TRODENT



TROJAN DENTAL FAMILIES

GENEALOGICAL ROOTS
DIG DEEP INTO USC DENTISTRY'S
100-PLUS YEARS OF HISTORY

(PGS. 17-24)

Meet the Edalats, one of the Trojan Dental Families featured inside.



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DEAN'S MESSAGE



Dear Trojan Dental Family,

I am very pleased to present to you the fall 2015 issue of TroDent.

Since our last issue, we've had a number of exciting developments here at the Herman Ostrow School of Dentistry of USC that we're happy to share with you in the forthcoming pages.

Earlier this fall, I joined Drs. Roseann Mulligan and Glenn Clark and a number of Ostrow alumni and faculty to celebrate the 30th anniversary of Ostrow's Special Patients Clinic. Since 1985, Southern California's special needs populations (a category that includes those with developmental disabilities and medically complex cases as well as the frail elderly) have been able to find a dental home here at Ostrow, even when other dental care providers couldn't (or wouldn't) treat them. It was truly inspiring to see the decades-long devotion of the faculty and alumni whose careers have been forever impacted by their time in the Special Patients Clinic. Read all about it on pages 25-28. Even more exciting, though, was a surprise announcement we made at the event, which you can read about on page 8.

We're also anxious to roll out this fall what will be one of the nation's largest mobile dental clinics, thanks to a generous gift from the Hutto Patterson Charitable Foundation. The enormous mobile clinic will help our community oral health programs reach its goal of providing care to more than 45,000 underserved children in the Children's Health and Maintenance Program (CHAMP). Read more about the latest addition to our fleet on pages 31–32.

In other news, more than 100 Ostrow faculty, staff and students provided much-needed treatment to the Special Olympic athletes who traveled to USC this past summer (page 3); we made history by enrolling our first all-female orthodontics class (page 16); and Ostrow's own associate dean of research Yang Chai PhD '91, DDS '96 earned a prestigious NIDCR grant to create an interdisciplinary center for tissue regeneration (page 29).

It's all here in the pages to come — along with our cover story on legacy families whose dental educations have spanned decades and deans long before I came to Ostrow.

So please sit back, enjoy the issue, and, as always, fight on!

Avishai Sadan DMD, MBA

G. Donald and Marian James Montgomery Professor of Dentistry

uis ha: Sudan

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A PIECE OF THE OLYMPIC GLORY

BY JOHN HOBBS MA '14

More than 100 Ostrow faculty, staff and students provided free comprehensive dental care to athletes at the 2015 Special Olympics World Games this past summer. It was the first time such comprehensive care had been offered to the athletes with intellectual disabilities — a group known to have poorer oral health than their peers. In total, 360 athletes were treated, which included more than 300 restorations, nearly 150 extractions and 20 root canals. An additional 600 athletes were provided oral health educational materials, and 200 received cleanings, ensuring all the glory-seeking athletes were able to bite down on their medals for those victorious photographs without a twinge of dental pain.

PHOTO BY JOHN HOBBS MA '14





COVER STORY

TROJAN DENTAL FAMILIES 17-24

PHOTOS BY RYAN FORBES TEXT BY JOHN HOBBS MA '14 & YASMINE PEZESHKPOUR MCM '17

Meet some of the families whose genealogical roots have dug deep down into USC dentistry's 100-plus years of eminence, with generation after generation entrusting the Herman Ostrow School of Dentistry of USC to launch their successful dental careers.

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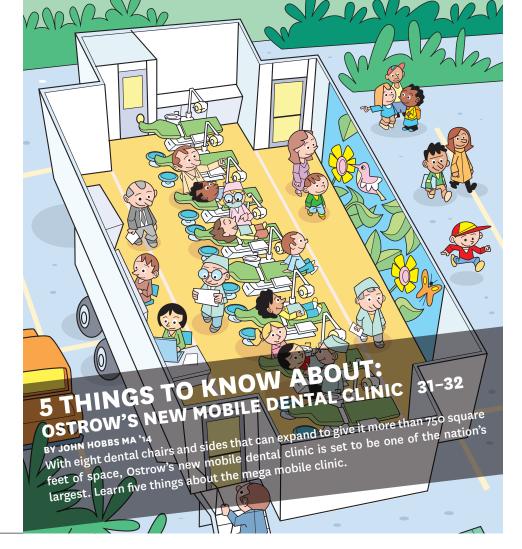
FEATURES

A PLACE ALL THEIR OWN 25-28

BY JAMIE WETHERBE MA'04 Ostrow's Special Patients Clinic recently named the "Dr. Roseann Mulligan Special Patients Clinic" celebrates 30 years of providing the highest level of dental care for patients with physical, psychological or medical disabilities as well as the frail elderly.

CEREBRAL DOWNLOAD 29

BY YANG CHAI PHD '91, DDS '96 Yang Chai shares some exciting news about an interdisciplinary initiative at USC — funded by an NIDCR grant — to create a center for dental, oral, craniofacial tissue and organ regeneration that could fast track innovative products for those with craniofacial malformations.



CONTRIBUTORS



DULCE ACOSTA MSW '14

Dulce Acosta is a first-generation, U.S.-born Mexican-American. Growing up in a singleparent household, she faced and overcame many obstacles. Fifteen years ago, she accepted a position at Ostrow and pledged to continue her academic journey. In 2014, she received her master's from the USC School of Social Work. She currently dedicates her free time to developing an inter-professional network for youth in East and South Los Angeles. Read about what has kept her inspired to improve her life as well as the lives of those around her on page 33.



