

UC RIVERSIDE UNIVERSITY OF CALIFORNIA | School of
Medicine

YEAR IN REVIEW 2017-2018





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UCR SCHOOL OF MEDICINE BY THE NUMBERS 2017-2018

226 MEDICAL STUDENTS



21 Ph.D. STUDENTS



180 RESIDENT PHYSICIANS AND FELLOWS
(INCLUDING AFFILIATE PROGRAMS)



20 BIOMEDICAL SCIENCES FACULTY



248 CLINICAL FACULTY



990 COMMUNITY-BASED CLINICAL FACULTY



188 STAFF EMPLOYEES



63 LACE TRAINING SITES



110 CLERKSHIP TRAINING SITES



1100 PRE-MEDICAL STUDENTS REACHED BY SCHOOL OF MEDICINE-LED PIPELINE PROGRAMS



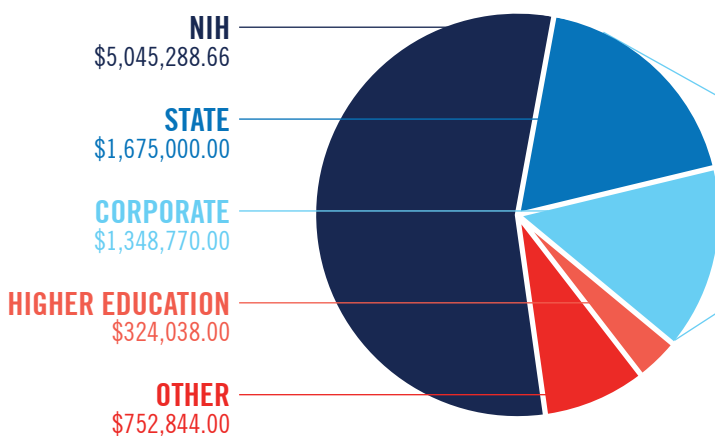
36 NEW EXTRAMURAL FUNDING AWARDS
(WITH NIH FUNDING DOUBLED FROM PREVIOUS YEAR)

\$9.15 MILLION

TOTAL GRANT AMOUNT AWARDED

\$2.07 MILLION

IN PHILANTHROPIC GIFTS





MESSAGE FROM THE DEAN

The 2017-18 academic year was an exciting time for the UCR School of Medicine. We graduated our second class of medical students who all matched into residency programs, including several who will complete their residencies right here in Inland Southern California. Our Graduate Program in Biomedical Sciences recruited 14 students, the largest incoming class ever in this innovative Ph.D. program! Both educational programs contribute greatly to our unique mission to train physicians and researchers who will improve the health of the people who live in our region. The year 2018 also marked the first appearance of the School of Medicine in the U.S. News & World Report rankings of graduate schools. In our first year of eligibility for this prominent ranking, the School of Medicine appeared at number 93.

I am also proud that our Bridges to Baccalaureate Program received the 2018 Inspiring Programs in STEM Award from INSIGHT Into Diversity magazine, the largest and oldest publication in higher education addressing diversity and inclusion. The award honors colleges and universities that encourage and assist students from underrepresented groups to enter STEM fields. I am so proud of the work we are doing in this area.

In the following pages, we discuss the progress of the medical school over the past year. My sincere gratitude for the support and dedication of our students, faculty, staff and community members who help to make this mission-based school a reality. Together, we are delivering on our mission.

Sincerely,

A handwritten signature in black ink, appearing to read 'Deas', written over a white background.

Deborah Deas, M.D., M.P.H.
The Mark and Pam Rubin Dean
CEO, Clinical Affairs



NEAL SCHILLER AND KATHY BARTON RETIRE

This year, we said a fond farewell to two important members of the SOM family – Neal Schiller, Ph.D., Senior Associate Dean of Student Affairs, and Kathy Barton, Assistant Dean of Strategic Initiatives and Chief of Staff to the Dean.



Neal Schiller has been with UCR for 39 years and was first appointed as an assistant professor in the Division of Biomedical Sciences in January 1979. Over the years, he made outstanding contributions to teaching and research and was instrumental in the formation of the medical school as well as our student pipeline programs. His commitment to student success and dedication to our mission is unprecedented.

Kathy Barton also played an instrumental role in the School of Medicine. Kathy joined UCR in 1985 and has held a variety of roles on campus in communications, grant-writing, and governmental relations. Kathy is one of the founding staff members of the UCR School of Medicine and her enthusiasm for the school and her tireless efforts have made a tremendous impact.

Neal and Kathy will be sorely missed.

VALUES IN ACTION AWARDS

The Values in Action Award recognizes outstanding colleagues in the School of Medicine who demonstrate one or more of our values of inclusion, integrity, innovation, excellence, accountability, and respect. Recipients are chosen quarterly and nominated by their peers. There is also an annual award given to someone who truly exemplifies our values. The recipients in 2017-18 were:

Fall 2017: Lily Ramos, Executive Administrative Assistant

Winter 2018: Ofelia Herrera, Senior Custodian

Spring 2018: Wesley Lockhart, Simulation Center Technician

Annual Award: Jorge Gutierrez, IT/Help Desk Analyst



PROFESSIONAL DEVELOPMENT HIGHLIGHTS

The Office of Faculty Development offered several exciting programs this year and also expanded its offerings to community-affiliated sites in Riverside and Palm Desert.

The Stanford Faculty Development Series for Assistant Professors concluded the first series with its inaugural class in Fall 2017. The program was offered by Alina Popa, M.D., associate clinical professor of internal medicine, who is a certified facilitator of the course. The curriculum is designed to provide trainees with background knowledge in the field of education and improve their teaching skills. The series will continue to be offered on an annual basis.

Other faculty development sessions offered this year included flipped learning, grading methods and techniques, innovative teaching technology, inclusive teaching strategies, best practices in teaching and learning, and more.

In 2017-18, the Finance & Administration unit created and launched the Healthcare Administrative Fellowship program to advance the education and experience of emerging health administrative managers. The one-year fellowships will be offered each year to graduates who complete a master's degree in health administration, master's of business administration with a health concentration, or master's in policy with a health or business concentration. Visit <https://medschool.ucr.edu/employment/internships.html>.



COMMUNITY ENGAGEMENT

At the beginning of 2018, the UCR School of Medicine launched its community engagement initiative focused primarily within a five-week period to broaden outreach to prospective applicants, reinforce community support, connect research with community relevance, and increase the visibility of UCR Health. The events listed are a few of the engagements in which the School of Medicine participated.

- January 9: Representatives attend Soroptimist International of Riverside, an organization dedicated to “improving the lives of women and girls in local communities and throughout the world.”
- January 15: Dean Deas and other School of Medicine representatives participate in the annual Martin Luther King, Jr. Walk in Riverside.
- January 15: Four medical students in the Student National Medical Association and Dr. Emma Simmons participate in a Fairmount Park cleanup for UCR’s MLK Day of Service.
- January 25: Representatives and medical students attend the Mayor’s State of the City Address, co-sponsored by UCR Health.
- January 26: SOM co-sponsors

THURSDAY - SATURDAY, JANUARY 11-13

School of Medicine co-sponsors the Southwest Conference Against Trafficking, a national conference held in Ontario, Calif.

TUESDAY, JANUARY 16

The Center for Healthy Communities (CHC) hosts a Health Policy Training Workshop with 24 community attendees.

SATURDAY, JANUARY 20

SOM’s chapter of the American Medical Student Association hosts its annual free health fair at San Bernardino High School.

the Riverside County Medical Association Officer Installation.

