading candidates for our own residency program.

Our faculty continues to expand. Over the course of the past academic year, we recruited Drs. Beaumont, Kfoury-Beaumont, Osorio and Pham.

Thomas Beaumont, MD, PhD specializes in skull base and minimally invasive cranial surgery. He performs both open microsurgery and endoscopic approaches for brain, skull base and pituitary tumors where he tailors
the surgical approach to provide maximally effective yet minimally invasive neurosurgical care. Also trained as a scientist, Dr. Beaumont has extensive research experience in genomics and epigenetics, and has received funding from the National Institutes of Health.

Najla Kfoury-Beaumont, MS, PhD is the first of three dedicated PhD researchers in Neurosurgery. For her postdoctoral training, she pursued translational research at Washington University to investigate potential antibody-based therapies to target tau transcellular propagation in Alzheimer’s disease. Her current research interests extend across cancer biology, development, and epigenetics with special emphasis on glioblastoma. Her long-term research interests include the study of epigenetics in brain tumors and developmental disorders.
Martin Pham, MD specializes in neurosurgical evaluation and treatment of spinal disorders. This includes: adult scoliosis and spinal deformity; complex spinal reconstruction; robotic and minimally invasive spine surgery; motion preservation of the spine; spine tumors; and spine trauma. Having completed spine fellowship training with both neurosurgeons and orthopedic surgeons, Dr. Pham has a comprehensive understanding of the spine that allows him to tailor his treatment to each individual using a wide range of available surgical and nonsurgical options.

Joseph Osorio, MD, PhD earned his PhD in Bioengineering at UC Berkeley/UC San Francisco (UCSF), with a focus on translational research in brain tumor imaging, and completed both medical school and Neurosurgery residency at UCSF. Dr. Osorio completed a post-graduate spine fellowship in the Department of Orthopedics at Columbia University in New York City. His dual-training provides an interdisciplinary perspective for the most complex spine pathologies including adult spinal deformity, cervical deformity, and spinal tumors.

Below: Dr. J. Scott Pannell instructing neurosurgery interns at the Society of Neurological Surgeons (SNS) boot camp held at the Center for the Future of Surgery, May 2019.

Right: Chair Dr. Alexander Khalessi pictured with his patient, brain cancer survivor Angie Weight, at the December “Over the Edge for Brain Cancer” event which fundraises for brain cancer research through ABC2 (Accelerate Brain Cancer Cure). Angie, a 41-year-old artist and mother of four who was diagnosed with oligodendroglioma, was the first patient to be operated on in UC San Diego’s intra-operative MRI surgical suites – the first and only in Southern California.

Right: Dr. J. Scott Pannell instructing neurosurgery interns from across the country at the Society of Neurological Surgeons (SNS) boot camp held at the Center for the Future of Surgery, May 2019.

Above: Chair Dr. Alexander Khalessi with 2019 Resident Graduates Drs. Vince Cheung and Reid Hoshide at the 2019 Graduation Celebration held at Scripps Seaside Forum.

Above: Neurosurgery resident Dr. Arvin Wali (fourth from right) received the UC San Diego School of Medicine Humanism in Medicine Resident Award in Surgery. With this award, Dr. Wali was invited to join UC San Diego School of Medicine’s Chapter of the Gold Humanism Honor Society (GHHS).
HONORS AND AWARDS

Neurosurgery resident Dr. Arvin Wali was recognized by third year medical students and received the UC San Diego School of Medicine Humanism in Medicine Resident Award in Surgery. With this award, he is now a member of UC San Diego School of Medicine’s Chapter of the Gold Humanism Honor Society (GHHS).

For his considerable involvement in UC San Diego Neurocritical Care, Dr. David Barba was awarded the 2018 Axon Award for Most Collaborative Neurosurgeon.

In July 2018, Dr. Sharona Ben-Haim was granted the AAMC/AMA Early Career Women Faculty Leadership Development Scholarship to attend the seminar in Colorado. This seminar provides women physicians and scientists the opportunity to broaden their knowledge and skills used to navigate academic medicine and continue their path to leadership.

In 2018, Dr. Sunil Jeswani was named Palomar Physician of the Year for his work in Trauma ICU. Dr. Jeswani was also recognized as Palomar Physician of the Year in 2019 for his exceptional work in the Neuro Unit.

Dr. Michael Levy was recognized and awarded the Service Award as an international member of the Peruvian Neurosurgical Society at their annual meeting.

Dr. J. Scott Pannell has been appointed the role of the Primary Endovascular faculty liaison to the Stroke Leadership Committee.

SELECT PUBLICATIONS


FUNDED RESEARCH

<table>
<thead>
<tr>
<th>PRINCIPAL INVESTIGATOR</th>
<th>RESEARCH TITLE</th>
<th>FUNDING SOURCE</th>
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<tr>
<td>Joseph Ciacci</td>
<td>A Prospective, Randomized, Double Blinded, Vehicle and Placebo-Controlled, Multi-dose, Multicenter Study to Evaluate the Safety and Preliminary Efficacy of Human IDCT in Subjects</td>
<td>CTI Clinical Trial and Consulting Services</td>
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<tr>
<td>Alexander Khalessi</td>
<td>exRNA Biomarkers for Human Glioma</td>
<td>Massachusetts General Hospital</td>
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UC San Diego Department of Surgery Annual Report 2018–19 47
The Division of Otolaryngology/Head and Neck Surgery is currently in the process of expanding its services with new facilities and added clinical expertise. Over the past year, the division has worked with medical group planners and hospital strategy to build upon the strength the division has acquired over the past 5 years. This includes a doubling of clinical space along with a complete renovation in the Perlman Ambulatory Office building. This new facility will house a dedicated Rhinology, Sinus and Anterior Skull Base Center, expansion of the Acoustic Neuroma, Otology and Skull Base Surgery Center, Facial Nerve Paralysis and Reanimation Center, Facial Plastics and Reconstructive Surgery and full-service audiology diagnostics, cochlear implant and hearing aid services.

The completion of a brand new state-of-the-art microsurgical laboratory in the Center for the Future of Surgery is now in the final stages. This 15-station lab will be equipped with surgical microscopes, high speed drills and monitors for the use of training residents in Otolaryngology, Neurosurgery and Plastics as well as holding CME events with community physicians. The lab has been in the works for about 8 years, and now with the support of many donors it has finally come to fruition.

The division is proud to be expanding the Rhinology and Sinus faculty under the direction of Dr. Adam DeConde with the recruitment of Dr. Carol Yan who completed her residency at the University of Pennsylvania and is completing her Rhinology/Sinus fellowship at Stanford. Dr. Yan has a basic science interest in this subspecialty and will be establishing a lab effort to carry on her research program. Also coming to the division’s La Jolla practice is Dr. Jacqueline Greene, who is completing her residency at Northwestern and fellowship at Harvard in Facial Plastics and Reconstructive Surgery with an emphasis in Facial Nerve Reanimation. She will also be a designated hospitalist at Jacobs Medical Center. Her career focus will be to join Drs. Quyen Nguyen, Ryan Orosc and Amanda Gosman to expand the division’s expertise in facial nerve paralysis treatments.