YANG CHAI PhD '91, DDS '96

Yang Chai is prolific researcher with bylines on more than 120 scientific papers and numerous book chapters. He is most noted for his research on the molecular regulation of cranial neural crest cells during craniofacial development. His laboratory has developed multiple genetically engineered mouse models to investigate how craniofacial organs such as teeth, palates, mandibles, maxillae, tongues and calvaria are formed. Chai is Ostrow's associate dean of research, the director of the Center for Craniofacial Molecular Biology (CCMB) and holds the George and Mary Lou Boone Professorship.



REMY SIMARD

A native of Roberval, Quebec, Remy Simard now resides in Montreal with his two cats, Adele and Babette. Remy started his illustration career in the 1980s and has since published more than 80 children's books in both French and English. Remy's illustrations have also appeared in magazines such as Today's Parent, Reader's Digest and Maclean's. This December, Remy's first adult coloring book will be published. This issue, Remy illustrated our brand new mobile dental clinic for "5 Things to Know About" on pages 31-32.

Drs. Roseann Mulligan and Glenn Clark provide endowed funding source for Ostrow's Special **Patients Clinic**



PHOTO BY ANDY KEILEN

BY JOHN HOBBS MA'14

Ostrow's Special Patients Clinic has received a financial boost — and a new name - thanks to a generous donation made by Drs. Roseann Mulligan MS '87 and Glenn Clark.

Dean Avishai Sadan DMD, MBA made the official announcement on Oct. 13 to a crowd of Ostrow faculty, staff and alumni celebrating the clinic's 30th anniversary at an elegant reception in Downtown Los Angeles.

"This to me is an amazing yet humbling gift to accept," Sadan said to Mulligan and Clark. "You believe in what we do, and it shows by the care you provide each day, the teaching you expertly cultivate and the financial investment you've made in this school."

The gift provides the clinic with an endowment, the annual interest of which will continue to fund the operation for years to come. The clinic will also bear a new name — the Dr. Roseann Mulligan Special Patients Clinic — in tribute to Mulligan ("Nan") whose vision and leadership not only helped start the program, which is one of the first schoolbased dental clinics for patients with special needs, but also has kept it running for three decades. For more on the clinic's history, turn to page 25.

"I've always been interested in caring for the oral health needs of those patients who couldn't get treatment elsewhere," said Nan, Ostrow's associate dean of community health programs and hospital affairs. Nan also holds a joint appointment with the USC Davis School of Gerontology.

"I believe these patients deserve the very best oral health care that we can provide," she said. "They often have so many other conditions going on that can be impacted by poor oral health."

It was with this in mind that Mulligan and her husband, Ostrow professor Glenn Clark decided to make a large gift that could make a real impact on the clinic's permanence at the Herman Ostrow School of Dentistry.

"I can't think of a more vulnerable and less-cared for population than an adult with special needs," Clark said. "If you have major health issues or you're cognitively impaired or have some developmental disability, no one will treat you. So we couldn't think of any other place in the school that is more deserving."

Clark and Mulligan approached Dean Sadan and chief development officer Calen Ouellette with an idea to gift the Special Patients Clinic.

'What we wanted most," Clark said, "was for the patients treated by that clinic to get continuous care — this year, next year, 10 years, 15 years down the road, if possible."

Sadan and Ouellette countered with an idea to rebrand the clinic with Mulligan's name.

"It was only natural that Dr. Mulligan's

name be synonymous with Ostrow's Special Patients Clinic," Ouellette said, pointing out that it's only under her constant leadership that the clinic has managed to thrive all these years.

In fact, since beginning, it is estimated that the clinic has provided dental care treatment to more than 14,000 special-needs patients, including the frail elderly as well as those with intellectual and developmental disabilities, neuromuscular disease and HIV-positive patients since the earliest days of the epidemic.

The clinic has also become a required rotation for DDS students, who must spend one week in the clinic, which Nan said has helped future dental practitioners grow confident providing care to this underserved population.

"Frequently, the students will volunteer to spend additional time in the clinic because they like working with the patients," she said. "These patients are extremely appreciative of our caring for them, and the students really respond to that."

Mulligan, who has worked at Ostrow since 1982, said that what she's most enjoyed about her time at USC has been finding like-minded educators similarly committed to helping the underserved as well as the support she has received while developing unique clinics and educational partnerships that simultaneously benefit the community and the students.

NEWS BRIFFS

PHARK: ONE OF "10 **PROFESSORS CHANGING DENTAL TECHNOLOGY**"

Assistant professor of clinical dentistry Jin-Ho Phark was named one of 10 professors who are changing dental technology by Medical Technology Schools, an occupational blog for students considering careers in the medical technology field. The article mentions Phark's 2009 Arthur Frechette Dental Research Award, his work with a drill-less form of treating intermediate caries lesions - featured on National Public Radio in 2010 (more at tinyurl.com/pharkicon) — and his active involvement with the International Academy of Adhesive Dentistry. Phark joined the Ostrow faculty in 2010 after leaving Case Western Reserve University in Cleveland, Ohio.