- January 27: Representatives conduct outreach to prospective applicants at the 2018 Pre-Medical and Pre-Health Conference at California State University, San Bernardino.
- January 31: UCR Health and SOM attend the Chamber of Commerce Mega Mixer & Trade

Show at the Tyler Galleria.

- February 2: Dean Deas is a panelist for a mental health discussion at Leadership Riverside.
- February 3: Representatives from the School of Medicine take part in the Keep Riverside Clean and Beautiful Ward 2 cleanup.
- February 9: Faculty, staff, and students attend the Gay and Lesbian Medical Association’s Health Professionals Advancing LGBT Equality Reception at the Eisenhower Medical Center in Rancho Mirage, Calif.
- February 21: Dr. Aaron Caminos, family medicine resident at the Riverside Community Hospital (RCH), gives a heart health presentation in Spanish at event sponsored by the Riverside Community Health Foundation (RCHF).

- February 22: Dr. Javad Savoj, RCH and UCR internal medicine resident, gives a heart health presentation in English at event sponsored by the RCHF.

- February 24: SOM co-sponsors and tables at the League of United Latin American Citizens

SATURDAY, JANUARY 27

The Asian Pacific American Medical Student Association in collaboration with Riverside University Health System - Behavioral Health, presented a health fair at the Riverside Lunar Festival.

TUESDAY, JANUARY 30

SOM hosts the 2018 Youth Active in Health Awareness Conference of the Riverside Community Health Foundation and students take a tour of the School of Medicine Education Building.

(LULAC) Health Fair, Cesar Chavez Community Center.

- February 24: UCR Health tables at the Red Dress Fashion Show and Health Expo by Riverside Community Hospital’s



“Interprofessional education plays a large role in reducing patient errors and increasing positive patient outcomes. Several location healthcare training programs participate in our medical students’ education as well as our community’s education to help fulfill our commitment to the health of our community.”

– Chris Miller
Director of Operations for Medical Simulation and Research

Left: paramedic students of the Moreno Valley College Emergency Medical Services Program demonstrated pre-hospital mock code training at our 2018 Spring Community Open House.

FRIDAY, FEBRUARY 2
 Chris Miller from the Simulation Lab hosts students from La Sierra High School Business Academy as part of a day-long job shadowing experience.

SATURDAY, FEBRUARY 10
 Dean Deas and students attend the 2018 Steve Chase Humanitarian Awards, with the School of Medicine and UCR participating as a co-sponsor.

HealthCare Institute.

- March 3: Volunteers attend the Live Your Dream Conference at Riverside City College.
- March 19: Students from Calvary Murrieta Christian School visit the simulation lab, clinical skills and anatomy lab.
- March 19: Michelle Burroughs of Center for Healthy Communities attends the Mayor’s Fit, Fresh, and Fun Committee, hosted by Riverside’s Mayor Rusty Bailey.
- March 23: The Division of Biomedical Sciences takes part in the High School Initiative, associated with the American Society for Neurochemistry (ASN) national conference in Riverside.
- March 24: SOM hosts public

SATURDAY, FEBRUARY 24
 The School of Medicine co-sponsors the National Alliance on Mental Illness (NAMI) Western Riverside 2018 Evening of Recognition.

THURSDAY - FRIDAY, MARCH 8-9
 School of Medicine and CHC co-sponsor conference: “Immigrant Health: Structural Adversity, Resistance and Resilience.”

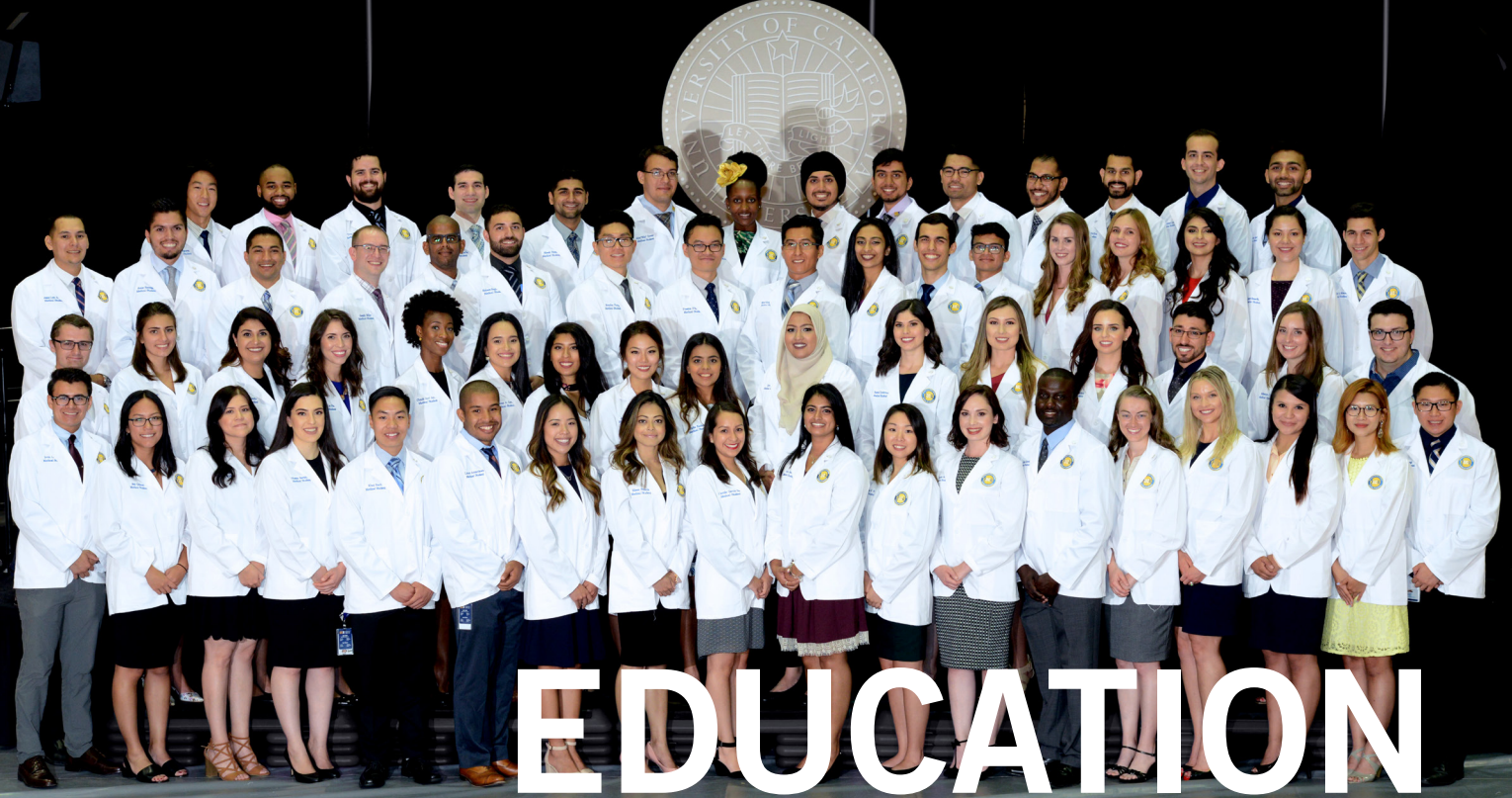
forum on concussions and traumatic brain injuries in children and adults.