The Voice and Swallowing Center is expanding with the recruitment of Dr. Andrew Vahabzadeh-Hagh who has joined Dr. Phil Weissbrod and the Speech-Language Pathology group. This Center offers total care of voice and swallowing conditions. Dr. Weissbrod also has an appointment as Adjunct Professor at CSU San Marcos, teaching the course, “Imaging of the Palate at the Department of Speech Pathology.” Dr. Andrew Vahabzadeh-Hagh has two new provisional patents filed: Tracheostomy Support System and Thermal Endoscope for Clinical Diagnostics.

The Acoustic Neuroma program under the co-direction of Drs. Rick Friedman and Marc Schwartz has exceeded all expectations in attracting patients, and is approaching 200 skull base cases a year. Additionally, they have successfully developed an Auditory Brainstem Implant program for patients whose 8th nerve is no longer viable that precludes a customary cochlear implantation. Dr. Friedman has been invited to speak at the Quadrennial Acoustic Neuroma International Conference in Rochester, Minnesota.

The division’s Head and Neck Oncology surgeons have teamed up with Medical Oncology, and are developing new research programs funded by a large grant under the auspices of the “Cancer Moon Shot” initiative. Dr. Joseph Califano was named Physician-in-Chief at the Moores Cancer Center recently and has provided his steady hand to the clinical operations of the NIH designated Cancer Center. Dr. Charles Coffey has completed the Surgical Education Research Fellowship offered by the American College of Surgeons.
No less important is the plan to replace the Hillcrest facility with a new acute care hospital, an ambulatory facility with a same day surgery suite and academic offices. Otolaryngology Clinics are being designed in the new facility and will be staffed by Dr. David Hom and Dr. Sapideh Gilani. Both of these physicians have handled a full clinical load in this busy Level 3 trauma hospital in addition to shouldering the responsibilities of teaching medical students and residents.

UC San Diego has made a commitment to expanding into the greater San Diego County area with a new multi-specialty clinic in Rancho Bernardo at Via Tazon. A new Nurse Practitioner will have a general ENT practice at this facility several days a week.
HONORS AND AWARDS

Dr. Deborah Watson, Facial Plastic & Reconstructive Surgeon and Director of our residency program, was nominated in April 2019 to be on the Executive Committee and Board of Directors at the American Academy of Facial Plastic & Reconstructive Surgery. The residency program has been granted extra funding approval for an additional Oto-HNS resident position.

The National Institute of Biomedical Imaging and Bioengineering (NIBIB) Celebrated the exceptional and hard work of women grantees at NIBIB in acknowledgement of the United Nation's International Day of Women and Girls in Science. Dr. Quyen Nguyen was one of the 5 awardees on Feb 19, 2019.

SELECT PUBLICATIONS


Ali A. Alattar, BS1, Jaclyn Bergstrom, MS2, Gail A. Laughlin, PhD2, Donna Kritz-Silverstein, PhD2, Erin Richard, MS2, Emnlie Reas, Phd2, Jeffrey Harris, MD 3, Elizabeth Barrett-Connor, MD2, and Linda K. McEvoy, PhD2,4. Hearing impairment and cognitive decline in older, community-dwelling adults: A longitudinal, observational study. Accepted Journal of Gerontology: Medical Sciences - The Journals of Gerontology: Series A, g0t035 Published Feb 12 2019 PMID 30753308.


Hom DB, Bhattachar N. Embedding magnesium metallic particles in polycaprolactone nanofiber mesh improves applicability for biomedical applications. Acta Biomaterialia (ACCEPTED).


Paxley SK, Adhikari, U, Xiaoian A; Rijal N, Hopkins TM, Khanal S; Chavez T; Tatu R, Sankar J; Little KJ,


# Funded Research

## Otologyngology/Head and Neck Surgery

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<tr>
<th>Principal Investigator</th>
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<td>Allen Ryan, Harris Co-PI</td>
<td>Basic Mechanisms in Hearing Loss of Cochlear Origin</td>
<td>VA Merit Review Grant-32 10/1/16 – 9/30/20</td>
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<td>Allen Ryan, Co-PI Harris</td>
<td>Otolaryngology Training in Immunology, Virology, &amp; Molecular Biology</td>
<td>NIH/NIDCD 7/1/16 – 6/30/21</td>
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<td>Allen Ryan, Co-PI Harris</td>
<td>Middle Ear Response in Otitis Media</td>
<td>NIH/NIDCD 4/1/16- 3/31/21</td>
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<td>Blumenfeld L, Orosco R, Weissbrod PA</td>
<td>Dysphagia Home Exercise Program Adherence and Functional Outcomes in Patients with Head and Neck Cancer: Comparing Traditional and Mobile Device Based Delivery Models.</td>
<td>UC San Diego MCC Pilot Project Grant</td>
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<td>Weissbrod PA, Coleman TP</td>
<td>Validation of High-Density Surface Electromyography of the Larynx: Concurrent Hook-Wire and High-Density Surface Electromyography</td>
<td>Seymour Cohen Grant of the American Laryngological Society</td>
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<td>Nguyen</td>
<td>Development of Human-Selective Nerve Illumination Peptide for Surgery</td>
<td>5R56EB025910-02</td>
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<tr>
<td>Nguyen</td>
<td>Development of Human-Selective Nerve Illumination Peptide for Surgery</td>
<td>Academic Senate</td>
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<td>Nguyen</td>
<td>Testing of Topical Therapeutic for Fungal Otomycosis</td>
<td>QST</td>
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<tr>
<td>Chen/Nguyen</td>
<td>3D Bioprinting of Nerve Conduits</td>
<td>NICHD</td>
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<td>Vahabzadeh-Hagh</td>
<td>Thermographic Endoscope for Clinical ENT Diagnostics</td>
<td>Accelerating Innovations to Market (AIM) and Medical Entrepreneurship Education and Training Rapid Grant Program</td>
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<tr>
<td>Lippman, Coffey (Co-I)</td>
<td>M4OC-Prevent: Metformin for Oral Cancer Prevention. A Phase IIa Trial Investigating Metformin for Oral Cancer Prevention in Individuals with High Risk Oral Leukoplakia or Erythroplakia.</td>
<td>P30 CA023074 (NCI)</td>
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<td>Ferris, Coffey (PI site)</td>
<td>Transoral Surgery Followed By Low-Dose or Standard-Dose Radiation Therapy With or Without Chemotherapy in Treating Patients With HPV Positive Stage III-IVA Oropharyngeal Cancer.</td>
<td>E3311 (ECOG-ACRIN), Ferris (PI) 8/2013-2/2023</td>
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<td>Califano (PI) Coffey (site PI VA)</td>
<td>Detect 44: A Novel Point of Care Test for Oral and Oropharyngeal Cancer risk</td>
<td>1R01CA204264-01A1 1/2017-8/2021</td>
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<td>Coffey PI</td>
<td>Dosimetric and Functional Implications of Submandibular Gland Transfer in Oropharyngeal Cancer Patients Treated with Definitive IMRT</td>
<td>UC San Diego Head &amp; Neck Cancer Center Research Pilot Project Grant 3/2017-6/2019</td>
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<td>David Horn</td>
<td>Improving Wound Healing with Cytokines</td>
<td>KLS Wound Healing Grant</td>
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<td>Califano Lead PI</td>
<td>A Novel Point of Care Test for Oral and Oropharyngeal Cancer Risk</td>
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<td>Califano Lead PI</td>
<td>Optimizing an Assay for High Risk HPV DNA in Body Fluids</td>
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<td>Califano Lead PI</td>
<td>Dynamic Models of Cetuximab Resistance in HNSCC Based on Serial Genomics Data, New grants Orosco</td>
<td>NCI (Subward – Johns Hopkins University)</td>
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<td>R Orosco &amp; M Yip</td>
<td>Galvanizing Engineering in Medicine (GEM) Developing Methods to Optimize Accuracy, Efficiency, and Safety in Telerobotic Surgery New grants Deconde</td>
<td>UC San Diego Head CTRI New grants Deconde</td>
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<tr>
<td>Adam Deconde</td>
<td>A Randomised, Double-Blind, Parallel Group PhIII Study to Assess the Clinical Efficacy and Safety of 100 mg SC Mepolizumab as an Add on to Maintenance</td>
<td>PPD Inc.</td>
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</table>
Committed to improving the health and welfare of children and adolescents living in San Diego County, the Division of Pediatric Surgery provides comprehensive surgical care in subspecialties such as general abdominal, trauma, oncology, neonatal and colorectal surgery.