FRIENDS OF **DENTISTRY MEMBER SNAGS PRESTIGIOUS USC ALUMNI AWARD**

Darren Chu '81, DDS '85 has earned a 2015 Widney Alumni House Volunteer Award for his leadership and support within the Trojan alumni community. Chu is active in several alumni support groups, including Ostrow's Friends of Dentistry. He's also been active on the board of directors for the USC Asian Pacific Alumni Association (APAA) since 2008. Chu initially served as the Ostrow representative for the APAA. In that role, he's helped forge a strong alliance between Ostrow and the APAA, keeping both groups updated on each other's news and initiatives. Chu also sits on the USC Alumni Association's Orange County Regional Board and is a USC Associates member. Chu officially received his award at the Volunteer Recognition Dinner on Sept. 3 at USC's Town and Gown.

CHAI RECEIVES **\$200K GRANT TO START INTERDISCIPLINARY CENTER FOR TISSUE REGENERATION**

Yang Chai PhD '91, DDS '96 has earned a \$200,000 NIDCR grant to start an interdisciplinary effort to treat craniofacial and dental defects with regenerated tissue. The collaborative project - known as the Center for Dental, Oral and Craniofacial Tissue and Organ Regeneration (or C-DOCTOR, for short) - aims to assemble a comprehensive and dynamic team of clinicians, research scientists, biostatisticians, regulatory scientists and pre-clinical/clinical trial experts to enable the development and implementation of innovative approaches for dental, oral and craniofacial tissue regeneration, according to the project proposal. The campus-wide effort involves faculty members from pharmacy, engineering and medicine as well as representatives from Children's Hospital of Los Angeles and the City of Hope. Ostrow faculty members involved include Drs. Mark Urata, David Hochwald, Vanthi Pham and George Cho.

SUNDARESAN NAMED **2015 DUGONI FACULTY** AWARD RECIPIENT

Assistant professor of clinical dentistry Santosh Sundaresan DDS '05 has been selected as the 2015 Arthur A. Dugoni Faculty Award winner by the CDA Foundation. " ... The Herman Ostrow School of Dentistry is fortunate to have an instructor who is so committed to the preparation of our future dental professionals," wrote Donald Rolloson DMD, chair of the CDA Foundation's Board of Directors, in a congratulatory letter. Sundaresan is the section chair of community health programs, overseeing students in rotation at the school's mobile clinics as well as at the Union Rescue Mission and the JWCH on Skid Row. It is the second time in recent history that an Ostrow faculty member has earned the accolade. In 2012, Thomas Levy was the Dugoni Faculty Award recipient.

OSTROW RESEARCHER **EARNS \$2.1-MILLION NIH GRANT**

Assistant professor of craniofacial molecular biology Amy Merrill-Brugger PhD '05 has received a \$2.1-million NIH grant for her scientific investigation into inherited human conditions that cause facial bones to develop abnormally. "By revealing the cause of craniofacial birth defects, we hope to advance therapies for their detection and treatment," Merrill-Brugger said, emphasizing how devastating craniofacial birth defects can be since facial bones support tools to feed, sense and communicate. The highly competitive Ro1 will fund Merrill-Brugger's team for up to five years.

MADDEN NAMED "TEACHER OF THE YEAR"

Assistant professor of clinical dentistry Michael Madden DDS '86 has been awarded Ostrow's 2015 Teacher of the Year Award by the Southern California Section of the Pierre Fauchard Academy. The award, determined by student vote, is awarded at participating dental schools across Southern California each year. "It was especially rewarding for me because it came from the students," Madden said. "It means I was able to apply a measure of constructive criticism and/or praise while maintaining a positive learning environment." The Pierre Fauchard Academy is an honorary dental organization founded in 1936. It is named after Pierre Fauchard, an 18th century French dentist recognized as the "father of modern dentistry."





Photo by Erik van der Schaff

Ernest Nagamatsu continued

How did you get started racing 30 years ago?

I already had the 1964 Shelby Cobra and wanted to get into "real racing" over just doing "track days." I took the Bob Bondurant Racing School program, bought a U.K. Crossle Formula Racing Car and went straight into serious racing. Historic racing started gaining interest, so we prepped our Shelby Cobra for historic vintage racing.

Describe for someone who's never raced before the thrill of life behind the wheel of a fast car.

There is so much excitement racing fender to fender in a pack of cars with very experienced drivers and knowing that you can trust that you won't get your nose chopped off in a race, so to speak. (laughs)

In all these years, surely you've had a wipeout. What's been the closest call?

The biggest shunt was in England at the Goodwood Revival Meeting races in the Old Yeller II. I was going through a high-speed "kink" on the track, and

the tail of the car jumped out. I was flying fast backwards over slippery grass and hit the tire wall with the tail and then the entire right side of the car. The Old Yeller II is aluminum and soft, so the right side of the body was crumpled and looked really bad. The emergency crew all jumped out of the emergency truck and circled the car, thinking maybe "I bought the farm," so to speak. (laughs)

Which races have you won?

We did well last year at Phillip Island, Australia, posting the fastest time and winning our class within the race. We've won the Rolex Phil Hill Monterey Cup and the first Bruce McLaren Perpetual Trophy in New Zealand. And last year, we won the Rolex Australian F1 Grand Prix Historic Race Trophy.

You race three historic cars — a 1959 Old Yeller II Buick Special, a 1964 Shelby Cobra and a 1958 Porsche Speedster. Which is your favorite?