- March 28: Representatives attend the Riverside Community Health Foundation Pink Ribbon Place 2018 Advisory Luncheon.
- April 7: SOM opens its doors to community members at the Spring Community Open House, hosting multiple tours, presentations, and training demonstrations for over 500 attendees.
- April 28: The School of Medicine and Center for Healthy Communities facilitate hosting of the Youth United Conference at the UCR Palm Desert Center.
- May 12: SOM participates in the Great American Cleanup for Keep Riverside Clean and Beautiful.

“As an administrator, I rarely get the opportunity to interact with medical students and residents. With events, I was able to meet and work alongside students and residents I likely would not have met otherwise. It was great to be able to give back to our Riverside community by picking up trash, removing graffiti, and pulling up weeds on city streets that abut where we work.”

– Louise Borda
Associate Dean and Chief Financial and Administrative Officer





EDUCATION

The UCR School of Medicine Class of 2021 at the 2017 White Coat Ceremony.

CLASS OF 2021

MEDICAL STUDENTS **66**
33 FEMALE / 33 MALE

45.5%
UNDERREPRESENTED
IN MEDICINE

74.2% TIES TO
INLAND SOUTHERN CALIFORNIA

SOCIOECONOMICALLY/
EDUCATIONALLY
DISADVANTAGED **53%**

22.0% ENGLISH AS
A SECOND
LANGUAGE

FIRST IN
FAMILY TO  **37%**
COMPLETE A BACHELOR'S DEGREE

60% ATTENDED
HIGH SCHOOL IN
RIVERSIDE, SAN BERNARDINO, OR
IMPERIAL COUNTIES



EXTERNSHIP IN POLAND

During the summer of 2017, several medical students from the School of Medicine at the University of California, Riverside (UCR) traveled to Krakow, Poland during the break between their first and second year of medical school. In collaboration with Jagiellonian University Medical College (JUMC), 10 students participated in a one month clinical externship at JUMC Hospitals.

The externship was organized by Joanne Witkowski, M.D., physician director of special medical services at Kaiser Permanente in Riverside and associate clinical professor of psychiatry at the UCR School of Medicine, and it consisted of several clinical rotations in various departments including surgery, dermatology, OB/GYN, and anesthesiology.

In May 2018, the UCR School of Medicine and JUMC signed a Memorandum of Cooperation to further advance scholarly and educational exchanges.

Visit <https://ucrtoday.ucr.edu/48791> for more on this externship in Poland.

ANTONIO GARCIA

Third Year Medical Student

Antonio Garcia, one of 12 children, is in his third year at the UCR School of Medicine. Garcia, who grew up in Anaheim, Calif., thought he would be a professional boxer like several of his siblings, but a program for gifted students at his high school set him on the path to college at University of California, Irvine. There, a chance encounter with a group called Chicanos and Latinos for Community Medicine, pointed him toward a medical degree.

At UC Irvine, “medical students and physicians would come and talk to [Chicanos and Latinos for Community Medicine] about health care disparities,” he recalls. There, he learned that “five percent of the physician workforce is Latino even though Latinos make up [a plurality] of California residents ... that got me thinking about going into medicine.”

Garcia was initially attracted to UCR because it is one of only three medical schools in the country to offer a joint M.D./Master’s degree in Public Policy. He was drawn to this opportunity because it would provide a way for Garcia to serve his community beyond simply practicing as a physician.

“As physicians, we can’t really control much of the environment [around patients],” he says. The combination of both degrees would allow someone to help shape broader factors like air and water quality or access to health insurance that would affect the health of community members.

Garcia has now shifted back to focusing solely on medicine, but still has many reasons why it is important to him to be a medical student of UCR.

He describes how important it is to him to increase Hispanic representation in medicine and provide comprehensive quality



care to a community that has sorely lacked it for so long. But when asked for a single reason why he chose UCR the answer was short: “I just wanted to be with my family.”

“My parents moved to Riverside around 11 years ago,” Garcia said. “At the time I was living with my aunt -- after that I went to [UC] Irvine in Orange County for pre-med in biological sciences, but when I was applying to med school I wanted to live somewhere that was closer to my family.”

He makes time whenever he can to be with his family and hopes to set a good example for his younger siblings, who appreciate how difficult it must be for him to balance the workload of medical school with spending time with his family and engaging in extracurricular activities.

Garcia also does his best to make a difference at school with his peers. He makes handmade notes for friends and fellow classmates every year.

“If I know they’re struggling, I write positive notes, or if I know they’re doing well, I just put a heart,” he says. “Being in medicine is stressful, so I try to boost their spirits.”

Antonio Garcia was featured in the Politico Magazine’s story of the UCR School of Medicine at <https://atu.cr/politicoarticle>



In early 2018, the new Medical Student Lounge opened at the UCR School of Medicine. The new space greatly expanded the medical student study and lounge space and is located near the School of Medicine Education Building. This expansion is part of the overall plan to increase study and lounge space for students.



MATCH DAY FOR THE CLASS OF 2018

On March 16, 2018, 49 students from the UCR School of Medicine participated in “Match Day,” the day when graduating medical students throughout the country find out if they have matched for a residency program at a hospital or health system of their choosing.

The students, their families, and friends joined the School of Medicine’s faculty and staff at the Riverside Convention Center where, at precisely 9 a.m., the students ripped open envelopes to learn where they would spend at least the next few years of their lives.

This year, more than 80 percent of the medical school’s 2018 class will do their residencies in California, with about 39 percent staying in

the Inland Empire. More than 50 percent of the students will train in primary care residencies.

“It’s been a long haul,” said Dr. Deborah Deas, the Mark and Pam Rubin Dean and chief executive officer for clinical affairs at the medical school, to the class of 2018. “You worked hard, and you worked long hours. Along the way, there was a lot of excitement, and sometimes lots of tears. You didn’t do it all alone. You had tremendous support from your family members, your professors and staff in the School of Medicine — all of whom wanted to enable your success. As you know, our mission is to increase the physician workforce in Inland Southern California. We are, therefore, counting on you to return

to our region soon.”

Neal Schiller, the medical school’s senior associate dean for student affairs, said it had been both a pleasure and privilege to be a part of the class of 2018’s educational path.

“We know you will represent the UCR School of Medicine well in the populations you are going to work with,” he said to the students. “The communities around us need you. [...] You should know you have exceeded many of our expectations.”

Like the School of Medicine’s inaugural graduating class of 2017, 100% of the class of 2018 were matched.

49 STUDENTS
13 SPECIALTIES
10 STATES

10
FAMILY
MEDICINE

7
INTERNAL
MEDICINE

7
PSYCHIATRY

6
PEDIATRICS

5
EMERGENCY
MEDICINE

4
DERMATOLOGY

4
DIAGNOSTIC
RADIOLOGY

4
OBSTETRICS &
GYNECOLOGY

3
ANESTHESIOLOGY

2
GENERAL
SURGERY

2
RADIATION
ONCOLOGY

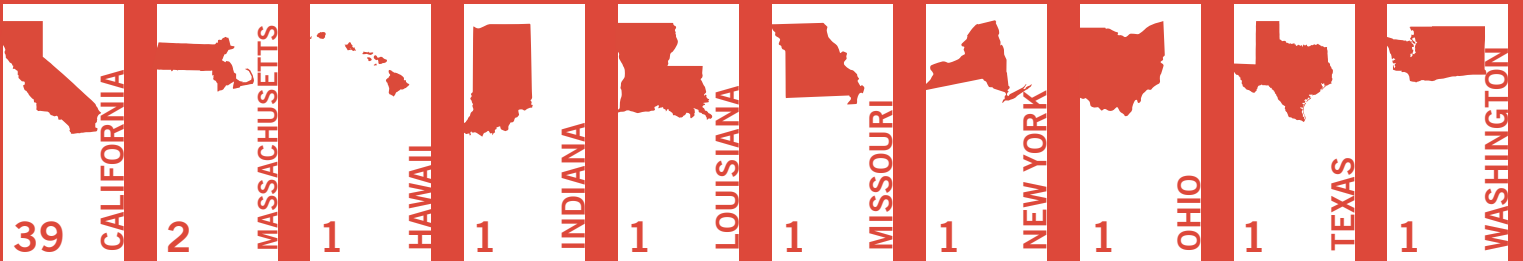
2
UROLOGY

1
ORTHOPAEDIC
SURGERY



Visit ucrtoday.ucr.edu/52286 for more on Match Day featuring Dr. Edgar Ortega of the class of 2018, plus Drs. Neal Schiller, Gerald Maguire, Gemma Kim, and Tae Kim.