The Division of Pediatric Surgery supports a robust clinical service. Educationally, we provide pediatric surgical exposure to medical students and residents interested in pediatric surgery. The division is involved nationally in advocacy for pediatric trauma and supports several international health initiatives. The team has also supported multiple clinical and basic science research projects, which have been presented both regionally and nationally.

This year the Pediatric Surgery team was proud to provide care to Keane Webre-Hayes after he was bitten by a shark while lobster diving in Encinitas. The Pediatric Surgery team converted what could have been a tragic event into a young man’s opportunity to overcome. The case received national attention and the trauma team was thrilled to see him do so well. Keane is great young man who continues to strive for a full recovery and is back in the water.

Dr. Karen Kling has provided excellent leadership and mentorship as the associate program director for the fellowship program. She presented her research at the Pacific Association of Pediatric Surgeons (PAPS 2017) where the paper was awarded top clinical resident research presentation and has also presented research at the International Pediatric Endosurgery Group (IPEG). Dr. Kling also serves as our current section chief of general pediatric surgery.

Dr. Romeo Ignacio joined the Pediatric Surgery Division from the Navy Balboa Medical Center where he was the program director of the Navy General Surgery program. Dr. Ignacio is the current Rady Children’s Hospital Trauma Medical Director. He brings a wealth of clinical knowledge and strong clinical research emphasis. He has already provided a drowning prevention publicity effort through San Diego media outlets.

Dr. Hari Thangarajah has been clinically productive and recently initiated a pediatric surgical presence in El Centro, California, an area which otherwise would have no pediatric surgical subspecialty coverage. He is also an integral part of the pediatric surgery research team, working with research residents.

Dr. David Lazar is a clinically busy surgeon who organizes and mentors UC San Diego surgical residents. He has
a passion for newborns with congenital anomalies diagnosed prenatally. He has also provided specialized care to patients with pectus excavatum.

Dr. Steven Bickler is recognized as an expert in international health specifically surgical care in Africa. He continues his NIH-funded work in this area. He provides clinical care at the UC San Diego Jacobs Medical Center NICU. He has presented his clinical and basic science research at multiple venues throughout the last few years.

Dr. Nick Saenz remains clinically busy surgeon emphasizing his efforts in the surgical oncology area. He has provided one-on-one surgical apprenticeships for medical students interested in a career in surgery.

Dr. Tim Fairbanks completed his Masters of Business Administration at UCLA in 2019. He was the physician champion of their Rady Children’s Hospital Quality Initiative program which emphasized quality projects across all subspecialties.


FUNDING RESEARCH

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<thead>
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<tr>
<td><strong>PEDIATRIC SURGERY</strong></td>
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<tr>
<td>Stephen W. Bickler, Co-Investigator</td>
<td>This Health Professionals Education Partnership Initiative Builds on Our Previous MEPI Grant for Mozambique</td>
<td>NIH 1 R24TW011216-01 $3,000,000</td>
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<tr>
<td>Karen Kling, Co-Investigator</td>
<td>Timing of Inguinal Hernia Repair in Premature Infants: A Randomized Clinical Trial</td>
<td>National Consortium</td>
</tr>
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</table>
The Division of Plastic Surgery is bracing for an exciting year of expansion. The division welcomed two new faculty members and two new research fellows this summer, in addition to hiring a third advanced practice provider and a new research coordinator. The Plastic Surgery outpatient clinic will be moving in the Spring of 2020. The new space will include more exam rooms, dedicated consultation, treatment and photography rooms, as well as new equipment to increase the number of cosmetic services provided to the community. As we look back on this past year, we are proud to share a few highlights.

Dr. Amanda Gosman was named Chief of the Division of Plastic Surgery at UC San Diego in December 2018. She also serves as Director of Craniofacial and Pediatric Plastic Surgery; as Chief of Plastic Surgery at Rady Children’s Hospital; and as Director of the Plastic Surgery Residency and Craniofacial Fellowship Program. Dr. Gosman is happy to lead the Division in a period of expansion, leveraging residency expansion and the multidisciplinary teams at UC San Diego to build up a complex reconstructive surgery and aesthetic surgery program.

On August 10–12, 2018, UC San Diego’s Division of Plastic Surgery hosted the second annual ACAPS West Coast Plastic Surgery Boot Camp. Ten distinguished leaders in plastic surgery from the western United States participated as faculty for the “hands-on” practicum-based course. The course focused on critical clinical content in Plastic Surgery for integrated and independent residents moving forward in their Plastic Surgery training. Forty-three independent and integrated residents from all over the U.S. spent three days in lectures and labs learning the core concepts of plastic surgery. The boot camp was a huge success and we are thankful for the faculty who traveled to UC San Diego to teach with us, and for the trainees who came to learn.