The Old Yeller II is known globally. So many fans are interested in the American icon that was raced by

legends like Dan Gurney, Carroll Shelby, Bob Bondurant and Bill Krause. It has such brute American power with that Buick engine and always takes all of my focus to race smoothly.

How have your wife Elaine and your son Erik learned to cope with your dangerous hobby?

We all feel that life is always uncertain, regardless of endeavors and all of my race-cars have extra internal bracing bars attached to the chassis.

In what ways does racing keep you young?

I have to stay in top shape for dentistry and for racing. There are incredible demands, passion and spirit needed for dentistry and for top-level racing.

When do you think you'll stop racing?

Through my tight fitting helmet, I can hear my pulse rate at the start of each race. If - and when - the time comes that my pulse rate gets too high, that can indicate that there is too much anxiety, then I'd stop.

TV MOUTHPIECE



In the 1500S, they were believed to be "wild men." These fearsome creatures — the so-called missing evolutionary link between man and primate — were thought to attack women and babies late at night. Today, of course, we know these misunderstood individuals actually suffer from hypertrichosis, a rare genetic condition that causes hair to cover one's body from head to toe. The condition was the subject of the Smithsonian Channel's "The Real Beauty and the Beast," detailing the life of Petrus Gonsalvus (pictured above), who, despite being "wild," was raised to be an educated nobleman. Ostrow professor Pragna Patel served as an expert in the Smithsonian show, describing the genetic basis for the disease that is believed to affect only 50 people worldwide. Patel is a professor of biochemistry and molecular biology and dentistry. Her lab, part of the Institute for Genetic Medicine, seeks to understand the genetic basis behind inherited diseases, particularly those of the craniofacial region and the nervous system.



MOUTHPIECE



Photo by Ryan Cheung DDS '16

THREE **QUESTIONS** WITH THE **PRINCESS**

Stephanie Ting DDS '16

Second Princess, Miss Taiwanese America

For the second consecutive year, Ostrow can claim a member of the Miss Taiwanese America royal court. This summer, Stephanie Ting DDS '16 was crowned Second Princess at the annual pageant by last year's Second Princess Lisa Hou '08, DDS '12. We asked the fourth-year dental student about what her experience was like competing in the pageant.

What did you find most surprising about competing in the pageant?

The Miss Taiwanese American pageant was so far from your stereotypical beauty pageant. There was no pressure to diet, none of the girls were super competitive about winning and there was no pageant drama behind the scenes.

What do you hope to accomplish as **Second Princess?**

My community service goals are to serve as a mentor to young Taiwanese American professionals interested in health care.

What did it mean to you to assume the crown right after another dental Trojan?

It was the absolute highlight of participating. When my name was called, Dr. Hou and I looked at each other in shock. Coincidentally, our evening gowns also happened to be Trojan colors: I was wearing a gold gown while Dr. Hou was wearing red.









ANNUAL REPORT

GAME CHANGERS: THE GAME

Match the individual to a description of how they are changing the way dentistry is practiced both within the walls of Ostrow and in the world at large.



A

Ostrow researcher whose lab studies birth defects and disorders that affect craniofacial and brain development with the hopes of eradicating them altogether

B

Pioneer of online dental education whose foresight has helped create web-based curricula in orofacial pain and medicine and geriatrics C

"Super Trojan" who aims to change treatment paradigms in both the world of plastic surgery and oral and maxillofacial surgery n

Member of inaugural master's of dental hygiene program; aims to combine passions of sports and dentistry into one dynamic career

Triple Trojan; was student body president and embodies leadership and intellectual traits that Ostrow looks for in its students

CHECK OUT OSTROW'S FY15 ANNUAL REPORT: ostrowgamechangers.com



OSTROW TREASURE HUNT

Discovering the extraordinary items all around the Norris Dental Science Center

OBJECT: Spencer Tracy veneers from the 1941 film, *Dr. Jekyll and Mr. Hyde* **LOCATION:** The USC Dental Museum, (the glass cases outside the Century Club Auditorium on the fourth floor), which was donated by the Alpha Omega Fraternity in 1979.

BACKSTORY: These veneers were crafted by the late Scott A. Christensen DDS '36, who had offices in Beverly Hills, Calif., and in the MGM studios, and donated by his wife Mrs. S.A. Christensen to Ostrow.

ANSWERS TO GAME CHANGERS: 1D, 2C, 3A, 4E, 5B

MOUTHPIECE



ANTHONY PHAM DDS '17, REGINA DOWDY DDS '17 & XUE "LILY" DU DDS '17 SEATTLE SPACE NEEDLE



BRANDON HERNANDEZ DDS '18 & KRISTA PRIMLEY DDS '18 MINNESOTA & FLORIDA



PAYAL PATEL DDS '16



KATRINA GOROSPE DDS '18



ASSISTANT PROFESSOR OF CLINICAL DENTISTRY



KOBIE GORDON DDS '18 MALDIVES



SHUO YAN DDS '17 & JASE CHUN DDS '17

THE WORLD **LOVES USC ENDO**

For eight years now, USC dental students and faculty have been toting their "I LOVE USC ENDO" signs around the globe to take part in an annual contest held by associate professor of clinical dentistry Thomas Levy. The contest's premise is simple: Be photographed holding your "I LOVE USC ENDO" sign wherever you're vacationing during those all-too important school breaks for a chance to win Starbucks gift cards and bragging rights. Levy says he started the contest to get second-year students thinking about endodontics before they take the course. "But I hope even after graduation, the DDS alumni community continues to love USC endodontics," he says. Above are a few entries from this year:



MOUTHPIECE



Photo courtesy of the American Association of Orthodontists

Girls rule!— or at least they do in Ostrow's orthodontics residency program's class of 2017, which has broken down gender barriers this year with its first class of all women. "We are pleased to see the growing interest in orthodontics among women," said Glenn Sameshima ORTHO '90, PhD '92, head of Ostrow's orthodontics program. "USC is proud of this important 'first' in the dental school's history."