View our recap video at <https://atu.cr/md18video>





CLASS OF 2018 HIPPOCRATIC OATH AND GRADUATION CEREMONY

On June 1, 2018, the UCR School of Medicine celebrated its second class of graduating medical students at the 2018 Commencement and Hippocratic Oath Ceremony. Forty-nine medical students received their hoods during the ceremony – our largest graduating class yet. Additionally, the Graduate Program in Biomedical Sciences formally granted Ph.D. degrees to three students on June 16, 2018.

We are so proud of our Class of 2018 and know you will continue to have a bright future. We look forward to witnessing all of the great things to come from this class. Congratulations!

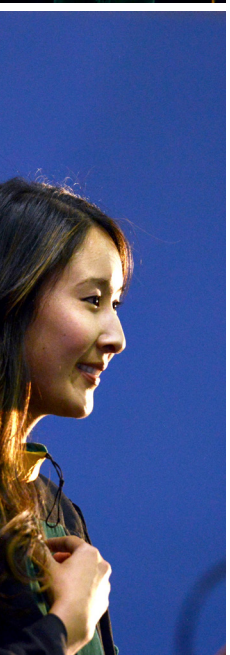




“No matter how much the world tries to hold you back, always continue with the belief that what you want to achieve is, in fact, possible.”

– Rear Admiral Erica Schwartz,
M.D., M.P.H., J.D.,
Director of Health, Safety, and Work-Life for the U.S. Coast Guard

Below: Chancellor Kim Wilcox with keynote speaker Rear Admiral Erica Schwartz, student speaker Pooja Desai, and Dean Deborah Deas.





Ph.D. Program in BIOMEDICAL SCIENCES

The Ph.D. in Biomedical Sciences trains independent research scientists to enable them to bridge the wide gulfs that currently exist between basic science research and clinical medicine. In 2017-18, the following accomplishments were achieved.

-
- Tasha Barr, Luis Jiminez and Andrea Rivera completed the Ph.D. program.
 - Jessica Noll was the grand-prize winner at the UCR Grad Slam finals on April 23. She won a \$5,000 fellowship for her presentation of “A Rapid Blood Test for Stroke.”
 - Pedro Anthony Perez received a UCR Graduate Research Mentorship Program (GRMP) Award.
 - Mark Wiley and Parima Udompholkul received Burden Fellowships for Graduate Studies in Biomedical Research. The award is merit-based for graduate students pursuing a Ph.D. degree in the biomedical sciences established by Mrs. Mary Galvin Burden.
 - Kelly Radecki received a Pease Cancer Fellowship, established by Mrs. Dorothy Pease to provide funding for cancer research. The award is merit-based for students committed to working on cancer-related research projects.
 - Kelley Atkinson and Jessica Noll received UCR Clinical Graduate Student Researcher Fellowships in biomedical sciences.
 - Hawra Karim received travel grants for the Americas Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Conference in San Diego and the European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) Conference in Berlin, Germany.
 - Stephanie King was awarded a Caroline tum Suden/Frances E. Hellebrandt Professional Opportunity Award from the American Physiological Society and was also accepted to the University Teaching Certificate program at UCR.
 - Andrew Lapato was awarded a Trainee Professional Development Award from the Society for Neuroscience.

UPDATES

GRADUATE MEDICAL EDUCATION

The UCR School of Medicine's Graduate Medical Education (GME) programs are key components of the school's strategy to expand and diversify the physician workforce in Inland Southern California. By offering innovative and high-quality training programs in the most critically needed specialties, the UCR School of Medicine attracts and trains new physicians with the skills, cultural competence and community health-based orientation that the changing landscape of healthcare needs requires.

- Graduate Medical Education expanded this year with two new fellowships in gastroenterology and child and adolescent psychiatry.
- The UCR Psychiatry residency program received full accreditation for the next ten years.
- All UCR-sponsored residency programs had UCR medical students successfully match into our programs, including internal medicine, family medicine, obstetrics and gynecology, and psychiatry.
- The UCR Family Medicine Residency Program in Palm Springs graduated its inaugural class of residents, most of whom decided to stay and continue to practice medicine within the Coachella Valley and Riverside County. They will help to address the primary care physician shortage in the area and improve healthcare access to the community.



6 OUT OF **7** OF THE 2018 FAMILY MEDICINE RESIDENCY GRADUATES (PICTURED ABOVE) ARE TO REMAIN IN THE INLAND EMPIRE.

THE SCHOOL OF MEDICINE HOSTS SECOND ANNUAL CONFERENCE ON TEACHING, LEARNING, AND RESEARCH

The UCR School of Medicine held its second annual Conference on Teaching, Learning, and Research (CTLR) on Aug. 26, 2017 at the UCR Palm Desert Center. The event drew more than 300 attendees where medical students showcased research from the Longitudinal Ambulatory Care Experience (LACE), an innovative curricular feature of the medical program that pairs students with primary care physician mentors.

As part of LACE, medical students complete practice improvement projects where they identify and research potential practice enhancements that may improve patient outcomes at their LACE facility. During the conference, students gave presentations or participated in poster sessions on their projects.

“The second annual CTLR was a great success. I was so proud to see our medical students’ hard work on display. Our students did a great job presenting

their work at every level and the conference planning team gave them a wonderful venue,” said Dr. Maegen Dupper, co-director of LACE and assistant professor of family medicine. “Looking forward to next year, I am hopeful for continued growth including a chance to expand partnerships with our residency programs, faculty participation, and our community partners.”

An innovative feature of this year’s conference included several faculty development sessions on issues related to teaching and learning, organized by Rosemary Tyrrell, Ph.D., director of faculty development. Additionally, the conference expanded this year to host student presentations from the California Baptist University Physician Assistant Studies program as well as undergraduate students from the UCR School of Medicine Future Physician Leaders program who gave presentations on their community health education service projects.



Visit <https://ucrtoday.ucr.edu/48751> for more on the 2017 CTLR.



CLERKSHIP DIRECTORS

During the third and fourth year of medical school, students participate in clerkship rotations in the core areas of medicine at affiliated medical centers and hospitals in Inland Southern California. The following is a list of our clerkship and content directors who play an essential role in the clinical education of our medical students.



KENNETH BALLOU, M.D.

Block B Clerkship Director
Family Medicine Content Director



RAVI BERRY, M.D.

Pediatrics Content Director



AHMED EL-BERSHAWI, M.D.

Intensive Care Unit Content Director



WHITNEY GRIFFITH, M.D.