In January 2019, surgeons and nurses from plastic surgery divisions at UC San Diego, Stanford University and University of Pennsylvania — all of whom were representing the non-profit organization ConnectMed International — traveled to Vietnam to complete a week-long educational and surgical collaboration with Hue University of Medicine. To help formalize the launch of Hue University’s first Division of Plastic Surgery, a continuing medical education (CME) conference was held, featuring presentations on facial reconstruction and microsurgery from Dr. Amanda Gosman, Dr. Gordon Lee (Stanford) and Dr. Phuong Nguyen (UPenn). Participants also benefited from interactive broadcasts of live surgeries and a hands-on lab providing surgical training for the treatment of facial trauma. The surgical teams from ConnectMed and Hue University worked closely together to successfully complete 11 surgeries for low-income local adults and children, including tissue expansion for a young burn patient and post-mastectomy microsurgical breast reconstructions.

Research remains a key focus of the faculty and residents in the Division, attracting dozens of medical students interested in plastic surgery. This led to the development of the Plastic Surgery Interest Group and the Plastic Surgery Research Group (PSRG). The PSRG meets monthly and includes more than 40 medical students.
Above: Riley Dean being casted by Sarah Crowley during the 2018 Plastic Surgery Boot Camp.

Left: Boot Camp 2018 UC San Diego and Visiting Faculty.

Left: Division of Plastic Surgery residents in the OR.

Below: Plastic Surgery training in Vietnam during the opening of Hue University’s first Division of Plastic Surgery.

AMANDA GOSMAN, MD
Chief, Division of Plastic Surgery

FACULTY

PROFESSORS OF SURGERY
Marek Dobke, MD, PhD
Amanda Gosman, MD

ASSOCIATE PROFESSORS OF SURGERY
Mark Rechnic, MD
Ahmed Suliman, MD

ASSISTANT PROFESSOR OF SURGERY
Samuel Lance, MD

CRANIOFACIAL FELLOW
Sun Hsieh, MD

2,872 SURGICAL CASES FY18/19

FACULTY PUBLICATIONS

23 ARTICLES
3 BOOK CHAPTERS

43 TRAINEES AT 2018 PLASTIC SURGERY BOOTCAMP
in addition to residents and faculty. This year, we have our first research fellow from the Naval Medical Center, Austin Cooper Morgan, MD, who is a general surgery resident interested in pursuing a career in plastic surgery. Dr. Morgan has been a great addition to our research program and recently acquired funding for a study to develop an ERAS protocol for facial trauma patients. His willingness to include students in the project has opened a tremendous opportunity for medical students with a burgeoning desire to include research in their career track. We look forward to continuing the research fellow position, and have successfully filled the position for the 2019-20 academic year. Additionally, the division has a robust Visiting Professors program, hosting five visiting professors this past year. A key focus of the presentations was building effective multidisciplinary teams to care for the growing needs of the transgender community. The Division is making excellent progress in expanding service lines to help meet those needs.

The Division of Plastic Surgery joined by two new Faculty members. Dr. Chris Reid will join the Division in July 2019 after completing a Microvascular Surgery Fellowship at UCLA. Dr. Reid is a San Diego native and completed his Plastic Surgery Residency at UC San Diego in 2018. During his residency he won multiple awards for teaching and research. Dr. Frederic Kolb will join the division from Gustave Roussy Hospital in Paris, where he was the Head of Plastic Surgery and pioneered a robust clinical program in microsurgery and oncoplastic surgery. He spent two years at UC San Diego doing basic science research in tissue engineering, a body of work he will take forward when he returns.
The UC San Diego Division of Plastic Surgery named Dr. Marek Dobke the Teacher of the Year. Dr. Chris Reid received the Excellence in Research award, Dr. Anthony Kordahi the Academic Achievement award, and Dr. Michelle Zaldana-Flynn the Clinical Excellence award.

Dr. Amanda Gosman received the Castle Connolly Exceptional Women in Medicine Award. Dr. Gosman was also honored by San Diego Magazine with the Woman of the Year Award, "Physicians of Exceptional Excellence" 100 Top Docs Award in Plastic Surgery, and she was a finalist in the magazine’s “Non-Profit Visionary” category for her leadership and work with ConnectMed International. The San Diego Daily Transcript named Dr. Gosman to the list of Most Influential Women in San Diego County.

Dr. Samuel Lance was awarded the Rady Children's Hospital Roger Roux Quality Improvement Award — for recognition of leadership to improve care for patients at Rady Children's Hospital. Dr. Lance also received the “Top 40 Under 40” San Diego Professionals Award from the San Diego Daily Transcript and Business Journal.

SELECT PUBLICATIONS


PLASTIC SURGERY

Amanda Gosman: A Comparative Effectiveness Study of Speech and Surgical Treatments using a Cleft Palate Registry/Research Outcomes Network

Samuel Lance, Austin Cooper: Enhanced Recovery after Surgery in Craniofacial Trauma: A Prospective Single Center Study

FUNDING SOURCE

NIH R01 Grant

UC San Diego, The Academy of Clinician Scholars (AoCS) Faculty Development Award
The Division of Surgical Oncology maintains a robust clinical and research enterprise and has the distinction of offering clinical programs that draw patient referrals nationally and internationally. Our faculty are at the forefront of treatment for patients with GI stromal tumor, esophagogastric, hepatobiliary-pancreatic, and peritoneal malignancies, and in the use of fluorescence guided surgery.

All division members are active in basic and/or clinical research, funded by the National Institutes of Health/National Cancer Institute, the Veterans Administration, and Stand Up to Cancer, among others. Residents interested in surgical oncology are strongly encouraged to join one of these laboratories during their research years. In the past year, new clinical trials for patients with GI stromal tumor (GIST) and those undergoing Heated Intraperitoneal Chemoperfusion (HIPEC) surgery were developed by Drs. Sicklick and Baumgartner, respectively. It was truly a banner year for the Division in terms of securing grant funding as Dr. Michael Bouvet received a second VA Merit Award, becoming the first UC San Diego faculty member to achieve that milestone. Dr. Bouvet also assumed leadership of the Cancer Therapeutics Training Grant and received funding from Pedal the Cause and a Galvanizing Science in Engineering Award. Dr. Jason Sicklick received his first RO1 award from the National Cancer Institute to study the role of stem cells in GIST. Dr. Becke White received a grant from the Pancreas Club after her work was selected as the best abstract presented at the 2019 annual meeting. Dr. Andrew Lowy received a grant from Stand Up to Cancer and The Lustgarten Foundation, along with his longtime collaborator Dr. Tannishtha Reya of the Department of Pharmacology, to study targeting pancreatic cancer stem cells. Dr. Kaitlyn Kelly received a grant from the American Cancer Society to study the dissemination and implementation of current recommendations for the staging and treatment of gastric cancer at referring hospitals in San Diego and Imperial counties.