TV

UNDER THE MEDIA SPOTLIGHT

Sports medicine has been doing it for decades: taking blood — full of stem cells and wound-healing growth factor — from a patient and injecting it back into them to strengthen cartilage and joints. Now Ostrow clinical assistant professors Alexandre Aalam PERIO '03 and Alina Krivitsky-Aalam DH '00, DDS '05, PERIO '08 are using it in their private practice to restore receding gums. In a KABC7 news clip that aired this past spring, the Aalams described their innovative treatment method, known as Advanced-Platelet Rich Fibrin, which can restore both

hard and soft tissue in the mouth in a much less invasive way. Find out more about the procedure at tinyurl.com/gumlift.



Photo courtesy of Goldman Marketing Group

TROJAN DENTAL FAMILIES

Family traditions bridging generations and administrations

PHOTOS BY RYAN FORBES
TEXT BY JOHN HOBBS MA '14 & YASMINE PEZESHKPOUR MCM '17

ith a rich tradition of educational excellence dating back to 1897, the Herman Ostrow School of Dentistry has long been home to some of the dental profession's leading educators, practitioners and scientists.

With such a reputation, it's perhaps no wonder that Ostrow has held some serious intergenerational appeal for many families whose success and prosperity are owed — at least in part — to their USC dental educations.

In the following pages, you'll find a few families (nobly representing the many) whose genealogical roots have dug down deep into Ostrow's 120-year history, with generation after generation proudly joining that prestigious — and slightly extended — Trojan Dental Family.

L-R: MARIA GALVAN BATNIJI MS '13, PERIO '13 | RAAED BATNIJI ENDO '13 | SAMIR BATNIJI ENDO '87, MS ED '87 | NERMINE BATNIJI DH '14, DDS '18

For Raaed and Nermine, visiting their dentist was a family affair. As their father Samir examined their teeth, they would sit and wait patiently, only interrupting to ask him a few questions along the way. Eager to see things from his perspective, Raaed and Nermine would help in their father's practice as they got older. This eventually led them to pursue dental degrees at the Herman Ostrow School of Dentistry. These days Ostrow is not only a place the Batniji family holds closely to their hearts because of their shared educational experience, but also because it was in Ostrow's halls that Raaed met his wife Maria and eventually expanded their dental family.









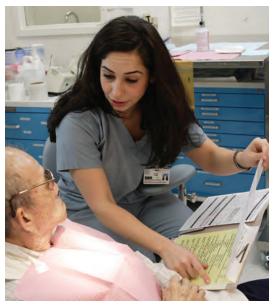


















n any given afternoon in one of the eight operatories at USC's Special Patients Clinic, you might find a woman with Down's syndrome listening to her favorite Hannah Montana song, a man with congenital heart disease with his wife and oxygen tank in tow or a patient who's been living with AIDS since the '8os.

"Patients may come in with caregivers, service dogs, using wheelchairs or barreling in at 100 miles per hour," says Janet Lent DDS '78, assistant professor of clinical dentistry who has worked in the Special Patients Clinic for a decade.

For 30 years now, Ostrow's Special Patients Clinic has provided the highest care for patients with physical, psychological or medical disabilities, as well as the frail elderly. Considered medically compromised and complex, these patients often have been turned away by multiple private practitioners.

"People with special needs often have difficulty maintaining their oral health or finding dentists who understand their disabilities and know how to modify a typical treatment to effectively provide care," says Roseann Mulligan, the Charles M. Goldstein Professor of Community Dentistry and founder of the Special Patients Clinic. "A number of years ago, it was clear to me that not everyone was receiving care, and I set about creating a clinic where people with disabilities could get that care and were welcome."

The clinic, which started out treating about 100 patients a year, now provides comprehensive care to more than 700 patients annually, in addition to providing routine preventive services to a larger patient pool.

"We see many patients with HIV/AIDS, older adults with significant multiple morbidities, patients with dementia, patients who are pre- or post-organ transplant, or going through chemotherapy," says Mulligan, who also serves as USC's associate dean for community health programs and hospital affairs.

The clinical staff is also adept at treating patients with multiple chronic and rare diseases. "We're not shy about studying a condition and considering how we might modify care," Mulligan says.

Piedad Suarez, associate professor of clinical dentistry and co-director of the Special Patients Clinic, recalls such a case. She supervised the care of a patient with an extremely rare skeletal disorder.

"At the beginning, he was afraid because he didn't have a lot of exposure to dentists, but little by little he allowed us to work with him," she says of the patient, who stood about 3-feet tall. "We learn with some of these patients because there's not a lot of literature written about their conditions."