Block C Clerkship Director
Psychiatry Content Director



RAJESH GULATI, M.D.

Block A Clerkship Director
Internal Medicine Content Director



JEANNIE LOCHHEAD, M.D.

4th Year Clerkship Director



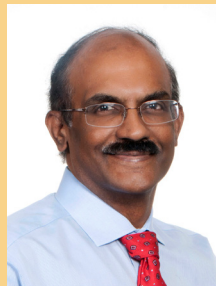
AFSHIN MOLKARA, M.D.

Surgery Content Director



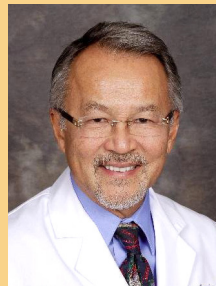
ELIZABETH MORRISON-BANKS, M.D.

Neurology Content Director



SUBBU NAGAPPAN, M.D.

Surgery Content Director



MICHAEL SEQUEIRA, M.D.

Emergency Medicine Content Director



NELLY TAN, M.D.

Radiology Content Director



KIMBERLY TUSTISON, M.D.

Obstetrics/Gynecology Content Director



NEW CHAPTER AT UCR SCHOOL OF MEDICINE GOLD HUMANISM HONOR SOCIETY

The UCR School of Medicine received approval in 2018 to establish a chapter of the Gold Humanism Honor Society (GHHS). The mission of GHHS is to recognize individuals who are exemplars of humanistic patient care and who can serve as role models, mentors, and leaders in medicine. The creation of a GHHS chapter signifies to the medical community that an institution places high value on the interpersonal skills and attitudes that are essential for the highest level of patient care. The inaugural induction ceremony took place on May 1, 2018 and recognized 16 students, residents, and faculty.

2018 INDUCTEES:

Margaret Clark, medical student
Elias Fanous, medical student
Francisco Farias, medical student
Annie Le, medical student
Calvin Sung, medical student
Frances Tao, medical student
Michael Ingram, resident
Michele Ko, resident
Dai Pham, resident
Timnit Tekeste, resident
Victoria Wang, resident
Mohammad Zaveri, resident
Edward Bacho, faculty
Randy Jacobs, faculty
Sarah Russell, faculty
Emma Simmons, chapter advisor



Pediatrician Adwoa Osei, M.D., assistant clinical professor of health sciences, treats a patient at one of our UCR Health locations.

UCR MULTIPLE SCLEROSIS PROGRAM

RECIPIENTS OF THE PARTNER IN MULTIPLE SCLEROSIS CARE AWARD

In the 2017-18 academic year, the UCR Multiple Sclerosis (MS) Program expanded its roles in outreach and community service. As the only program of its kind in Riverside County, the UCR MS Program offers comprehensive, patient-centered clinical care to more than 1,800 Riverside County residents living

with MS and other demyelinating disorders. Led by neuroimmunologist Elizabeth Morrison-Banks, M.D., M.S.Ed., program staff also conduct cutting-edge MS research in both basic science and clinical science. The program is collaborating with Dr. Seema Tiwari-Woodruff's laboratory in the development and testing of

remyelinating agents, and Dr. Morrison Banks is conducting a CONNECT-MS pilot randomized trial of a home-based telemedicine intervention for people with MS. In March 2018, the National Multiple Sclerosis Society's Southern California and Nevada Chapter recognized the UCR Multiple Sclerosis Program as a Partner in MS Care.



The UCR MS Program team receives the Partner in MS Care award.

- From left to right:*
- Danielle Bowers, LVN, Manager of UCR Health Citrus Tower and Case Manager of UCR MS Program*
 - Lynsey Lakin, FNP-C, 2017-2018 Multiple Sclerosis Fellow, UCR School of Medicine*
 - Katelyn Michtich, Manager for Healthcare Provider Engagement, National Multiple Sclerosis Society*
 - Elizabeth Morrison-Banks, M.D., M.S.Ed., Director, UCR Multiple Sclerosis Program*
 - David Franklin, Psy.D., Neuropsychologist, UCR Multiple Sclerosis Program*
 - Jennifer Mora, Medical Assistant, UCR Multiple Sclerosis Program*

Merit-Based Incentive Payment System (MIPS)

In March 2018, UCR Health successfully participated in the Quality Payment Program (QPP), established by the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), which encourages and rewards clinicians and groups for value- and outcome-based care. MACRA was designed to tie payments to quality and cost-efficient care, drive improvement in care process and health outcomes, increase the use of healthcare information, and reduce

the cost of care. Using a composite performance score, eligible clinicians may receive a payment bonus, payment penalty, or no payment adjustment. The MIPS score can significantly impact a provider or groups' Medicare reimbursement in each payment year from -9% to +27% by 2022.

Through the integration of a new electronic health record (EHR) system, support from leadership

and physicians to focus on quality outcomes, and with the implementation of key policies and procedures, UCR Health was able to achieve exceptional performance during their first year of participation. With a final score of 96.64 out of 100, UCR Health will receive a positive payment adjustment applied to their Physician Fee Schedule and is eligible for additional adjustment for exceptional performance.

Samer Ghostine, M.D. Health Sciences Clinical Professor

Clinical Professor Samer Ghostine, M.D., chief of neurosurgery and director of neuroscience at Riverside Community Hospital (RCH), joined the UCR School of Medicine after working in health care and medical education with the Loma Linda University Medical Center and the UC Irvine School of Medicine.

Ghostine is involved in building centers of excellence in spine, neuro-oncology and stroke for the Inland Empire and serves as a link in the collaborative effort between RCH and UCR SOM. He also takes the time to travel to Apple Valley, Calif. twice a month to provide neurosurgery services

to patients who are unable to travel to Riverside to get the care they need.

"The connection with those in Apple Valley started when I worked with Loma Linda and UCI, and the relationship was maintained when I started at Riverside," Ghostine said. "We continue to go because we constantly receive good feedback and are appreciated by those in the area."

In early 2018, Ghostine and colleague Sam Bederman, M.D., Ph.D., performed the first complex spinal surgery in Riverside using MazorX™, a state-of-the-art guidance system for spine surgery deployed in 2018 at Riverside Community Hospital.



Pictured left to right: Dr. Trina Mansour, Dr. Kim Tustison, Dr. Anthony Ngo, Dr. Angie Li, Dr. Marc Debay.

HAITI MEDICAL AID

To promote global health initiatives, UCR Health physicians and residents from Family Medicine and Obstetrics/ Gynecology traveled to Haiti in May 2018 to perform cervical cancer screenings and to teach local health professionals how to screen for cervical cancer in the clinics of Hôpital Albert Schweitzer Haiti. The physician faculty and residents provided patient and provider education to improve healthcare in Haiti.

To learn more about these clinics in Haiti, hashaiti.org



CLINICAL CARE UPDATES

It was a successful year for the School of Medicine's clinical enterprise, UCR Health, with significant growth in clinical faculty and continued expansion of services. The following accomplishments were achieved in 2017-18.

UCR Health expanded its medical care services with the appointment of a new pediatrician who is treating children and adolescents as well as training medical students at the multispecialty Citrus Tower clinic in downtown Riverside.

Gerald Maguire, M.D., associate dean of graduate medical education and chair of psychiatry, was recognized by the NAACP and NAMI (National Alliance of Mentally Ill—Riverside) for his service to the community at their annual awards recognition dinner in February 2018.