Division members continued to publish in high impact journals including Nature Medicine, Nature, Cell, Clinical Cancer Research, Oncogene, JAMA Oncology, JCO Precision Oncology, Annals of Surgical Oncology, and Journal of the American College of Surgeons. Among the highlights was Dr. Sicklick’s first author paper in Nature Medicine detailing results of the precision medicine clinical trial I-PREDICT, which he has co-led at UC San Diego Moores Cancer Center.

Division members continue to play leadership roles in the UC San Diego Health System. Dr. Jula Veerapong developed and leads the UC San Diego Enhanced Recovery After Surgery program at UC San Diego which has rapidly expanded to involve multiple departments. Dr. Becke White was named Director of the GI Oncology Multidisciplinary Clinic at UC San Diego Hillcrest and Dr. Lowy was recently named Clinical Director for Cancer Surgery for the Moores Cancer Center.

The Division’s clinical footprint continues to grow with notable expansion of programs to treat patients with GIST and gastric cancer, led by Drs. Sicklick and Kelly, respectively. Division members have also significantly expanded the use of minimally invasive surgery in oncology to nearly all domains, including esophagogastric tumors, liver, pancreatic and adrenal tumors as well as HIPEC surgery. Dr. Lowy led the development of a new multidisciplinary Pancreatic...
Cancer Prevention Clinic which sees patients at increased risk due to family history, genetic susceptibility, pancreatic cysts or chronic pancreatitis. The clinic has seen and treated more than 100 patients in its first few months. Division members performed their 600th cytoreductive surgery with HIPEC since 2007, and UC San Diego remains the highest volume center in the Western U.S.
HONORS AND AWARDS

Dr. Michael Bouvet received two simultaneous VA merit review awards — first in history of VA surgical service. He was named PI of CT2 T32 training grant and President of International Society of Fluorescence Guided Surgery (ISFGS).

Dr. Jason Sicklick was the 2018 honoree for the Global Genes RARE Champion of Hope in Medical Care and Treatment, along with receiving the 2019 Excellence in Mentoring award from UC San Diego Health. He was also nominated for the 2018 Biden Cancer Initiative’s FiERCe Award and the 2018 UC San Diego and the 2018 UC San Diego Excellence in Stewardship Award.

Dr. Andrew Lowy was elected to a second term as the Chair of the NICI’s Pancreatic Cancer Task Force. He led the creation and opening of the Pancreatic Cancer Prevention Clinic, the first on the west coast and one of only a handful in the nation specifically dedicated to pancreatic cancer prevention. He was named to San Diego Magazine’s Best Doctors for the 11th straight year of his 12 years at UC San Diego.

Dr. Becke White was appointed as Treasurer of Society of Clinical Surgery and as a Complex General Surgical Oncology Certifying Examination Consultant for the American Board of Surgery. She was also named as designated host for the Society of Surgical Oncology’s 2019 International Career Development Exchange.

Dr. Jula Veerapong is leading UC San Diego’s efforts on enhancing surgery recovery time by implementing the Early Recovery after Surgery (ERAS) Program and enrolling UC San Diego in the Agency for Healthcare Research and Quality (AHRQ) Safety Program for Improving Surgical Care and Recovery (ISCR).

Dr. Joel Baumgartner’s publication “Preoperative Circulating Tumor DNA in Patients with Peritoneal Carcinomatosis Is an Independent Predictor of Progression-Free Survival” was selected for plenary presentation at the 2018 Society of Surgical Oncology Conference.

SELECT PUBLICATIONS


### FUNDED RESEARCH

#### SURGICAL ONCOLOGY SURGERY

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<tr>
<td>Joel Baumgartner</td>
<td>The ILEUS Study: A Phase 2 Randomized Controlled Trial Investigating Alvimopan for Enhanced Gastrointestinal Recovery after Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemotherapy</td>
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<tr>
<td>Michael Bouvet</td>
<td>Development of Near Infrared Fluorescence-Guided Surgical Navigation and Tumor Specific Photoimmunotherapy for Improved Outcomes for GI Cancers</td>
<td>VA Merit Review</td>
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<tr>
<td>Michael Bouvet</td>
<td>UC San Diego Cancer Center Training Program in Drug Development</td>
<td>NIH/NCI</td>
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<tr>
<td>Michael Bouvet</td>
<td>Targeting Fibroblast Heterogeneity to Improve Surgical Outcomes in Pancreatic Cancer</td>
<td>2018 Padres Pedal the Cause/ C3 Collaborative Translational</td>
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<tr>
<td>Michael Bouvet</td>
<td>Reengineering Monocytes from Peripheral Blood for Immunotherapy Targeting Pancreatic Cancer</td>
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<td>Michael Bouvet</td>
<td>CMA- Marker-Assisted Prevention and Risk Stratification (MAPRS): Mucin Signatures and Molecular Imaging for the Early Detection of Colorectal Cancer</td>
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<td>Kaitlyn Kelly</td>
<td>Dissemination and Implementation of Current Recommendations for the Staging and Treatment of Gastric Cancer at Referring Hospitals in San Diego and Imperial Counties.</td>
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<tr>
<td>Andrew Lowy</td>
<td>RON Receptor in Pancreatic Cancer Biology and Therapy</td>
<td>NIH/NCI</td>
</tr>
<tr>
<td>Andrew Lowy</td>
<td>Musashi-Mediated Control of Pancreatic Cancer Growth and Progression Major Goals: Pancreatic cancer is now the 4th leading cause of cancer death in the United States;</td>
<td>NIH/NCI</td>
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<td>Andrew Lowy</td>
<td>Imaging and Molecular Correlates of Progression in Cystic Neoplasms of the Pancreas</td>
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<tr>
<td>Andrew Lowy</td>
<td>Targeting Stem Cell Signals in Pancreatic Cancer</td>
<td>STAND UP TO CANCER</td>
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<tr>
<td>Andrew Lowy</td>
<td>ROR1 CAR-T Cells for Advanced Cancer and Solid Malignancies</td>
<td>TRAN Grant, California Institute for Regenerative Medicine</td>
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<tr>
<td>Jason Sicklick</td>
<td>Targeting Drug-Resistant Cancer Stem Cell Niches of Gastrointestinal Stromal Tumor</td>
<td>NIH/NCI</td>
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<tr>
<td>Jason Sicklick</td>
<td>An Open-Label, Phase 2 Efficacy Study of Temozolomide (TMZ) In Advanced Succinate Dehydrogenase (SDH)-Mutant/Deficient Gastrointestinal Stromal Tumor (GIST)</td>
<td>Pedal the Cause C3 Collaborative Translational Cancer Research Award</td>
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<tr>
<td>Rebekah White</td>
<td>Rapid Isolation of Circulating Exosomes for Detection in Pancreatic Cancer</td>
<td>Moores Cancer Center Translational and Clinical Pilot Project Award</td>
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</table>
The Division of Trauma, Surgical Critical Care, Burns, and Acute Care Surgery serves more than 7,000 patients every year in San Diego and Imperial Counties. Since 1973, we have provided state-of-the-art care at the UC San Diego Regional Burn Center, and, since 1976, have led the nation in effective trauma care, operating the region’s first Level 1 Trauma Center.