More than treating patients, during the past 30 years the clinic has provided a training ground for 6,000 dental and dental hygiene students. Every student at Ostrow must complete a week-long clinic rotation peppered with quizzes and comprehensive exams. Subsequent to that required week, students may volunteer to return to the





clinic for more opportunities to treat special needs patients.

"We offer a rigorous experience so that students really understand how to deal with this population because there are usually huge consequences to patients if precautions and modifications are not taken," Lent says. "When you're 100 years old or medically compromised, the consequences tend to be worse."

Before and after seeing patients, students present a medical or behavioral patient workup, as well as any modifications needed for treatment.

"A student might not be assigned to directly care for the ALS patient, but during their clinical exposure they will observe the treatment modifications that another student in the same rotation will be utilizing with this patient," Lent says. "In this sense, we are training dentists for the 21st century in a very important way."

By 2030, 20 percent of Americans will be over 65, and unlike generations before, these baby boomers "are going to come with teeth and chronic medical problems that are happening to obese America," Lent says. "When you become a dentist in this society at this time, you're going to see a lot of older patients, and you have to know who's sitting in your chair and know the modifications necessary to deliver care safely and effectively."

Additionally, 12 percent of Americans or 38 million people have a severe disability, according to the 2012 U.S. census.

"Many dental students get experience with [patients with disabilities] only through lecture classes," Lent says. "Ostrow is deliberately educating every student with a framework of how to manage medically complex and geriatric patients."

During their rotation, students learn modifications to care for special needs patients, including how to minimize stimuli for cognitively impaired patients, and behavior modification tools and sedation modalities for patents with developmental disabilities.

"We're trying to create an awareness of these issues and help students to take appropriate measures," Mulligan says.

Additionally, students learn the protocols for researching medically compromised patients including interpretation of necessary laboratory results or requesting specific medical information via a consultation with the patient's treating physicians. "When [students] enter private practice, they're better trained and more competent to treat any patient who walks in the door," Suarez says.

Students reap other rewards from their time in the clinic. "If you like people and stories and courage, oh what a place to be," Lent says. "It's daily inspiration."

For Mulligan, serving this population is also personal.

"As a child, I spent lots of time as a patient. The people who took care of me made quite an impression," she says. "My goal has always been to be one of the caring people ... like those who had cared for me."

What impact did your Special Patients Clinic rotation have on your career?

"The Special Patients Clinic helped me to realize that, with treatment modifications, nearly all special needs patients can be treated in a private practice setting."

—Hyrum G. Hatch DDS '87

"The experience taught me that we have a responsibility to care for all patients, including those with special needs. We currently see special needs patients every week and, with the aging of our population, these cases are ever more frequent."

-Phillip Kroll DDS '86

"Working with Dr. Mulligan in the Special Patients Clinic rotation taught me to respect the impact systemic diseases have on the dentition and the mouth overall. I also learned a lot about patience and giving back to others less fortunate. Dr. Mulligan has always had a warm and caring way with patients, which has influenced how I treat patients today."

-David Levine DDS '86, PERIO '90

"Working in the Special Patients Clinic had a tremendous impact on my career because it made me aware of the necessity and demand for special needs dental patients. I have since built a reputation within my community for welcoming and accommodating patients with special needs."

—Mie Narita DDS '93



THE REVOLUTION IN REGENERATIVE MEDICINE AND TISSUE ENGINEERING IS HERE

y interest in craniofacial birth defects started when I was an oral and maxillofacial surgery resident, treating many patients with cleft lip and some with cleft palate.

I therefore became interested in craniofacial development and disease and have maintained focus on these areas throughout my career. I have been lucky enough to spend almost 30 years so far at USC tackling these problems, and I think we have made some very exciting progress that will lead to improved medical and dental care and happier, healthier lives for our patients.

Of course, I must emphasize that none of these discoveries would be possible without the extensive collaborations we have established around the world with developmental biologists, human geneticists, craniofacial surgeons, bioinformatics specialists, biomedical engineers and bioimaging scientists.

One of my lab's major areas of research is in the molecular biology and genetics of craniofacial devel-

opment and congenital malformations. Our studies have provided crucial evidence for genetic mutations that cause cleft palate in mice and humans, and we have applied this information successfully to prevent cleft palate in a mouse model. Orofacial clefts are one of the most common birth defects in humans and have a huge impact on patients and their families, both in terms of cost and in quality of life. Our ultimate goal is to help develop diagnostic biomarkers and drug targets for the prevention and treatment of congenital malformations.

Another important line of our research involves investigating stem cells in organogenesis and tissue regeneration. I believe that stem cells hold great potential for regenerative medicine in the craniofacial region. In order to unlock this potential, we must first understand the unique properties of the different stem cell populations found in each of our organs as well as the molecular mechanisms that regulate them and the niches that nurture them. In the past couple of



BY YANG CHAI PhD '91, DDS '96

years, we have made important discoveries concerning two stem cell populations: those that allow rodent incisors to grow throughout the animal's life and those that reside in the soft tissue (sutures) between the cranial bones and can repair the skull. In some children, the cranial sutures fuse prematurely, causing a serious condition known as craniosynostosis that requires surgical intervention to relieve the growth constraint on the brain. We now understand, in light of the work my lab has done, that craniosynostosis can be considered a stem cell disorder. With the support of the Alfred Mann Institute, we and our collaborators at Children's Hospital Los Angeles are working to translate this discovery into improved treatment. In parallel, we are also using these stem cells from the craniofacial region to regenerate bone and tooth structures.