UCR Health's Citrus Tower office received the prestigious designation by the National Multiple Sclerosis Society as a Multiple Sclerosis (MS) Program. The Multiple Sclerosis Program at UCR Health is the only program of its kind in Riverside County as a multidisciplinary practice devoted to multiple sclerosis clinical care, education and research. We will now be able to offer full range of services for people living with MS.

UCR Health was highlighted in the Clinton Health Matters Initiative, "Blueprint for Action", for improving access to healthcare in the Coachella Valley by increasing the number of primary care physicians in the area, and for creating innovative community programs, such as the sex education program for 8th graders in the Palm Springs Unified School District led by the UCR SOM Family Medicine residents. This program helps to educate the youth about sexually transmitted infections, contraception, anatomy and physiology to not only decrease the incidence of school age pregnancies but also provides mentorship opportunities to the youth in the valley.

The family medicine clinic in Palm Springs, a partnership between UCR Health and the Desert Healthcare Network, surpassed 30,000 annual patient care visits.

Dr. Jeannie Lochhead, assistant clinical professor of psychiatry, received a Health Resources and Services Administration (HRSA) grant to support training in integrated psychiatric/primary care.

UCR Health faculty, Nina Ruedas, M.S., L.M.F.T., successfully completed her Society of Teachers of Family Medicine Behavioral Science/Family Systems Educator Fellowship in May 2018. This is a competitive fellowship for family medicine residency faculty to strengthen their teaching and development skills for coordination of behavioral science curriculum.



RESEARCH

Medical student Kleshie Baisie at the 2017 Conference on Teaching, Learning, and Research.

2017 SOUTHERN CALIFORNIA EUKARYOTIC PATHOGEN SYMPOSIUM

SCEP.UCR.EDU | The UCR School of Medicine and College of Natural and Agricultural Sciences hosted the 2017 Southern California Eukaryotic Pathogen (SCEP) Symposium at the Genomics Auditorium on campus on Dec. 7, 2017. The SCEP brings together researchers from more than 15 different labs in Southern California to facilitate interaction and collaboration. The 2017 keynote speaker was P'ng Loke, Ph.D., an associate professor for the Department of Microbiology at the New York University School of Medicine.

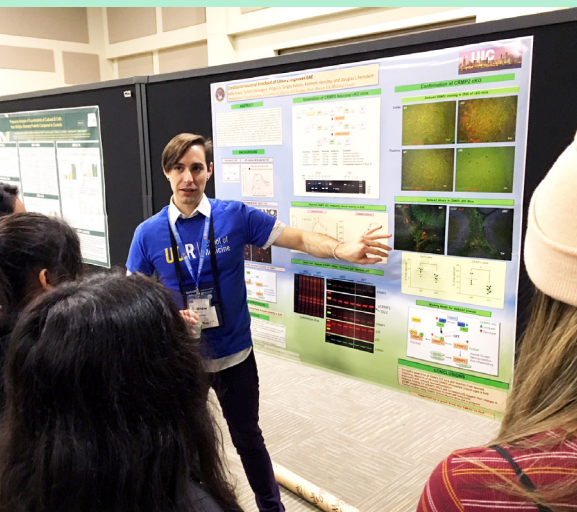


RESEARCH CENTER UPDATES

CENTER FOR HEALTHY COMMUNITIES

HEALTHYCOMMUNITIES.UCR.EDU | The Center for Healthy Communities (CHC) was created by the medical school to promote research that improves the health of residents in the culturally and economically diverse Inland Southern California, especially those who are medically underserved. This past year the center engaged in more community-focused undertakings, among them establishing a partnership with CE-CERT and Riverside's J.W. North High School to implement a community air quality study to investigate respiratory illnesses related to poor air quality. This ongoing project involves direct grassroots interaction with community members through community conversations and surveys. Preliminary findings for this study are currently in the process of being finalized. Additionally, CHC is a contributing editor for the IE VOICE/Black VOICE News and other local publications. The center continues to make its presence felt in the community as a resource for community-based participatory research.

RESEARCH CENTER UPDATES (CONTINUED)



CENTER FOR GLIAL-NEURONAL INTERACTIONS LOCAL HOST FOR 49TH ANNUAL MEETING OF AMERICAN SOCIETY FOR NEUROCHEMISTRY

CGNI.UCR.EDU | The Center for Glial-Neuronal Interactions (CGNI) (“Brain Health”) brings together researchers with very diverse expertise who seek to define neuronal-glia interactions required for optimal brain and spinal cord function as well as for prevention and therapeutic intervention of neurodevelopmental, neurologic and neurodegenerative diseases. CGNI held its annual symposium, timed to coincide with UCR neuroscientists hosting the 49th annual meeting of the American Society for Neurochemistry (ASN). Leadership of CGNI comprised the host committee, and many UCR faculty are also in the leadership ranks of ASN. It was a very successful meeting, attracting hundreds of scientists from across the U.S. and from around the world, bringing national attention to the School of Medicine, UCR, and the City of Riverside.



BRIDGING REGIONAL ECOLOGY, AEROSOLIZED TOXINS & HEALTH EFFECTS CENTER FIRST RESEARCH WORKSHOP IN APRIL

BREATHE.UCR.EDU | The Bridging Regional Ecology, Aerosolized Toxins & Health Effects (BREATHE) center held its first research workshop in April, with scientific presentations from several of the new faculty cluster hires, as well as from affiliated UCR faculty. Presentations focused on the expanding technical capabilities among the group for studies on air quality and health impacts, and recent collaborative studies are focused on the connection between the high aerosol particulates in the region near the Salton Sea and the unusually high incidence of childhood asthma in the surrounding communities. In May, David Lo, M.D., Ph.D., senior associate dean of research and director of BREATHE, was invited to testify in Sacramento before the State Assembly Committee on Water, Parks, and Wildlife to discuss the Salton Sea Management Plan in the context of the ongoing health crisis in childhood asthma in that region.



CENTER FOR MOLECULAR AND TRANSLATIONAL MEDICINE CONTINUES TO PROVIDE SEED FUNDING FOR INNOVATIVE PROJECTS

MOLMED.UCR.EDU | The Center for Molecular and Translational Medicine (MolMed) is a multi-disciplinary center that brings together researchers and clinicians from across the campus to help improve the health of individuals by translating basic findings into diagnostic tools or therapeutics. MolMed has now completed its second round of trans-fund awards for seed funding of projects on emerging drugs and medical technologies. During the year, MolMed hosted several workshops and seminars from invited speakers to discuss translational medicine topics.

MAURIZIO PELLECCIA RECEIVES FUNDING TO SIGNIFICANTLY BOOST CANCER AND ALS RESEARCH



Pelleccia is the scientific founder and a consultant for Iron Horse Therapeutics in San Diego, a biotechnology company focused on developing ALS treatments.

Maurizio Pelleccia, Ph.D., who holds the Daniel Hays Chair in Cancer Research at the University of California, Riverside, has received two grants to continue his research aimed at finding therapeutics for cancer, amyotrophic lateral sclerosis (ALS), and other neurodegenerative diseases.

The first grant from the U.S.-Egypt Science and Technology Joint Fund of the National Academy of Sciences, Engineering, and Medicine (NASEM) totals \$190,000 for two years. The second is a nearly \$2.3 million, five-year grant from the National Institute of Neurological Disorders and Stroke (NINDS) of the National Institutes of Health (NIH).

The research will focus on the receptor EphA3 (ephrin type-A receptor 3), which plays a key role in cell proliferation in cancer. A receptor is a specialized cell or a group of cells that translates stimulus into nerve impulses.