Our seven clinical and three research faculty are engaged in a robust research program in clinical outcomes and basic science/translational research. The past year saw the leading trauma society, the American Association of Trauma, hold its annual meeting in San Diego and the Division presented the highest number of abstracts it ever has, marking a very productive research year.

We also host prestigious fellowship programs in burn critical care, surgical critical care and acute care surgery. This year, the UC San Diego Regional Burn Center received full, three-year re-verification as a Burn Center by the American Burn Association. This achievement recognizes the county’s only Regional Burn Center’s dedication to providing optimal care for burn patients.

Trauma faculty are continuing efforts to expand Stop the Bleed, a campaign launched in October of 2015 by the American College of Surgeons, which aims to train, equip, and empower bystanders to help in a bleeding emergency before professional help arrives. This training class teaches individuals how to recognize potentially life-threatening bleeding and how to intervene to control bleeding by using techniques including direct pressure, wound packing, and tourniquet use.

Dr. Jay Doucet was named Chief of the Division of Trauma, Surgical Critical Care, Burns and Acute Care Surgery. Dr. Laura Godat was named to the prestigious Future Trauma Leaders program by the American College of Surgeons Committee on Trauma. Dr Linda Hill of the Department of Family and Public Health was cross-appointed as Clinical Professor of Surgery in the Division in recognition of her extensive collaborative work on injury prevention.
24 FACULTY PUBLICATIONS

NUMBER OF PROCEDURES PERFORMED: 1,303

NUMBER OF PATIENTS:
- TRAUMA: 2,835
- CRITICAL CARE: 1,032
- BURNS: 648
- ACUTE CARE SURGERY: 564

**ASSET**
ADVANCED SURGICAL SKILLS FOR EXPOSURE IN TRAUMA

**JAY DOUCET, MD, MSc, FRCSC, FACS**
Chief, Division of Trauma, Surgical Critical Care, Burns, and Acute Care Surgery

**FACULTY**

**PROFESSORS OF SURGERY**
- Andrew Baird, PhD
- Antonio De Maio, PhD
- Jay Doucet, MD, MSc, FRCSC, FACS
- Brian Eliceiri, PhD
- Jeanee Lee, MD, FACS

**ASSOCIATE PROFESSORS OF SURGERY**
- Leslie Kobayashi, MD, FACS
- Todd Costantini, MD, FACS

**ASSISTANT PROFESSORS OF SURGERY**
- Allison Berndtson, MD, FACS
- Laura Godat, MD, FACS

**PROJECT SCIENTIST**
- David Cauvi, PhD

**CLINICAL INSTRUCTOR**
- Paul Albini, MD

**FELLOWS**
- Andrea Munden, MD, PGY 6
- Eric Raschke, DO, PGY 6
- Lindsay Reilly, MD, PGY 6
- Jarrett Santorelli, MD, PGY 6

**Top:** Trauma Division faculty on a refamiliarization visit with the Mercy Air Helicopter Emergency Medical Service.

**Above left:** Dr. Nik Kappy, Dr. Meghan Cochran-Yu and Dr. Dan Ludi participate in a Disaster Management and Emergency Preparedness (DMEP) Course as part of their training as Trauma and Surgical Critical Care fellows. **Photo by Dr. Berndtson**

**Above right:** Dr. Laura Godat and Dr. Jay Doucet demonstrate “Stop the Bleed” techniques for National Stop the Bleed Day in May ’19.
HONORS AND AWARDS

Dr. Laura Godat was selected by the American College of Surgeons Committee of Trauma for the prestigious Future Trauma Leaders program, a 2-year funded program of travel, research mentorship and leadership training. Dr. Godat also was awarded the Excellence in Clinical Education Award by the UC San Diego General Surgery Residency.

General Surgery Resident Dr. Elliot Williams won first place in the American College of Surgeons Committee on Trauma National Basic Science Resident Paper Competition for his project “The Uniquely Human Gene CHRFAM7A Modulates Emergency Myelopoiesis after Injury”.

Dr. Todd Costantini along with Dr. Andrew Baird, Dr. Brian Eliceiri, Dr. Williams and other members of the laboratory also published in a premier scientific journal, PNAS (Proceedings of the National Academy in Sciences) “Uniquely Human CHRFAM7A gene increases the hematopoietic stem cell reservoir in mice and amplifies their inflammatory response”.

Catherine Ridgway, physician assistant in the UC San Diego Burn unit was awarded “PA of the Year” for UC San Diego Health, during PA Week in October 2018. Catherine has worked in the Regional Burn Center since 2003 and has had an active role leading quality projects as well as in educating community providers in burn care.

Dr. Linda Hill, Clinical Professor in the Department of Family Medicine and Public Health at UC San Diego and the Director of the UC San Diego/SDSU General Preventive Medicine Residency was selected for cross-appointment as Clinical Professor of Surgery in the Division. This distinction is in recognition of her extensive and continuing collaboration with the Division’s faculty for innovative projects in the field of injury prevention.

Top: Dr. Laura Godat and Dr. Jay Doucet introduce physicians to the “Stop the Bleed” program during the CMA Legislative Day in Sacramento, CA.

Above: Dr. Jeanne Lee, Director of Burn Surgery, led the UC San Diego Regional Burn Center through a successful 3-year full reverification visit by the American Burn Association. The Regional Burn Center is the only Burn Center in San Diego County. Photos by Dr. Doucet

Right: Dr. Allison Berndtson teaches physicians trauma skills at Ondo Medical School in Nigeria. Dr. Berndtson is leading a multi-year project to help develop trauma systems and improve training in Ghana and Nigeria in collaboration with the American College of Surgeons. Photo by Dr. Berndtson

Above: Senior Research Technician Olga Cohen performing cellular analysis using flow cytometry under the supervision of Dr. Brian Eliceiri in the Trauma-Burn Basic Science Laboratory.