I am confident that we are poised on the edge of a revolution in regenerative medicine and tissue engineering. USC will be at the forefront of this scientific frontier. I am very excited to lead

the Center for Dental, Oral, & Craniofacial Tissue & Organ Regeneration, or C-DOCTOR (c-doctor.usc.edu), which we have just launched with the support of the National Institute of Dental & Craniofacial Research.

The C-DOCTOR brings together some of the brightest and most experienced dentists and craniofacial surgeons in clinical practice today with basic scientists and regulatory experts, all dedicated to the important mission of bringing promising new scientific discoveries out of the laboratory and fostering them to the point where they are clinically tested, FDA approved and can be adopted by health care providers. Initiatives like this one will help us to realize a future where we can regenerate biological, aesthetic and functional teeth; a piece of jawbone; or an outer ear for anyone who has lost them due to a congenital defect, injury or disease.

These innovative approaches will fundamentally change how we care for our patients in the future. That is what we do at USC.

The following are gifts given in honor of or tribute to individuals who have made a lasting impact on the community of the Herman Ostrow School of Dentistry of USC:

MEMORIALS & TRIBUTES

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This list reflects gifts given between June 2015 and September 2015. Although every effort has been made to ensure the accuracy of these tributes, an error or omission may occur. Please contact the Office of External Relations at (213) 740-0428 or ostrow.development@usc.edu if such an error has occurred.

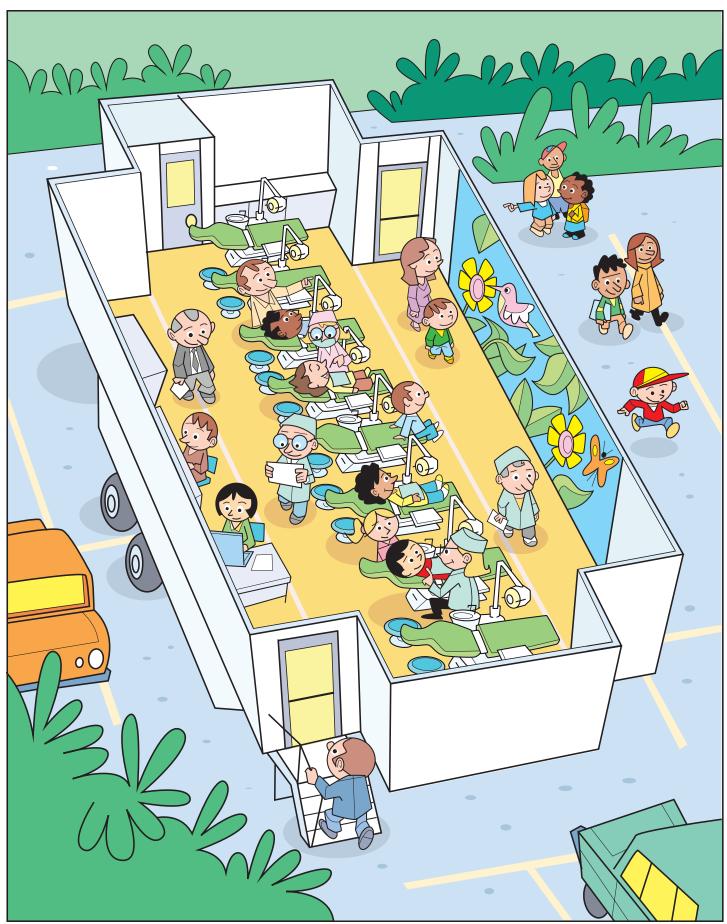


Illustration by Remy Simard



THINGS TO KNOW ABOUT:

OSTROW'S NEW MOBILE DENTAL CLINIC

BY JOHN HOBBS MA '14

This fall, Ostrow's Community Oral Health Programs will unveil the newest addition to its mobile fleet: a behemoth mobile clinic outfitted with eight dental chairs that it will use to treat underserved children across Southern California. Here are five things you should know about Ostrow's largest mobile dental clinic:

THE CUSTOM-MADE MOBILE CLINIC WAS FUNDED BY A PORTION OF THE \$3-MILLION GIFT FROM THE HUTTO PATTERSON CHARITABLE FOUNDATION.

In mid-2014, the Hutto Patterson Charitable Foundation made a \$3-million gift to the Herman Ostrow School of Dentistry of USC to help it expand its community outreach efforts in Los Angeles. In addition to providing additional funding for endowed faculty funds and scholarships for students who work in the schools' outreach programs, the gift funded a new eight-chair mobile clinic. It will also help Ostrow to reach its ultimate goal of providing services to more than 45,000 underserved children as part of the Children's Health and Maintenance Program (CHAMP), a five-year grant funded by tobacco taxes.

IT'S HUGE.

Ostrow contracted Odulair — the world's leading manufacturer of mobile clinics devoted to more than 40 medical specialties — to construct the latest addition to its mobile fleet. The new clinic is 48 feet long, which is just five feet shy of a full-size semi truck trailer.

While in transit, the clinic's a sleek 8.5 feet wide, but once parked, it expands (on each side) to 22 feet wide, giving it more than 750 square feet. The clinic is not only the largest in Ostrow's mobile fleet, it's also currently one of the largest in the nation.