“We have extensive experience with targeting the EphA2 and EphA4 receptors, with demonstrated ability in using receptor-binding agents for the targeted delivery of drugs to treat prostate cancer, melanoma, renal carcinomas, breast cancer, and leukemia,” said Pelleccia, a professor of biomedical sciences at UCR’s School of Medicine. “No such agents, however, are currently available that target the EphA3 receptor.”

Pelleccia will collaborate with Heba F. Salem, a professor of pharmaceuticals and drug delivery, and the dean of the faculty of pharmacy at Egypt’s Beni-Suef University, who has extensive experience in developing shell-enriched nanoparticles as carriers for drug delivery. Salem has received similar funding from NASEM for the project.

“We are confident that this unique collaborative effort is likely to result in innovative agents that would not only support further cellular and mechanistic studies aimed at validating effective therapeutics for the treatment of

melanoma, leukemia, and potentially other tumors,” said Pelleccia, who serves as the founding director of the Center for Molecular and Translational Medicine at UCR.

The NIH/NINDS grant will focus on understanding the detailed mechanism of the EphA4 receptor and how inhibiting it with an agonistic agent could delay the progression of motor neuron diseases such as ALS, also known as Lou Gehrig’s disease, as well as Parkinson’s disease and gastric cancer.

In this research, Pelleccia will collaborate with Iryna Ethell, a professor of biomedical sciences at UCR who studies astrocytes, which are cells found abundantly in the central nervous system. He will also collaborate with Kathrin Meyer of the Nationwide Children’s Hospital in Columbus, Ohio, who has a specific assay and tissue bank of astrocytes and motor neurons derived directly from healthy persons and from patients with ALS. A few years ago, Meyer discovered that when astrocytes and motor neurons from a patient with ALS are co-cultured, the astrocytes kill the motor neurons.

Pelleccia explained that despite tremendous efforts aimed at identifying contributing factors for ALS, the mechanisms underlying motor neuron death have not yet been fully understood and consequently no effective treatment is currently available for ALS. Several clinical trials have been initiated based on drugs selected from animal studies, but these ultimately failed, according to Pelleccia.

“Among the possible reasons for such failures is the lack of a proper drug target responsible for the onset and progression of ALS,” he said. “Numerous recent studies clearly suggest the EphA4 receptor is a potential drug target for ALS. We expect our studies, when complete, will provide critical insights on the role of the EphA4 receptor in the progression of ALS. The data gathered in this study will be critical in supporting the development of innovative targeted therapeutics for ALS.”

MEERA NAIR, Ph.D.

Assistant Professor of Biomedical Sciences

Meera G. Nair, Ph.D., assistant professor of biomedical sciences, is one of few professors who can say they were a part of a faculty team who interviewed and welcomed the very first cohort of medical students to a brand new medical school. She joined the UCR School of Medicine in October 2012, the same time the medical school received its initial accreditation.

“I was honored to be part of the faculty who interviewed and welcomed our first cohort of medical students in 2013,” Nair said. “Being able to contribute to the training of physicians in a new school with the important mission to improve the health of our underserved community was a deciding factor in my decision to join UCR. I also enjoy the collaborative spirit and excellent research environment here which has allowed my research to flourish.”

Nair’s research, which focuses on the immune response to parasitic worms, has indeed flourished, as she has made breakthroughs in discovering potential treatments for sepsis, the body’s extreme and uncontrolled immune response to an infection which kills about one in five affected people.

Her fascination for these parasitic worms, also known as helminths, began in her early years of training at the University of Edinburgh, Scotland. There, Nair completed

her doctorate degree on the innate immune response to filarial worms, followed by her postdoctoral training at the University of Pennsylvania where she pursued research on hookworms. At UCR, Nair now investigates the “yin and yang” of helminth infection.

“On one hand, parasitic worm infections are debilitating and afflict an estimated two billion people worldwide, causing organ dysfunction, malnutrition, and growth retardation,” Nair explains. “On the other hand, helminth infections in small doses may be beneficial in curing many illnesses including inflammatory bowel disease and sepsis because helminth infections trigger protective anti-inflammatory pathways.”

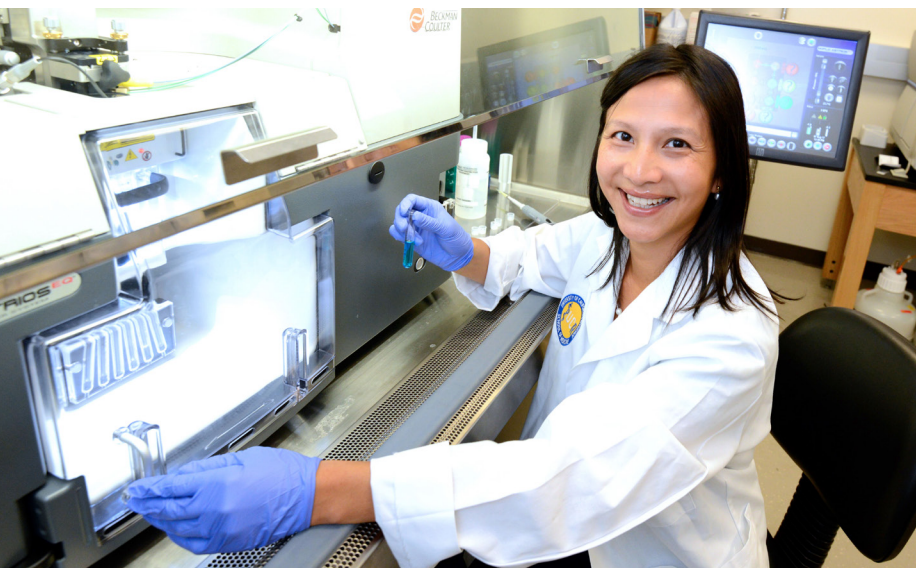
Nair’s lab investigates how to promote optimal immune response to alleviate parasitic worm infections, but also identifies pathways triggered by helminth infection that can be protective against sepsis and is currently investigating the therapeutic potential of these novel pathways.

In her lab, Nair currently works with postdoctoral scientist Jiang Li; graduate students Sangyong Kim, Sarah Bobardt, and Mark Wiley; and undergraduates Chengming Li and Sang Woo.

“I have always enjoyed teaching students about the intricacy of our body’s immune system, which helps us fight dangerous pathogens. Instilling curiosity and motivation to unravel the complexity of our immune defenses against pathogens is a big perk of my job,” she said.

Nair is a member of a growing team of infectious disease researchers at UCR. She, along with this research team, was selected to move into the Multidisciplinary Research Building, a brand new facility on campus that will house multiple research teams in the life sciences, chemical sciences, medicine, and engineering.

“I am excited about the prospect of our school expanding to continue performing state-of-the-art research to tackle unmet needs in medical research with the overall goal to improve the health outcomes in our community and worldwide,” Nair said.



Meera Nair using the MoFlo Astrios, an advanced four laser flow cytometry sorter with single cell sorting capabilities housed in the School of Medicine Research Building.

To read more about Nair’s research, visit <https://ucrtoday.ucr.edu/54786> and <https://ucrtoday.ucr.edu/49947>.

OTHER RESEARCH NEWS

Our faculty continue to make great advancements in translational and clinical sciences. A few notable accomplishments are listed here.