SELECT PUBLICATIONS

Funded Research

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<td>Todd Costantini</td>
<td>National Trauma Research Action Plan</td>
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<tr>
<td>Todd Costantini</td>
<td>University of California Fire-arm Violence Research Center</td>
<td>UCOP – State Funds</td>
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<tr>
<td>Brian Eliceiri</td>
<td>Studying Neuro-Vascular Interactions Using a Cerebrovascular Organoid Platform</td>
<td>UC San Diego Stem Cell Program Innovative Project Award</td>
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<tr>
<td>Brian Eliceiri</td>
<td>Plasma Exosome Analysis a Liquid biopsy to Identify Breast Cancer</td>
<td>UC San Diego Health Sciences Academic Research Grant</td>
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</table>
The division of Vascular and Endovascular Surgery at UC San Diego is providing the highest quality of comprehensive care in vascular and endovascular surgery for all patients in the region. We have updated the endovascular suite with Clarity radiation reduction software. We acquired Cydar fusion technology as the first center in west coast and third in the US. This new technology allows us to perform the most complex endovascular thoracoabdominal aneurysm repair with the least amount of contrast and radiation. The vascular division submitted a new application for the 0/5 training program, which received institutional approval. Our team has presented our outcome and quality improvement research in 30 international, national and regional academic meetings and published 60 peer review manuscripts.

The Division of Vascular and Endovascular Surgery continues to expand at the UC San Diego Health System. Dr. Mahmoud Malas was recruited last August from Johns Hopkins University as the new Chief of Vascular and Endovascular Surgery and Vice Chair of Clinical Research for the Department of Surgery. Since then, the division also hired Dr. Omar Al-Nouri as the director of vascular services at UC San Diego Medical Center Hillcrest.

Our initial priority is to provide incredible resources for our patients in the greater San Diego region who are afflicted with disorders of the central and peripheral arterial and venous systems. There has been a steady increase in vascular surgery referrals and outpatient visits, and the operative case volume have doubled since September 2018.

We are working on creating a wound care center and a limb salvage program that includes plastic surgery, orthopedic surgery, interventional radiology, interventional cardiology and vascular surgery to provide much needed care to our community and beyond.

The division is on the rise to be one of major Aortic Centers of Excellence in the country. Collaborating with the cardiac surgery team, we are providing state-of-the-art...
comprehensive care, including open and endovascular repair for complex aortic aneurysm and dissection from the ascending aorta to the iliac arteries. Our team is on the leading edge of new technological developments such as the creation of physician-modified endografts (PMEG) and the use of fenestrated endografts to treat complex pararenal and thoracoabdominal aortic aneurysms. Our division is one of few centers nationally and the only center regionally to create PMEG for patients who are not candidates for open repair. We are in the process of submitting an investigational device exemption (IDE) to the FDA in order to evaluate the safety and efficacy of these new technologies.

Additionally, we recently completed the AlluraClarity software upgrade for the endovascular hybrid suite, which drastically improved the image quality and helped reduce the radiation dose to our patients and surgical team by more than 70 percent. We have implemented Cydar technology, a machine learning artificial intelligence technology that allows us to navigate the visceral vessels based on fusion imaging and help reduce operative time, contrast and radiation. UC San Diego is the first center in the west coast and third nationally to use this technology.
Our division also expanded clinical and operative collaboration with several services including Orthopedic, Spine, Surgical Oncology, Urology, Cardiac surgery and Interventional Radiology and Cardiology.

The division matched the top candidate in the 5/2 fellowship this year and continues to graduate superbly trained vascular and endovascular surgeons each year. Our fellows complete all surgical cases required by midway through training. Dr. John Lane was appointed this year as the new program director for the vascular fellowship. A new application for the 0/5 training program was also submitted. This will place UC San Diego in the top 50 programs nationally who are offering this new training paradigm. We continue to provide comprehensive training for our surgical residents in La Jolla and now expanded to Hillcrest.

We have made headway building our research infrastructure. This year, we hired two research fellows and a full-time research coordinator and expanded our clinical trial portfolio by bringing in five new clinical trials to UC San Diego. The Humacyte study utilizes human tissue-engineered vessels as an alternative to a patient’s own vein or a prosthetic graft for the construction of a hemodialysis access or a lower limb bypass. Additionally, UC San Diego has also been selected for the Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Study (CREST-2) and the Carotid Revascularization Endarterectomy vs. Stenting Trial-Hemodynamics (CREST-H) trials. While the former aims to compare carotid revascularization to intensive medical management in patients with severe asymptomatic carotid stenosis, the latter aims to determine whether cognition can be improved by revascularization among patients with hemodynamic impairment and mild cognitive impairment at baseline.

Dr. Malas was selected as the national PI for the Artegraft Beach trial, which investigates the safety of early access bovine carotid for hemodialysis. UC San Diego also was selected as one of twenty national sites for the Navion Medtronic post-approval trial for the treatment of thoracic aortic aneurysms and dissection. We are also in the process of establishing new trials for branched and in-situ fenestration for the treatment of complex aortic arch pathologies.

SELECT PUBLICATIONS


Dakour-Aridi H, Malas MB. Less biased estimation of the survival benefit of carotid endarterectomy using real-world data: Bridging the gap between observational studies and randomized clinical trials. JAMA Netw Open. Published online September 07, 2018(15) e181831.


Above: Artificial Intelligence (AI) Image Fusion technology facilitating intraoperative navigation and selection of major visceral arteries during complex endovascular aneurysm repair. UC San Diego is the first center on the west coast and third nationally to acquire this Machine Learning technology.
**HONORS AND AWARDS**

Dr. Dennis Bandyk received an $100,000 award from a grateful family for providing excellent comprehensive vascular care.

The UC San Diego Vascular Team received the Center of Excellence Award for TransCarotid Artery Revascularization With Dynamic Cerebral Blood Flow Reversal.


In summary, the Division of Vascular and Endovascular Surgery is on the rise to be one of the top clinical, educational and research program in the country. Our clinical volume has double in less than one year and expanded beyond the La Jolla campus. We are striving to achieve top quality comprehensive vascular care to our community and expanding regionally.