THE CLINIC IS FULLY LOADED, PROVIDING A DENTAL EXPERIENCE RIVALING A TRADITIONAL BRICKAND-MORTAR EXPERIENCE.

Each of the mobile clinic's eight dental chairs are top of the line. The clinic also features a separate room to take digital X-rays as well as the capacity to house two autoclaves for instrument sterilization, ultrasonic cleaners and instrument storage capacity — all of which help make the clinic a self-contained dental operation. In addition, the interior walls are made with Glasbord and finished with Surfaseal, materials that are naturally antibiotic. All countertop surfaces are made of Corian, which can easily be disinfected, keeping the trailer free of staph and strep.

SUFFER FROM DENTAL ANXIETY? STEP INSIDE FOR A SPA-LIKE EXPERIENCE.

Because the clinic will be used mainly to treat children, it is equipped to help reduce dental anxiety with a patient-relaxation system. With calming colors projected onto the clinic's walls and soothing music — composed by a PhD graduate from the University of California, Santa Barbara — playing overhead, the mobile dental clinic immerses patients in a tranquil spa-like environment, likely to relieve any frazzled nerves caused by visiting the dentist.

THE CLINIC HELPS INCREASE EFFICIENCY AND DECREASE FATIGUE FOR PERSONNEL AND EQUIPMENT.

This one colossal clinic allows Ostrow to repurpose two older clinics, which will primarily focus on schools and communities in close proximity to USC. So, instead of sending out two separate vehicles — with two separate drivers and two full tanks of gas — Ostrow will simply send out this one clinic. Set-up times will also be less, which means Ostrow's community-minded dental faculty, staff and students can get to work right away, providing treatment to underserved communities faster than ever before.



y pursuit of higher education stems from an early relationship established with University of Southern California. While in high school, my brother attended Med-COR, a USC program that academically prepares students of color and socioeconomic disadvantage for professional health careers. Once a month on Saturday, my mother and I would take the bus from East Los Angeles to USC for parent meetings. Listening to individuals share their academic journeys planted a seed of hope for my own pursuit of higher education. It was then that my dream to one day attend USC began

As I ventured off within my own academic journey, I got thrown off course many times from pursuing my dream to attend a university. The barriers that many inner city youth face daily were my reality as well. Poverty, underachieving schools, overcrowded classes, lack of college prep courses and community violence were realities I faced daily.

At the age of 17, I decided to pursue my GED and enrolled at a local trade school. I received several certificates, ranging from emergency medical technician to finger print analysis. In my early 20s, I accepted a position as an account representative at Ostrow.

The job helped restore my hopes of pursuing a higher education and even rekindled my relationship with USC. I was now part of the "Trojan Family," a family that provides various benefits, academic and professional opportunities for their staff. Raised by an immigrant mother and being the first generation born in the U.S., I was raised with the understanding that opportunities and relationships are to be valued and not taken for granted.

I realize that relationships are a vital component of any organization and even more so for one that provides health care services. In my role, I helped establish relationships between patients and pre-doctoral students with a cultural sensitivity lens, which is essential to both the delivery of services and the students' learning

More than a decade ago, my role and ability to facilitate and serve both patients and students led to an opportunity to work with Dr. Glenn Clark whose innovative ideas led to Ostrow's first online program — an online master's in orofacial pain and oral medicine program. He has constantly nurtured my leadership skills, my empathy for others and my critical thinking skills. With his encouragement, I returned to school to pursue my dreams.

In 2009, I received an associate's degree from East Los Angeles Community College before transferring to California State University, Los Angeles to get a bachelor's degree in sociology. In August 2011, I started my graduate studies at the USC School of Social Work, finishing last year.

My academic journey as a full-time employee, student, wife and mother of four was challenging, but the opportunity to plant the seed of higher education for my children and within our communities was worth every sleepless night.

In our underserved communities, we are plagued by limited resources. In my own academic pursuit, it was the lack of relationships with professionals that hindered me. Growing up, I interacted with the best plumbers, seamstresses and mechanics around. However, the only professionals I interacted with were my teachers.

It was with this in mind that, while in the social work program, a colleague and I developed a program called "Sons of Troy," where we helped foster dialogue with youth, ages 12-18, regarding topics like networking, communication skills and financial literacy. We also brought in positive professional guest speakers such as lawyers, engineers, nurses and physician assistants.

Seeing the importance of networking stemmed from my experience here at USC. Youth in underserved communities don't have access to professionals in their communities. My goal was to help bridge that gap by seeking professionals that want to give back.

These programs have given me the ability to bridge professionals and inner city youth by even utilizing the Trojan Family and both my professional and academic experience within USC.

Connecting a dental student or a faculty member with a 17-year-old from across town who dreams of becoming a dentist can be very powerful. It helps cultivate the seed of higher education and establishes a relationship not only with that individual but within the community.



GET PAID WHEN YOU GIVE A GIFT TO USC

(yes, you read that correctly)

It's called a charitable gift annuity, and USC is positioned to make lifetime annuity payments to one or two annuitants — like you and your spouse, partner or next of kin.

Your gift provides the USC dental school funds to support our community outreach programs, scholarships and facility enhancements. Meanwhile, your family benefits from an income for its own use. It's a win-win and an obvious "why not?!"

We encourage you to explore the option today by calling the Office of External Relations at the Herman Ostrow School of Dentistry of USC at (213) 740-0428 or by emailing caleno@usc.edu.



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