Brandon Brown, Ph.D., associate professor in the Department of Social Medicine, Population and Public Health, co-authored a paper that reports on an analysis he and colleagues conducted in Peru regarding the HIV epidemic and oral HIV tests. The study found that the participants were highly vulnerable to HIV, but stigma, limited access, and blood tests via venipuncture present barriers to testing. The noninvasive oral HIV test can be self-administered and could effectively address these barriers.

Ann Cheney, Ph.D., assistant professor in residence in the Department of Social Medicine, Population and Public Health, was the first author on a study regarding methamphetamine use initiation among Latina women. She found that Latina women who grew up in low-income urban neighborhoods where drug use was visible and pervasive is linked to their marginalized social positions within two key social institutions, family and the economy.

Iryna Ethell, Ph.D., associate dean of academic affairs and professor of biomedical sciences, led a team of researchers who found that glial cells not only support neurons, but also actively influence them. The study results appeared in the June 20 issue of the *Journal of Neuroscience*.
<https://ucrtoday.ucr.edu/54118>

Further discoveries were made in using neuregulin-1 (NRG1) for neuroprotection against ischemic stroke, the most common type of stroke. **Byron Ford, Ph.D.**, professor of biomedical sciences, had results that revealed key early

translational mechanisms associated with neuroprotection by NRG1 in the ischemic penumbra.

Gerald Maguire, M.D., associate dean for graduate medical education, chair of psychiatry, and health sciences clinical professor for psychiatry, completed studies with colleagues that further support that medicines that antagonize dopamine help improve the symptoms of stuttering. Their research findings on stuttering have been the subject of invited keynote presentations on five continents in the past year. UCR also now owns a patent on a new class of medications to treat stuttering and a clinical trial has been funded and will begin in the coming months.

Meera Nair, Ph.D., assistant professor of biomedical sciences, and her colleagues discovered that a human protein induced by inflammation called resistin may be used as a therapy to treat sepsis by blocking a receptor that signals to inflammatory cells and by reducing the production of additional pro-inflammatory molecules.
<https://ucrtoday.ucr.edu/49947>

Andrew Subica, Ph.D., assistant professor in the Center for Healthy Communities, led a study that reports that adolescents have high prevalence of alcohol, cigarette, and marijuana use, and concerning rates of suicide-related thoughts and behaviors.
<https://ucrtoday.ucr.edu/52396>

Seema Tiwari-Woodruff, M.S., Ph.D., associate professor of biomedical sciences, discovered that a ligand called

indazole chloride or similar drugs may be the answer to treating the loss of myelin, the protective sheath that surrounds the axons of neurons essential for the proper functioning of the brain and the spinal cord, in multiple sclerosis. Tiwari-Woodruff's group is collaborating with John Katzenellenbogen, a research professor of chemistry at the University of Illinois at Urbana-Champaign, to screen chemically similar analogs of indazole chloride for more efficacious and safe therapy. The research also involved Hawra Karim and Andrew S. Lapato of UCR as well as Sung Hoon Kim and Norio Yasui of the University of Illinois at Urbana-Champaign.

<https://ucrtoday.ucr.edu/53712>

Ameae Walker, Ph.D., professor of biomedical sciences, made significant discoveries in cancer stem cell function when she and colleagues in the UCR Stem Cell Center discovered the importance of an enzyme named MMP-14 (a matrix metalloproteinase) in the metastatic process. This research concluded that an immunoglobulin G (IgG) designated with the name "3A2" is able to bind in the substrate cleft of MMP-14, a cleft inaccessible by human IgGs, and therefore inhibit significant growth of the primary tumor and the ability of stem cells to proliferate and produce colonies.

Emma Wilson, Ph.D., associate professor of biomedical sciences and expert on immune responses to parasites, was interviewed on camera by ABC News and for an episode of the PBS Series NOVA on "What's Living in You?" In these interviews, Wilson explains how a brain infection by a common parasite called *Toxoplasma gondii* can actually change behavior.

AWARDS AND DISTINCTIONS

Louise Borda, associate dean and chief financial and administrative officer, received the volunteer spotlight award from the national Medical Group Management Association (MGMA) for her work with early careerists and students. She was also the president of the Executive Board of the California MGMA from January 2017 through April 2018.

Brandon Brown, Ph.D., M.P.H., associate professor in the Department of Social Medicine, Population and Public Health, was elected chair of the Board of Directors of TruEvolution. He was also elected to be a member of the faculty advisory board of the Fordham HIV Research Ethics Training Institute.

Monica Carson, Ph.D., professor and chair of biomedical sciences, was named editor in chief of the *Journal of Neuroinflammation*, one of the top 20 journals in neurosciences and immunology.

Iryna Ethell, Ph.D., associate dean of academic affairs, was selected to participate in the 2018 UC-CORO Systemwide Leadership Collaborative for experienced leaders.

Parastou Farhadian, M.D., assistant professor of family medicine and program director of the RUHS/UCR family medicine program, was selected as one of 32 clinicians for the California Health Care Foundation Health Care Leadership Program.

Richard Lee, M.D., assistant clinical professor of psychiatry and program director of the child and



Above: Associate Professor Brandon Brown



Biomedical sciences students Stephanie King and Anica Sayoc (left and right) are members of McCole's research lab. McCole's four-year grant will help advance research on inflammatory bowel disease. For more, visit <https://ucrtoday.ucr.edu/48479>.

adolescent psychiatry fellowship program, was appointed as the Region 6 Caucus representative for the American Association of Directors of Psychiatric Residency Training (AADPRT).

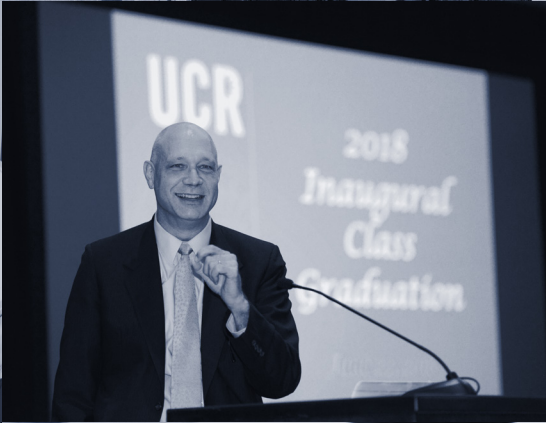
John Luo, M.D., chief medical information officer (CMIO) and clinical professor of psychiatry, made Becker's Hospital Review 2017 List of 50 Hospital and Health System CMIOs to Know.

Gerald Maguire, M.D., associate dean for graduate medical education and chair of psychiatry, was reappointed as chair of the National Stuttering Association.

Declan McCole, Ph.D., associate professor of biomedical sciences, received the American Gastrointestinal Association Pfizer Pilot Research Award for his work involving inflammatory bowel disease (IBD). He was also chosen as one of the Top 50 in 50 Partners in Progress by the Greater San Diego and Desert Area Chapter of the Crohn's and Colitis Foundation.

Mikio Nihira, M.D., M.P.H., clinical professor of obstetrics and gynecology, received the 2018 Health Policy Scholarship from the American College of Surgeons and the American Urogynecologic Society.

Evan Trager, M.D., psychiatry resident, received the public psychiatry fellowship from the American Psychiatric Association.



OUR MISSION

The mission of the UCR School of Medicine is to improve the health of the people of California and, especially, to serve Inland Southern California by training a diverse workforce of physicians and by developing innovative research and health care delivery programs that will improve the health of the medically underserved in the region and become models to be emulated throughout the state and nation.

OUR VALUES

| | |
|------------|----------------|
| Inclusion | Excellence |
| Integrity | Accountability |
| Innovation | Respect |

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