**FUNDED RESEARCH CONTINUED**

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<td>Andrew Barleben, MD</td>
<td>Combined Computational-Experimental Approach to Evaluation of Abdominal Aortic Aneurysms following Stent Graft Placement to Mitigate Endoleak and Late Graft Failure.</td>
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<tr>
<td>Andrew Barleben, MD</td>
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<tr>
<td>Andrew Barleben</td>
<td>Pivotal Clinical Study to Evaluate Safety and Effectiveness of MANTA Vascular Closure Device</td>
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<td>John Lane III</td>
<td>BEST CLI Best Endovascular versus Best Surgical Therapy for Patients with Critical Limb Ischemia</td>
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<td>John Lane III</td>
<td>Stent to Create Fistula Between External Iliac Artery and Vein to Treat CHF</td>
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<td>John Lane III</td>
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<td>John Lane III</td>
<td>Nellix EVAS 1</td>
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<td>John Lane III</td>
<td>A Phase 3 Study to Compare the Efficacy and Safety of Humacyte’s Human Acellular Vessel with that of an Autologous Arteriovenous Fistula in Subjects with End Stage Renal Disease (VA)</td>
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<tr>
<td>Mahmoud Malas</td>
<td>Carotid Revascularization Endarterectomy vs. Stenting Trial Hemodynamics (CREST-H).</td>
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<tr>
<td>Mahmoud Malas</td>
<td>Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Study (CREST-2)</td>
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<td>Mahmoud Malas</td>
<td>Humacyte CLN-PRO-VO07: A Phase 3 Study to Compare the Efficacy and Safety of Humacyte’s Human Acellular Vessel with that of an Autologous Arteriovenous Fistula in Subjects with End Stage Renal Disease (UC San Diego)</td>
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<td>Mahmoud Malas</td>
<td>Humacyte CLN-PRO-VO04: A Phase 2 Study for the Evaluation of Safety and Efficacy of Humacyte’s Human Acellular Vessel for Use as a Vascular Prosthesis for Femoro-Popliteal Bypass in Patients with Peripheral Arterial Disease</td>
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<tr>
<td>Mahmoud Malas</td>
<td>Beach Trial: Bovine Early Access, Compatibility and Hemostasis Post-Market Trial to Evaluate the Safety and Effectiveness of Early Access in Patients Who Require an Arteriovenous Conduit for Hemodialysis using the Artegraft® Collagen Vascular Graft™</td>
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When Merak Melikian Hatounian was 20 years old, he was diagnosed with a rare form of gastrointestinal stomal tumors (GIST). His mother, Debra Melikian, was determined to find the best surgeons, the best medical oncologists and the best translational oncology program in the country to treat her son.

A MOTHER ON A MISSION
After extensive online research, Debra came to a GIST Day of Learning event, where she met Dr. Jason Sicklick of the UC San Diego Division of Surgical Oncology. Dr. Sicklick is a surgeon-scientist specializing in GIST detection, diagnosis, treatment and care at UC San Diego Moores Cancer Center.

Debra quickly became an ambassador, an advocate and a fundraiser for GIST, and, in particular, for SDH-deficient GIST, as well as, most importantly, for the lab and clinical work being led by Dr. Sicklick at Moores Cancer Center — the only National Cancer Institute-designated Comprehensive Cancer Center in the San Diego region and one of only 50 in the United States.

Over the years, Debra has graciously and willingly shared her story and garnered several media articles, social media postings and media attention for GIST. She has also been a generous donor in her own right and a thoughtful, and fearless fundraiser for this cause.

With her support, Dr. Sicklick and his team have published new surgical research and cultivated new cell lines for the first time in this field. New therapies from off-label use of existing FDA-approved drugs have shown clinical promise in new investigator-initiated clinical trials.

Debra’s partnership with Dr. Sicklick and his team has raised awareness for SDH-deficient GIST and created a platform for advocacy across the country. Most importantly, the funding has fueled progress and accelerated discoveries in this field. We need to go further and to go faster in order to give hope to all patients facing this diagnosis. Together, we will.
Belinda Dunbar
Julie J. Durkee
Tanya Ebner
Dr. Melissa K. Egan
Tonia Elcombe
Jasmine Elabridi
Mary B. and William J. Erpenbach
Judith Ettinger
Kirsten Everett
Kathleen M. Farrell
Michelle and William C. Farrell
Brenda Favish
Julie A. Fickes
Michelle and Edward G. Fleming
Alexandra Fletcher
Lisa Culligan-Foley and
Adrian P. Foley
Norman M. Forrester
Marie T. Fukumoto '89 and
Timothy Fowle
Joyce W. Fujitani
Marie T. Fukumoto '89
Neva M. Gallegos
Kirti and Sharmi R. Gandhi
Kishori Y. Gandhi
Yogesh N. Gandhi
Linda Garcia
Kevin P. Gates
David Geier
Dr. Lily George
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* Deceased

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Assistant Professor, Division of Plastic & Reconstructive Surgery, University of Minnesota

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Shanglei (Shawn) Liu  
Fellowship in Colorectal Surgery, Mayo Clinic, Rochester
Rebecca Marmor  
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General Surgeon, Private Practice at Northside Hospital in Atlanta, Georgia
Rachel Voss  
Fellowship in Surgical Oncology, MD Anderson in Houston, Texas

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Minimally Invasive Surgery, UC San Diego Health
Robert Cubas  
Advanced Therapeutic Endoscopy, University of Miami, Jackson Memorial Hospital

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Associate Professor of Otology, Neurotology and Skull Base Surgery, Université de Montréal, Quebec, Canada

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Daniel Schaerer  
Head and Neck Surgeon, Kaiser Permanent, San Diego, CA

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Craniofacial Fellowship, Nationwide Children’s Hospital, Ohio State University

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Meghan Cochran-Yu  
General Surgeon, Loma Linda University Medical Center, Riverside University Health System
Nikolas Kappy  
Trauma Surgeon, Capital Health, Trenton, New Jersey
Hector Ludi  
Trauma Medical Director, Riverside University Health System

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- Scott Chicotka

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- Theresa Chan
- Thinzar “Helm” Lwin
- Edna Shenvi
- Divya Sood
- Erin Ward

### PGY 4
- Jonathan Delong
- Sean Flynn
- Claire Janssen
- Elizabeth Roderick
- Elliot Williams
- Samantha Wu

### PGY 3
- Harrison Chau
- Jenny Lam
- Katherine Lee
- Jonathan Li
- Eleftherios Makris
- John “Alec” Moral
- Catherine Tsai
- Beiqun “Mark” Zhao

### PGY 2 - Categorical
- Victoria Bendersky
- Rachel Jensen
- Jay Meisner
- Zongyang Mou
- Rohini Patel
- Ashwyn Sharma
- Michael Turner

### PGY 2 - Preliminary
- Stewart “Reese” Logan
- Raeda Taj

### PGY 1 - Categorical Interns
- Karina Covarrubias
- Jorge De La Torre
- Ana Maria Dumitru
- Nicole Goldhaber
- Isabella Guajardo
- Estella Huang
- Kevin Li

### PGY 1 - Preliminary Intern
- Satinderjit “Vinny” Locham

## Research Fellows
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- Sasha Halasz
- Hannah Hollandsworth
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- Jaren Matson
- James Jeffrey Reeves
- Danielle Carrol
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### PGY 4
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### PGY 3
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- Kavya Crawford
- Farhoud Faraji

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- Sarah Crowley

## PLASTIC SURGERY RESIDENCY
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### PGY 4
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- Sean Li

### PGY 3
- Kevin Englar

### PGY 2
- Paige McLean
- Riley Dean

### PGY 1
- Meera Reghunathan

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- Jarrett Santorelli
- Lindsay Reilly

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